



IN/35/2022

**Completion of Piggery, Abattoir and Milking Parlour at the University of
Venda, Thohoyandou, Limpopo Province
(CIDB GRADING NO: 7GB or higher)**

VOLUME 2 OF 2

BSC MEMBERS	SIGNATURE	DATE OF APPROVAL
	
Chairperson		
SCM		
Technical (End User)		
Legal Department		

PROCUREMENT DOCUMENT

(Based on NEC3 Engineering and Construction Short Contract)

Date of Issue: 28 NOVEMBER 2022

Issued by:

Director Facilities Management

University of the Venda, Thohoyandou

Name of tenderer:

Telephone Number:

Email Address:

Fax Number:

Cellphone Number:

Closing date: AS PER TENDER INVITATION

PREAMBLES FOR TRADES

1. MODEL PREAMBLES FOR TRADES

The "Specification of Materials and Methods to be used - PW371" as issued by the Department of Public Works shall apply and shall be deemed to be incorporated herein.

The Bidders are referred to the above-mentioned document for the full description of materials to be used and work to be executed.

A copy of the above-mentioned document is available at the offices of the Principal Agent for inspection.

2. VARIATIONS AND/OR ADDITIONS TO MODEL PREAMBLES FOR TRADES

- a. All work to be done in accordance to the detailed specification as per the Engineers and Architects drawings.
- b. Where variations and/or additions to Model Preambles differ from Clauses contained in the "Specification of Materials and Methods to be used - PW371", the variations and/or additions to Preambles shall take precedence.

3. MATERIALS AND WORKMANSHIP

Materials and workmanship shall be the best of their respective kinds. Only undamaged materials may be used in the works. Work shall be to the satisfaction of the Architect/Engineer and shall be executed in accordance with good building practice and the relevant Manufacturer's instruction. Where the term "approved" is used in connection with materials and workmanship, it shall mean that such materials shall be to the approval, instructions or choice of the Architect.

4. STANDARD SPECIFICATIONS

Materials and Workmanship shall comply with the Standard Building Regulations (SBR), National Building Regulations (NBR), SABS1200, the specifications and codes of practice of the South African Bureau of Standards, and CSIR recommendations. In cases of variance, these "Specification of Materials and Methods to be used - PW371" and any supplementary preambles thereto shall have precedence over the above-mentioned regulations, specifications and codes of practice. In cases of variance between the SBR and NBR, the NBR shall have precedence.

The latest issues of the above-mentioned regulations, specifications and codes of practice, as well as those of any other specifying body, to which reference is made, shall be applicable.

References to standard specifications and/or building regulations in these "Specification of Materials and Methods to be used - PW371" are for the information of the Contractor and shall in no way relieve him of his obligations under the Contract.

SECTION 1: PRELIMINARIES

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No

Quantity

Rate

Amount

SECTION NO. 1

BILL NO. 1

PRELIMINARIES

PRELIMINARIES

i) The NEC3 Engineering and Construction Contract Option B: Priced contract with bill of quantities (Third edition of June 2005 reprinted in April 2013) in conjunction with the Contract Data is taken to be incorporated herein

ii) The tenderer is deemed to have taken cognizance of the above mentioned documents for the full intent and meaning of each clause. These clauses are referred to by clause number and heading only

iii) The amount of Preliminaries to be included in each monthly payment certificate shall be assessed as an amount prorated to the value of the work duly executed in the same ratio as the preliminaries bears to the total of prices excluding any contingency sum and the amount for Preliminaries

iv) Where the initial contract period is extended, the monthly charge shall be calculated on the basis as set out in (iii) but taking into account the revised period for completing the works

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

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

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

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

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

SECTION A: CONDITIONS OF CONTRACT

CORE CLAUSES

GENERAL

Action (clause 10)

Actions (clause 10.1)

1

Fixed Related

Item

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2	Value Related	Item	
3	Time Related	Item	
<u>Identified and defined terms (clause 11)</u>			
Condition of contract (clause 11.1)			
4	Fixed Related	Item	
5	Value Related	Item	
6	Time Related	Item	
Defined terms (clause 11.2)			
7	Fixed Related	Item	
8	Value Related	Item	
9	Time Related	Item	
<u>Interpretation and the law (clause 12)</u>			
Interpretation of the law (clause 12.1 - 12.4)			
10	Fixed Related	Item	
11	Value Related	Item	
12	Time Related	Item	
<u>Communication (clause 13)</u>			
Communication (clause 13.1 - 13.8)			
13	Fixed Related	Item	
Carried to Collection			R
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14	Value Related	Item	
15	Time Related	Item	
<u>The Project Manager and the Supervisor (clause 14)</u>			
The Project Manager and the Supervisor (clause 14.1 - 14.4)			
16	Fixed Related	Item	
17	Value Related	Item	
18	Time Related	Item	
<u>Adding to the Working Areas (clause 15)</u>			
Adding to the Working Areas (clause 15.1)			
19	Fixed Related	Item	
20	Value Related	Item	
21	Time Related	Item	
<u>Early Warning (clause 16)</u>			
Early Warning (clause 16.1 - 16.4)			
22	Fixed Related	Item	
23	Value Related	Item	
24	Time Related	Item	
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Ambiguities and inconsistencies (clause 17)

Ambiguities and inconsistencies (clause 17.1)

25	Fixed Related	Item
26	Value Related	Item
27	Time Related	Item

Illegal and impossible requirements (clause 18)

Illegal and impossible requirements (clause 18.1)

28	Fixed Related	Item
29	Value Related	Item
30	Time Related	Item

Prevention (clause 19)

Prevention (clause 19.1))

31	Fixed Related	Item
32	Value Related	Item
33	Time Related	Item

THE CONTRACTOR'S MAIN RESPONSIBILITIES

Providing the Works (clause 20)

Providing the Works (clause 20.1)

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34	Fixed Related	Item	
35	Value Related	Item	
36	Time Related	Item	
<u>The Contractor's design (clause 21)</u>			
The contractor's design (clause 21.1 - 21.3)			
37	Fixed Related	Item	
38	Value Related	Item	
39	Time Related	Item	
<u>Using the Contractor's design (clause 22)</u>			
Using the Contractor's design (clause 22.1)			
40	Fixed Related	Item	
41	Value Related	Item	
42	Time Related	Item	
<u>Design of Equipment (clause 23)</u>			
Design of Equipment (clause 23.1)			
43	Fixed Related	Item	
44	Value Related	Item	
45	Time Related	Item	
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People (clause 24)

People (clause 24.1 - 24.2)

46	Fixed Related	Item
47	Value Related	Item
48	Time Related	Item

Working with the Employer and Others (clause 25)

Working with the Employer and Others (clause 25.1 - 25.3)

49	Fixed Related	Item
50	Value Related	Item
51	Time Related	Item

Sub-contracting (clause 26)

Sub-contracting (clause 26.1 - 26.3)

52	Fixed Related	Item
53	Value Related	Item
54	Time Related	Item

Other responsibilities (clause 27)

Other responsibilities (clause 27.1 - 27.4)

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55	Fixed Related	Item	
56	Value Related	Item	
57	Time Related	Item	
<u>TIME</u>			
<u>Starting, Completion and Key dates (clause 30)</u>			
Starting date (clause 30.1)			
58	Fixed Related	Item	
59	Value Related	Item	
60	Time Related	Item	
Completion date (clause 30.2)			
61	Fixed Related	Item	
62	Value Related	Item	
63	Time Related	Item	
Key date (clause 30.3)			
64	Fixed Related	Item	
65	Value Related	Item	
66	Time Related	Item	
<u>The Programme (clause 31)</u>			
The Programme (clause 31.1 - 31.3)			
67	Fixed Related	Item	
68	Value Related	Item	
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69	Time Related	Item	
	<u>Revising the programme (clause 32)</u>		
	Revising the programme (clause 32.1 - 32.2)		
70	Fixed Related	Item	
71	Value Related	Item	
72	Time Related	Item	
	<u>Access to and use of the Site (clause 33)</u>		
	Access to and use of the Site (clause 33.1)		
73	Fixed Related	Item	
74	Value Related	Item	
75	Time Related	Item	
	<u>Instruction to stop or not to start work (clause 34)</u>		
	Instruction to stop or not to start work (clause 34.1)		
76	Fixed Related	Item	
77	Value Related	Item	
78	Time Related	Item	
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Take over (clause 35)

Take over (clause 35.1 - 35.3)

79	Fixed Related	Item
80	Value Related	Item
81	Time Related	Item

Acceleration (clause 36)

Acceleration (clause 36.1 - 36.3)

82	Fixed Related	Item
83	Value Related	Item
84	Time Related	Item

TESTING AND DEFECTS

Testing and inspections (clause 40)

Testing and inspections (clause 40.1 - 40.6)

85	Fixed Related	Item
86	Value Related	Item
87	Time Related	Item

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Testing and inspections before delivery (Clause 41)

Testing and inspection before delivery (clause 41.1)

88	Fixed Related	Item
89	Value Related	Item
90	Time Related	Item

Searching for and notifying Defects (Clause 42)

Searching for and notifying Defects (Clause 42.1 - 42.2)

91	Fixed Related	Item
92	Value Related	Item
93	Time Related	Item

Correcting Defects (Clause 43)

Correcting Defects (Clause 43.1 - 43.4)

94	Fixed Related	Item
95	Value Related	Item
96	Time Related	Item

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Accepting Defects (clause 44)

Accepting Defects (clause 44.1 - 44.2)

97	Fixed Related	Item
98	Value Related	Item
99	Time Related	Item

Uncorrected Defects (clause 45)

Uncorrected Defects (clause 45.1 - 45.2)

100	Fixed Related	Item
101	Value Related	Item
102	Time Related	Item

PAYMENT

Assessing the amount due (clause 50)

Assessing the amount due (clause 50.1 - 50.5)

103	Fixed Related	Item
104	Value Related	Item
105	Time Related	Item

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<u>Payment (clause 51)</u>				
Payment (clause 51.1 - 51.4)				
106	Fixed Related	Item		
107	Value Related	Item		
108	Time Related	Item		
<u>Defined Cost (clause 52)</u>				
Defined Cost (clause 52.1)				
109	Fixed Related	Item		
110	Value Related	Item		
111	Time Related	Item		
<u>The Bills of Quantities (clause 55)</u>				
The bills of quantities (clause 55.1)				
112	Fixed Related	Item		
113	Value Related	Item		
114	Time Related	Item		
<u>COMPENSATION EVENTS</u>				
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<u>Compensation events (clause 60)</u>				
Compensation events (clause 60.1 - 60.7)				
115	Fixed Related	Item		
116	Value Related	Item		
117	Time Related	Item		
<u>Notifying compensation events (clause 61)</u>				
Notifying compensation events (clause 61.1 - 61.7)				
118	Fixed Related	Item		
119	Value Related	Item		
120	Time Related	Item		
<u>Quotation for compensation events (clause 62)</u>				
Quotation for compensation events (clause 62.1 - 62.6)				
121	Fixed Related	Item		
122	Value Related	Item		
123	Time Related	Item		
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Assessing compensation events (clause 63)

Assessing compensation events (clause 63.1 - 63.13)

124	Fixed Related	Item
125	Value Related	Item
126	Time Related	Item

The Project Manager's assessment (clause 64)

The Project Manager's assessment (clause 64.1 - 64.4)

127	Fixed Related	Item
128	Value Related	Item
129	Time Related	Item

Implementing compensation events (clause 65)

Implementing compensation events (clause 65.1 - 65.4)

130	Fixed Related	Item
131	Value Related	Item
132	Time Related	Item

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<u>TITLE</u>				
<u>The Employer's title to Plant and Materials (clause 70)</u>				
Plant and Materials outside the working area (clause 70.1)				
133	Fixed Related	Item		
134	Value Related	Item		
135	Time Related	Item		
Plant and Materials within the working area (clause 70.2)				
136	Fixed Related	Item		
137	Value Related	Item		
138	Time Related	Item		
<u>Marking Equipment, Plant and Materials outside Working Areas (clause 71)</u>				
Marking Equipment, Plant and Materials outside Working Areas (clause 71.1)				
139	Fixed Related	Item		
Carried to Collection				
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140	Value Related	Item	
141	Time Related	Item	
<u>Removing Equipment (clause 72)</u>			
Removing Equipment (clause 72.1)			
142	Fixed Related	Item	
143	Value Related	Item	
144	Time Related	Item	
<u>Objects and materials within the site (clause 73)</u>			
Objects and materials within the site (clause 73.1 - 73.2)			
145	Fixed Related	Item	
146	Value Related	Item	
147	Time Related	Item	
<u>RISK AND INSURANCE</u>			
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Employer's risk (clause 80)

Employer's risk (clause 80.1)

148	Fixed Related	Item
149	Value Related	Item
150	Time Related	Item

Contractor's risk (clause 81)

Contractor's risk (clause 81.1)

151	Fixed Related	Item
152	Value Related	Item
153	Time Related	Item

Repairs (clause 82)

Repairs (clause 82.1)

154	Fixed Related	Item
155	Value Related	Item
156	Time Related	Item

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Indemnity (clause 83)

Indemnity (clause 83.1- 83.2)

157	Fixed Related	Item
158	Value Related	Item
159	Time Related	Item

Insurance cover (clause 84)

Insurance cover (clause 84.1 - 84.2)

160	Fixed Related	Item
161	Value Related	Item
162	Time Related	Item

Insurance policies (clause 85)

Insurance policies (clause 85.1 - 85.4)

163	Fixed Related	Item
164	Value Related	Item
165	Time Related	Item

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If the Contractor does not insure (clause 86)

If the Contractor does not insure (clause 86.1)

166	Fixed Related	Item
167	Value Related	Item
168	Time Related	Item

Insurance by the Employer (clause 87)

Insurance by the Employer (clause 87.1 -87.3)

169	Fixed Related	Item
170	Value Related	Item
171	Time Related	Item

TERMINATION

Termination (clause 90)

Termination (clause 90.1 - 90.5)

172	Fixed Related	Item
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173	Value Related	Item	
174	Time Related	Item	
<u>Reasons for termination (clause 91)</u>			
Reasons for termination (clause 91.1 - 91.7)			
175	Fixed Related	Item	
176	Value Related	Item	
177	Time Related	Item	
<u>Procedures on termination (clause 92)</u>			
Procedures on termination (clause 92.1 - 92.2)			
178	Fixed Related	Item	
179	Value Related	Item	
180	Time Related	Item	
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Payment on termination (clause 93)

Procedures on termination (clause 93.1 - 93.2)

181	Fixed Related	Item
182	Value Related	Item
183	Time Related	Item

MAIN OPTION CLAUSES

DISPUTE RESOLUTION

Option W1

Dispute Resolution (clause W1.1)

184	Fixed Related	Item
185	Value Related	Item
186	Time Related	Item

The Adjudicator (clause W1.2)

187	Fixed Related	Item
188	Value Related	Item
189	Time Related	Item

The Adjudication (clause W1.3)

190	Fixed Related	Item
191	Value Related	Item

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192	Time Related	Item	
	Review by the Tribunal (clause W1.4)		
193	Fixed Related	Item	
194	Value Related	Item	
195	Time Related	Item	
<u>SECONDARY OPTION CLAUSES</u>			
<u>Price adjustment for inflation (Option X1)</u>			
	Defined terms (clause X1.1)		
196	Fixed Related	Item	
197	Value Related	Item	
198	Time Related	Item	
	Price Adjustment Factor (clause X1.2)		
199	Fixed Related	Item	
200	Value Related	Item	
201	Time Related	Item	
	Compensation Event (clause X1.3)		
202	Fixed Related	Item	
203	Value Related	Item	
204	Time Related	Item	
	Price Adjustment (clause X1.4)		
205	Fixed Related	Item	
206	Value Related	Item	
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207	Time Related	Item	
	<u>Changes in the law (Option X2)</u>		
	Changes in the law (clause X2.1)		
208	Fixed Related	Item	
209	Value Related	Item	
210	Time Related	Item	
	<u>Delay damages (Option X7)</u>		
	Delay damages (clause X7.1 - X7.3)		
211	Fixed Related	Item	
212	Value Related	Item	
213	Time Related	Item	
	<u>Performance bond (Option X13)</u>		
	Performance bond (Option X13.1)		
214	Fixed Related	Item	
215	Value Related	Item	
216	Time Related	Item	
	<u>Advanced payment to the contractor (Option X14)</u>		
	Advanced payment to the contractor (Option X14.1 - X14.3)		
217	Fixed Related	Item	
218	Value Related	Item	
219	Time Related	Item	
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Limitation of the Contractor's liability for his design to reasonable skill and care (Option X15)

Limitation of the Contractor's liability for his design to reasonable skill and care (Option X15.1 - X15.2)

220	Fixed Related	Item
221	Value Related	Item
222	Time Related	Item

Retention (Option X16)

Retention (Option X16.1 - X16.2)

223	Fixed Related	Item
224	Value Related	Item
225	Time Related	Item

Low performance damages (Option X17)

Low performance damages (Option X17.1)

226	Fixed Related	Item
227	Value Related	Item
228	Time Related	Item

Limitation of Liability (Option X18)

Limitation of Liability (Option X18.1 - X18.5)

229	Fixed Related	Item
230	Value Related	Item

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231	Time Related	Item	
<u>CONTRACT DATA</u>			
Contractual Requirements as stated elsewhere in the document			
<u>ESTABLISHMENT OF FACILITIES ON THE SITE</u>			
<u>Facilities for Project Manager</u>			
Furnished offices (In no 1)			
232	Fixed Related	Item	
233	Value Related	Item	
234	Time Related	Item	
Name boards (In no 1)			
235	Fixed Related	Item	
236	Value Related	Item	
237	Time Related	Item	
Offices and storage sheds			
238	Fixed Related	Item	
239	Value Related	Item	
240	Time Related	Item	
<u>Facilities for the contractor</u>			
Living accommodation			
241	Fixed Related	Item	
242	Value Related	Item	
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243	Time Related	Item	
	Ablution and latrine facilities		
244	Fixed Related	Item	
245	Value Related	Item	
246	Time Related	Item	
	Tools and Equipments		
247	Fixed Related	Item	
248	Value Related	Item	
249	Time Related	Item	
	Water supplies, electric power, communication, dealing with water and access		
250	Fixed Related	Item	
251	Value Related	Item	
252	Time Related	Item	
	Other fixed charge obligations		
253	Fixed Related	Item	
254	Value Related	Item	
255	Time Related	Item	
	Removal of site establishment		
256	Fixed Related	Item	
257	Value Related	Item	
258	Time Related	Item	
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Occupational Health and safety

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

259	Fixed Related	Item
260	Value Related	Item
261	Time Related	Item
Allow for compliance with all COVID 19 Regulations and Requirements		
262	Fixed Related	Item
263	Value Related	Item
264	Time Related	Item

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Bill No. 1

PRELIMINARIES & GENERAL

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Section No. 1

PRELIMINARIES

Bill No. 1

PRELIMINARIES & GENERAL

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SECTION 2: ALTERATIONS

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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

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

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

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

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

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

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

Breaking up and removing mass concrete

1	100mm Thick concrete surface bed	m2	15
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Hacking up/off and removing granolithic, screeds, plaster, etc from concrete or brickwork and preparing surfaces for new screeds, plaster, etc

2	Internal plaster from walls	m2	13
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3	30mm Thick screed in patches	m2	12
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Breaking down and removing brickwork etc

4	Half brick walls	m2	29
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5	One brick walls	m2	18
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Taking out and removing doors, windows, etc

6	Steel window size 600 x 900mm high	No	2
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7	Steel window size 1200 x 1540mm high	No	2
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8	Steel door frame size 813 x 2032mm high	No	3
---	---	----	---

9	Steel sliding door complete with bottom and top rails overall size 1000 x 2100mm high	No	5
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BUILDING UP OPENINGS

Brickwork of NFP bricks in class II mortar

10	One brick walls	m2	4
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	<u>Sundries</u>			
11	Cutting toothings and bonding new brickwork to existing	m2	2	
	<u>OPENINGS THROUGH EXISTING WALLS ETC</u>			
	<u>Altering openings</u>			
12	Altering opening in one brick wall where 600 x 900mm high window was removed to form opening for new window 600 x 900mm high by breaking out brickwork on both sides and bottom including necessary precast concrete lintel and making good plaster on one side and into reveals and face brickwork on other side and into reveals (new window and making good paintwork elsewhere)	No	2	
13	Altering opening in one brick wall where 813 x 2032mm high steel door frame was removed to form opening for new steel door frame size 900 x 2032mm high by breaking out brickwork on both sides and bottom including necessary precast concrete lintel and making good plaster on one side and into reveals and face brickwork on other side and into reveals (new window and making good paintwork elsewhere)	No	3	
	<u>Breaking out for and forming openings through brick walls for new doors and frames including necessary precast concrete lintels and making good plaster on both sides and into reveals and with concrete thresholds with steel trowelled finish (new doors and frames and making good paintwork elsewhere)</u>			
14	Create opening size 813 x 2032mm high overall through one brick wall	No	2	
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**COMPLETION OF PIGGERY, ABATTOIR AND
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SECTION 3: BUILDINGS

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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

EXCAVATIONS

Excavation in earth not exceeding 2m deep

1	Trenches	m3	202
2	Holes	m3	21
3	Excavate in pickable earth to reduce ground level below surface beds and cart away excavated material to a dumping place to be found by the contractor (cut to spoil)	m3	36
4	Rip and scarify ground level to a depth of 150mm and consolidate to 93% mod. AASHTO density	m2	401

Extra over trench and hole excavations in earth for excavation in

5	Soft rock	m3	5
6	Hard rock	m3	8

Risk of collapse of excavations

7	Sides of trench and hole excavations not exceeding 1,5m deep	m2	594
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Keeping excavations free of water

8	Keeping excavations free of water		Item
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FILLING ETC

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<u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 93% Mod AASHTO density</u>				
9	Backfilling to trenches, holes, etc	m3	9	
10	Under floors, steps, pavings, etc	m3	8	
<u>Earth filling of G7 material supplied by the contractor, compacted to 95% Mod AASHTO density</u>				
11	Backfilling to trenches, holes, etc	m3	127	
12	Under floors, steps, pavings, etc	m3	113	
<u>Compaction of surfaces</u>				
13	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density (Ramps)	m2	82	
14	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density	m2	401	
<u>Extra over all excavations for carting away</u>				
15	Surplus material from excavations on site to a dumping site to be located by the contractor	m3	114	
<u>Prescribed density tests on filling</u>				
16	"Modified AASHTO Density" test	No	9	
<u>SOIL POISONING</u>				
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

	<u>Soil insecticide to be executed with SABS compliance by a firm of specialists under a 5 year guarantee</u>		
17	Under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	469
18	To bottoms and sides of trenches, etc.	m2	823
	<u>Weedkiller mixed in accordance to supplier's specifications</u>		
19	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	469
20	To bottoms and sides of trenches etc	m2	823
	<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>		
	<u>15MPa/19mm concrete</u>		
21	Surface blinding under footings and bases	m3	11
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>		
	<u>30MPa/19mm concrete</u>		
22	Ramps	m3	8
23	Strip footings	m3	64
24	Bases	m3	8
25	Columns in foundations	m3	1

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**COMPLETION OF PIGGERY, ABATTOIR AND
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<u>TEST CUBES</u>			
26	Allow for preparing a set of three (3) concrete strength test cubes, each size 150 x 150 x 150mm, sending them to an approved Testing Laboratory for testing and paying all charges in connection therewith.	No	10
<u>CONCRETE SUNDRIES</u>			
<u>Finishing top surfaces of concrete smooth with a wood float/steel trowel</u>			
27	Surface beds, slabs, etc (Ramps)	m2	22
<u>SMOOTH FORMWORK (DEGREE OF ACCURACY I)</u>			
<u>Smooth formwork to sides</u>			
28	Rectangular columns in foundations	m2	9
<u>REINFORCEMENT</u>			
<u>Mild steel reinforcement to structural concrete work</u>			
29	8mm Diameter bars	t	0.39
30	10mm Diameter bars	t	2.07
<u>High tensile steel reinforcement to structural concrete work</u>			
31	12mm Diameter bars	t	1.96
32	25mm Diameter bars	t	3.45
<u>Fabric reinforcement</u>			
33	Steeledale Mesh standard square fabric mesh, nominal mass 2,45 kg/m ² with nominal 5,6mm thick wires and 200 x 200mm pitch (Ref 245), complying with SANS 1024/2006 requirements, in sheets 2,4 x 6m long.	m2	82
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

WATERPROOFING

Gundle USB Green co ex 250µm damp proof membrane under concrete surface beds to SANS mark 952-1985 type C laid with minimum 150mm overlaps and sealed with Gunplas pressure sensitive tape.

34	Under surface beds	m2	60
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MASONRY

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

35	Piers	m3	3
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36	Half brick walls	m2	7
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37	One brick walls	m2	279
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BRICKWORK SUNDRIES

38	Leave or form opening through one brickwall for pipe n.e 100mm diameter	No	30
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Brickwork reinforcement

39	75mm Wide reinforcement built in horizontally	m	54
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40	150mm Wide reinforcement built in horizontally	m	3 313
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FACE BRICKWORK

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Face brick, size 222 x 106 x 73mm, manufactured in accordance with 227:2007, bedded and jointed in Class I mortar and pointed with flush vertical and flush horizontal joints, suitable for exposure zones 1-2 (PC Amount R10 000-00/thousand Vat excl. supplied and delivered to site).

41	Extra over brickwork for face brickwork in foundations	m2	166	
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For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.

SUPPLEMENTARY PREAMBLES

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)

Breeze concrete

Breeze concrete shall consist of twelve parts clean dry furnace ash, free from coal or other foreign matter, to one part cement (12:1), the ash graded up to particles which will pass a 16,5mm ring from a minimum which fails to pass a 4,75mm mesh. The finer materials from the screening are to be first mixed with the cement into a mortar and the ash added afterwards and thoroughly incorporated

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CONCRETE, FORMWORK & REINFORCEMENT

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Formwork

Description 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

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

Formwork to soffits of slabs, beams, etc shall be deemed to be propped up exceeding 1,5m and not exceeding 3,5m high 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 reasons. Formwork necessitated by irregularity or collapse of excavated faces will not be measured and the cost thereof shall be deemed to be included in the allowance for taking the risk of collapse of the sides of the excavations, provision for which is made in "Earthworks"

REINFORCED CONCRETE

30MPa/19mm concrete

1	Surface beds on waterproofing	m3	40
2	Extra over concrete in surface beds for 100mm thickening under surface bed, size 315mm at top and tapering to 230mm at bottom, inclusive of all excavations, cart away, backfilling, etc	m	20

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TEST CUBES

- 3 Allow for preparing a set of three (3) concrete strength test cubes, each size 150 x 150 x 150mm, sending them to an approved Testing Laboratory for testing and paying all charges in connection therewith.

No 21

CONCRETE SUNDRIES

Finishing top surfaces of concrete smooth with a steel float

- 4 Surface beds, slabs, etc

m2 401

20MPa non shrink grout

- 5 25mm Thick bedding under 400 x 400mm wide base plate including chamfering edges all round

No 10

SMOOTH FORMWORK (DEGREE OF ACCURACY I)

Smooth formwork to sides

- 6 Edges, risers, ends and reveals not exceeding 300mm high or wide

m 6

MOVEMENT JOINTS ETC

Expansion joints with bitumen impregnated softboard between concrete and brickwork

- 7 10mm Joints not exceeding 300mm high along edges of surface beds

m 338

Saw cut joints

- 8 5 x 10mm Reamed saw cut joints on top of concrete

m 57

- 9 3 x 35mm Saw cut joints on top of concrete with corners rounded to 3mm radius

m 115

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**COMPLETION OF PIGGERY, ABATTOIR AND
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REINFORCEMENT

Fabric reinforcement

10

Ref 245 fabric reinforcement in concrete surface beds,
slabs, etc

m2

401

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

Face bricks

Bricks shall be ordered timeously to obtain uniformity in size and colour

Pointing

Descriptions of recessed pointing to fair face brickwork and face brickwork shall be deemed to include square recessed, hollow recessed, weathered pointing, etc

SAMPLES

Samples of all masonry building units, shall consist of a minimum of 6 units

SUPERSTRUCTUREBrickwork of NFP bricks in class II mortar

1	Piers	m3	3
2	Half brick walls	m2	260
3	One brick walls	m2	875

BRICKWORK SUNDRIES"Allied Concrete" prestressed fabricated lintels

4	110 x 70mm Lintels in lengths not exceeding 3m	m	48
5	110 x 70mm Lintels in lengths exceeding 3m and not exceeding 4,5m	m	32

Turning pieces

6	115mm Wide turning pieces to lintels etc	m	8
7	230mm Wide turning pieces to lintels etc	m	35

Brickwork reinforcement

8	75mm Wide reinforcement built in horizontally	m	1 177
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**COMPLETION OF PIGGERY, ABATTOIR AND
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9	150mm Wide reinforcement built in horizontally	m	3 466
10	230mm Wide reinforcement built in horizontally	m	649
	<u>Galvanised hoop iron cramps, ties, etc</u>		
11	1,6mm Thick x 25mm wide galvanised metal hoop iron 540mm long two (2) times bent and built into brickwork	No	90
12	1,6mm Thick x 25mm wide galvanised metal strap 220mm long once bent with one end welded to steel column and other end built into brickwork	No	471
13	30 x 1,6mm Roof tie 1,5m long with one end fixed to timber and other end built into brickwork	No	13
14	Vitex 50-2F mild steel Flatex general mesh with 5 x 10mm mesh made up of 1,0 x 1,0mm strands with a mass of 2,9kg/m ² , cut to 440mm width panels, fixed to walls	m	40
	<u>Joint forming material in movement joints</u>		
15	10mm Thick "Jointex" not exceeding 300mm wide fixed vertically between walls	m	23
	<u>Expansion joints with bitumen impregnated softboard between concrete and brickwork</u>		
16	10mm Joints not exceeding 300mm high between brick walls	m	90
	<u>Holes:</u>		
17	Leave or form opening through one brickwall for pipe n.e 100mm diameter	No	19
18	Leave or form opening through one brickwall for pipe exceeding 100 and not exceeding 200mm diameter	No	10

FACE BRICKWORK

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**COMPLETION OF PIGGERY, ABATTOIR AND
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	<u>Face brick, size 222 x 106 x 73mm, manufactured in accordance with 227:2007, bedded and jointed in Class I mortar and pointed with flush vertical and flush horizontal joints, suitable for exposure zones 1-2 (PC Amount R10 000-00/thousand Vat excl. supplied and delivered to site).</u>			
19	Half brick wall faced both sides but pointed and jointed on one side	m2	4	
20	Half brick walls in beamfilling faced both sides but jointed and pointed on one side	m2	5	
21	Extra over brickwork for face brickwork	m2	833	
22	Extra over brickwork for brick-on-edge header course lintel pointed on face and 115mm soffit	m	44	
23	Fair cutting and fitting around pipe not exceeding 100mm diameter	No	13	
24	Fair cutting and fitting around pipe exceeding 100mm and not exceeding 200mm diameter	No	10	
25	Fair raking cutting	m	25	
	<u>Brick-on-edge header course copings, sills, etc of face brick, size 222 x 106 x 73mm, manufactured in accordance with 227:2007, bedded and jointed in Class I mortar and pointed with flush vertical and flush horizontal joints, suitable for exposure zones 1-2. (PC Amount R10 000-00/thousand Vat excl. supplied and delivered to site).</u>			
26	230mm Wide sill set sloping and slightly projecting	m	23	
27	Coping on top of one brickwall	m	20	
28	Coping on raking top of one brick wall	m	33	
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**COMPLETION OF PIGGERY, ABATTOIR AND
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	<u>WATERPROOFING</u>			
	For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.			
	<u>WATERPROOFING TO ROOFS, BASEMENTS, ETC</u>			
	<u>One layer of 375 micron "Tarkon Black DPC" embossed damp proof course</u>			
1	In walls	m2	54	
	<u>One layer of 250 micron "Tarkon USB Green" waterproof sheeting sealed at laps with "Gunplas Pressure Sensitive Tape"</u>			
2	Under surface beds	m2	401	
	<u>JOINT SEALANTS ETC</u>			
	<u>Silicone sealing compound including backing cord, bond breaker, primer, etc</u>			
3	3 x 35mm In saw cut joints in floors	m	115	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

"abe" Construction chemicals

4 10 x 5mm Deep isolation joints, including raking out of expansion joint filler as necessary, prepare surfaces leaving them clean, dry sound and free of grease. clean non-porous surface with Dow Corning R40, dry thoroughly, apply primer if necessary and apply DOW Corning 813-C sealant

m 284

"Sika" Construction chemicals

5 15 x 10mm In isolation joints including removing all loose materials with a wire brush, water or sand blasting if necessary, remove all traces of release agents etc., apply bond breaker or backing cord, apply Sika Primer 3 and Sikaflex-Pro 2HP within one (1) to five (5) hours of applying Sika Primer 3 all in strict accordance of manufacturer's instructions.

m 15

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**COMPLETION OF PIGGERY, ABATTOIR AND
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WATERPROOFING

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WATERPROOFING

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO 3</u></p> <p><u>BILL NO 5</u></p> <p><u>ROOF COVERINGS, ETC.</u></p> <p>For Preambles refer to "Department of Public Works: Specification of material and methods to be used - PW371"</p> <p><u>SUPPLEMENTARY PREAMBLES</u></p> <p>All items are measured net unless otherwise described</p> <p><u>Flashings, trimming plates, etc.</u></p> <p>Prices to include for all cutting and waste and relevant fixing material, unless otherwise described</p> <p>All rates for flashings, trimmings, etc., to include for forming drips and closed ends to troughs of sheet steel roof covering where applicable</p> <p>All items are unless otherwise described measured net</p> <p><u>Roof:</u></p> <p><u>The roof sheeting/side cladding shall be a double interlocking concealed-fix Saflok 700 profile roll-formed in continuous lengths and cut to length by pneumatic cut-off process from certified ZincAL 0,5mm steel. A certificate verifying compliance shall be issued by the manufacturer, Safintra roofing. The profile shall be roll formed with 4 ribs and centres not exceeding 233mm and a cover width not exceeding 700mm width. The male rib is to include spurs to ensure a double interlocking action with adjacent sheets. The minimum sheet depth will be 41mm. Two longitudinal stiffening ribs to be incorporated in each pan.</u></p>			
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	<p>Section No. 3 BUILDINGS Bill No. 5 ROOF COVERINGS, ETC.</p>			

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Roof Installer:

The roof shall be installed by a Safintra accredited and approved installer, who will present their accreditation to the Architects for their scrutiny before commencing

PROFILED METAL SHEETING AND ACCESSORIES

Saflok 700 0,5mm Thick Colorplus AZ100, Colour to be confirmed, C.1.S finish with standard backing coat Cool Grey G550 interlocking roof sheeting with AZ100 spelter to both sides fixed to timber purlins not exceeding 1900mm centres and to ridge and eaves at not exceeding 1700mm centres. Saflok 700 ZincAL 0,8mm clips fastened with Fixtite Class 4 self tapping wafer head 10 x 22mm for timber fix all in accordance with manufacturer's recommendations.

1	Roof coverings with pitches not exceeding 25 degrees	m2	325
2	Head wall flashing 462mm girth, two times bent along girth.	m	4
3	Counter flashing 185mm girth, two times bent along girth.	m	4
4	Ridge capping 462mm girth, three times bent along girth.	m	24
5	Saflok metal broad flute closure	m	4
6	Saflok Poly closures	m	4

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 ROOF COVERINGS, ETC.

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Saflok 700 0,5mm Thick Colorplus AZ100, Colour to be confirmed, C.1.S finish with standard backing coat Cool Grey G550 interlocking roof sheeting with AZ100 spelter to both sides fixed to steel purlins not exceeding 1900mm centres and to ridge and eaves at not exceeding 1700mm centres. Saflok 700 ZincAL 0,8mm clips fastened with Fixtite Class 4 self tapping wafer head 10 x 22mm for timber fix all in accordance with manufacturer's recommendations.

7	Roof coverings with pitches not exceeding 25 degrees	m2	157	
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ROOF AND WALL INSULATION

"Isoboard" Thermal Insulation

8	Roof insulation to be Isoboard® high density 32-36kg/m ³ rigid extruded polystyrene 100% closed cell insulation boards 60mm thick x 600mm wide with brown paper and polyethylene laminate slip sheet factory applied to upper surface, with tongue & groove joints fixed concurrent with roof covering over steel purlins at maximum 1500mm centres with 5mm gap between boards butt-joined over purlins. Ridge vents are recommended to be allowed for in the roof covering (elsewhere specified) in order to prevent deflection due to heat build up above the boards.	m2	325	
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- Thickness: 60mm
- Application: Roof insulation

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

9	<p>Roof insulation to be Isoboard® high density 32-36kg/m³ rigid extruded polystyrene 100% closed cell insulation boards 60mm thick x 600mm wide with brown paper and polyethylene laminate slip sheet factory applied to upper surface, with tongue & groove joints fixed concurrent with roof covering over timber purlins at maximum 1500mm centres with 5mm gap between boards butt-joined over purlins. Ridge vents are recommended to be allowed for in the roof covering (elsewhere specified) in order to prevent deflection due to heat build up above the boards.</p> <ul style="list-style-type: none"> • Thickness: 60mm • Application: Roof insulation 	m2	157		
<p>Section No. 3 BUILDINGS Bill No. 5 ROOF COVERINGS, ETC.</p>		<p>Carried to Collection</p>		<p>R</p>	

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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ROOF COVERINGS, ETC.

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ROOF COVERINGS, ETC.

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No

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SECTION NO 3

BILL NO 6

CARPENTRY AND JOINERY

For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.

SUPPLEMENTARY PREAMBLES

Particle board:

Particle board shall comply with the following specifications:

- a) SABS 1300 Particle board: exterior and flooring type
- b) SABS 1301 Particle board: interior type

Joinery:

Descriptions of frames shall be deemed to include frames, transomes, mullions, rails, etc

Descriptions of hardwood joinery shall be deemed to include pelleting of bolt holes

Fixing

Items described as "nailed" shall be deemed to be fixed with hardened steel nails or shot pins to brickwork or concrete

Decorative laminate finish:

Laminate finish shall be glued under pressure. Edge strips shall be butt jointed at junctions with adjacent similar finish

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Section No. 3
 BUILDINGS
 Bill No. 6
 CARPENTRY & JOINERY

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

EAVES, VERGES, ETC

"Everite" pressed fibre-cement

1	Everite medium density plain ungrooved Nutec fascia boards (Code: 041-237), size 300 x 10mm, fixed to timber rafters twice screwed with 12 x 40mm countersunk brass screws with Chromaprep H-profile fascia joiner between boards	m	64
2	Everite moulded Nutec moulded barge boards (Code: 721-740), size 275 x 80mm, fixed to 38 x 38mm trimmer batten twice screwed with 12 x 40mm countersunk brass screws with Chromaprep H-profile barge board joiners between boards and at roof apex.	m	47

DOORS, ETC

44mm Wrought meranti framed, ledged, braced and battened door of 44 x 150mm top rails and stiles, 22 x 150mm middle legde and braces and 22 x 220mm bottom rail filled in with 22mm V-jointed one side boarding

3	Door size 813 x 2032mm high	No	4
4	Door size 900 x 2032mm high	No	5
<u>40mm Solid core flush panel door with masonite veneer on both sides and with solid hardwood concealed edges all round</u>			
5	Door size 813 x 2032mm high	No	6
6	Door size 900 x 2032mm high	No	5
7	Door size 1413 x 2032mm high with two unequal leaves with rebated meeting stiles	No	1

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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CARPENTRY & JOINERY

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CARPENTRY & JOINERY

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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SECTION NO. 3

BILL NO. 7

CEILINGS, ETC.

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

SUPPLEMENTARY PREAMBLES

Descriptions:

Items described as "nailed" shall be deemed to be fixed with hardened steel nails or pins or shot pinned to brickwork or concrete

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 have been given elsewhere

SUSPENDED CEILINGS

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Section No. 3
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CEILINGS, ETC.

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

	<p><u>Lafarge Gypsum lay-in grid ceiling system with 600 x 600 x 12mm thick square edged Lafarge Fissured vinyl ceiling tiles, laid on 15 x 38mm high double stitched slotted main tees at 1200mm centres and 15 x 38mm high cross tees at 600mm centres with galvanised exposed face with 600mm cross tees spaced between 1200mm cross tees at 600mm centres all in colour White, including necessary grids, locking type end clips, fire expansion punchouts to main tees, etc. suspended by 25 x 25 x 1,6mm thick galvanised angle cleats at not exceeding 1200mm centres.</u></p>				
1	<p>Ceilings suspended not exceeding 1m below timber purlins at 960mm centres (trusses at 1m centres)</p>	m2	79		
	<p><u>OWAcoustic® Sandila/N Premium Biologically absorbable mineral wool ceiling tiles, size 1200 x 600 x 15mm thick with square edge and white painted finish, laid on fire rated OWAconstruct® S3 exposed demountable Butt-cut T24 suspension system, comprising galvanised main tees and cross tees at with main tees suspended by means of galvanised hangers at centres not exceeding 1200mm with ceiling perimeter finished with OWAconstruct Perimeter L-trim, plugged and screwed at 200mm centres, and all installed to manufacturer's instructions.</u></p>				
2	<p>Ceilings suspended not exceeding 1m below timber purlins at 900mm centres (trusses not exceeding at 1m centres)</p>	m2	57		
	<p><u>"Owa" cornices to suspended ceilings</u></p>				
3	<p>OWAconstruct Perimeter L-trim, plugged and screwed at 200mm centres, and all installed to manufacturer's instructions.</p>	m	72		
	<p style="text-align: center;">Carried to Collection</p>				
<p>Section No. 3 BUILDINGS Bill No. 7 CEILINGS, ETC.</p>				R	

**COMPLETION OF PIGGERY, ABATTOIR AND
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CEILINGS, ETC.

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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<u>SECTION NO 3</u>				
<u>BILL NO 8</u>				
<u>IRONMONGERY</u>				
For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.				
<u>SUPPLEMENTARY PREAMBLES</u>				
<u>Descriptions</u>				
Items described as "plugged" shall be deemed to include screwing to fibre, plastic or metal plugs				
<u>LOCKS</u>				
1	Solid hardened steel padlock (PC Amount R200-00 each Vat excl. supplied)	No	9	
<u>TYPE 01</u>				
2	DORMA Solid Stainless Steel 150mm long spring loaded lever handle in Stainless Steel finish (Code: SH875 cylinder).	Pairs	11	
3	DORMA Satin Nickel 66mm master keyed double cylinder (Code: DDC106601).	No	11	
4	DORMA Stainless Steel cylinder sash lock (Code: D036S) with 57mm backset.	No	11	
5	DORMA Nickel Plated floor mounted door stop (Code: DDS-NP-018), size 24 x 45mm fixed in accordance with the manufacturer's recommendations.	No	17	
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Section No. 3 BUILDINGS Bill No. 8 IRONMONGERY				

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

WC CUBICLES

6	Dorma DDWC-006 stainless steel WC indicator with 79mm turn knob for physically impaired. (St/Steel)	Pairs	6
7	Dorma DPH301C 150 x 19mm stainless steel "D" shaped straight bolt through pull handle (St/Steel)	Pairs	6
8	Dorma DHC-SS-031B stainless steel hat and coat hook with rubber buffer. (St/Steel)	No	6

LETTERS, NAMEPLATES, ETC

"Dorma"

9	Dormakaba "Male " engraved grade 304 Stainless Steel sign (Code: DSS-130), size 150 x 150 x 1,2mm with counter-sunk fixing holes plugged and screwed with aluminium screws.	No	1
10	Dormakaba "Female" engraved grade 304 Stainless Steel sign (Code: DSS-131), size 150 x 150 x 1,2mm with counter-sunk fixing holes plugged and screwed with aluminium screws.	No	1
11	Dormakaba "Cleaner " engraved grade 304 Stainless Steel sign (Code: DSS-138), size 150 x 150 x 1,2mm with counter-sunk fixing holes plugged and screwed with aluminium screws.	No	1
12	Dormakaba "Disabled" engraved grade 304 Stainless Steel sign (Code: DSS-133), size 150 x 150 x 1,2mm with counter-sunk fixing holes plugged and screwed with aluminium screws.	No	1

BATHROOM FITTINGS

"Volkem Cleaning and Hygiene Solutions"

13	Volkem satin finished stainless steel pedestal operated sanitary towel disposal bin (Code: SB008), with capacity of 20 litres, plugged and screwed to the wall with stainless steel screws.	No	10
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Section No. 3
 BUILDINGS
 Bill No. 8
 IRONMONGERY

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

<u>"Franke"</u>				
14	Franke HF2400HD 1,2/1,5mm thick satin finished stainless steel automatic hands free hand dryer (Code: 359961), size 280 x 207 x 245mm high with 2 vandal proof lock screws and key wrench, plugged and screwed to the wall with stainless steel screws, 200 W motor connected to 230/240 volt power supply. With 5 year warranty.	No	5	
15	Franke BHM6P polished stainless steel double arm double arm soap rack (Code: 359944), size 163 x 100mm deep, plugged and screwed to the wall with stainless steel screws.	No	6	
<u>"Serra"</u>				
16	Serra@Rol TR Lockable toilet tissue Toilet Roll Holder stainless steel (code: SD1310), overall size 125 x 135 x 255mm high, installed by a Serra@Rol installation team.	No	10	
<u>"Kimberly Clark"</u>				
17	Kimberly-Clark@ Professional Reflex@ Disposer wall mounted waste bin colour Black (code: SA426096), overall size 334 x 258 x 635mm high, installed by a Kimberly Clark@ installation team.	No	3	
18	Kimberly-Clark@ Professional Series I Twinpak Skincare soap dispenser colour Black (code: SA921940), overall size 184 x 110 x 264mm high, installed by a Kimberly Clark@ installation team.	No	5	
<u>"Franke"</u>				
19	Franke CNTX750 Grade 304 18/10 stainless steel 32mm diameter straight grab rail with Franke fine grip (Code: 2510006) 750mm x 95mm deep, plugged and screwed to the wall with stainless steel screws.	No	1	
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**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

20 Franke CNTX21 Grade 304 18/10 stainless steel 32mm diameter angle bar with Franke fine grip (Code: 2510008), size 415 x 415 x 95mm deep, plugged and screwed to the wall with stainless steel screws.

No

1

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IRONMONGERY

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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SECTION NO 3

BILL NO. 9

STRUCTURAL STEELWORK

For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.

SUPPLEMENTARY PREAMBLES

Descriptions

Descriptions of bolts shall be deemed to include nuts and washers

Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete

Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete

Descriptions of L-shaped and U-shaped anchor bolts shall be deemed to include bending, threading, nuts and washers and embedding in concrete. Where anchor bolts are described as embedded in sides or soffits of concrete it shall be deemed to include holes through formwork.

Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete.

STEEL COLUMNS AND BEAMS

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Section No. 3
BUILDINGS
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STRUCTURAL WORK

**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

<u>Welded roof trusses of angle section rails, struts, braces, cleats, etc and flat section bearer, gusset and connection plates bolted to steel</u>				
1	Double pitched trusses size approximately 12305 x 3000mm high (No.1)	t	1.71	
2	Double pitche trusses size approximately 12306 x 2796mm high (No.1)	t	1.50	
3	Double pitched trusses size approximately 12306 x 1556mm high (No.1)	t	1.40	
4	Double pitched trusses size approximately 12306 x 1556mm high (No.1)	t	1.08	
5	Lattice trusses size approximately 12306mm x 2796mm high extreme (No.1)	t	1.45	
<u>Welded columns in single lengths with flat section base, top, bearer and connection plates bolted to concrete</u>				
6	254 x 254 x 73kg/m I-section columns	t	2.14	
7	254 x 254 x 89kg/m I-section columns	t	1.30	
<u>Welded beams in single lengths with flat section bearer and connection plates bolted to steel columns</u>				
8	254 x 146 x 31kg/m I section beams	t	1.53	
9	305 x 102 x 28kg/m I section beams	t	0.98	
<u>Bolts to columns, beams, etc</u>				
10	M16 Anchor bolt 535mm long shank bent once, with grade 8.8 nut and washers formed of grade 43, E70XX, bolt to be greased before embedding in concrete	No	40	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

11	High tensile bolts	t	0.08	
	<u>Bolts to trusses etc</u>			
12	High tensile bolts	t	0.10	
	<u>PURLINS, GIRTS, BRACING, ETC</u>			
	<u>Purlins and girts bolted to steel</u>			
13	Cold formed lipped channel section	t	1.98	
	<u>Welded bracing etc with flat section connection plates bolted to steel</u>			
14	Angle section bracing	t	0.85	
15	Angle section sag rails	t	0.29	

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 STRUCTURAL WORK

**COMPLETION OF PIGGERY, ABATTOIR AND
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STRUCTURAL WORK

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STRUCTURAL WORK

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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SECTION NO 3

BILL NO 10

METALWORK

For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.

SUPPLEMENTARY PREAMBLES

Descriptions

Descriptions of bolts shall be deemed to include nuts and washers Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete Metalwork described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described

Drawings

Tenderers are referred to architect's drawings annexed to this document for full details of the windows, doors, etc

Descriptions

Descriptions of bolts shall be deemed to include nuts and washers Descriptions of expansion anchors and bolts and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete Metalwork described as "holed for bolt(s)" shall be deemed to exclude the bolts unless otherwise described

WELDED SCREENS, GATES, ETC

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Section No. 3
BUILDINGS
Bill No. 10
METALWORK

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Screens and gates

1	Steel gate 1000 x 2100mm high (PC Amount R2 000-00 Vat excl. supplied and installed by Specialists)	No	1
2	Steel gate 1200 x 2100mm high (PC Amount R2 000-00 Vat excl. supplied and installed by Specialists)	No	2

STEEL WINDOWS, DOORS, ETC

Standard residential windows with type B2 burglar bars to all sashes

3	Window type NE1 size 533 x 654mm high	No	15
4	Window type NC2 size 1022 x 949mm high	No	6
5	Window type NE10 size 1511 x 654mm high	No	5

Purpose made steel windows with type B2 burglar bars to opening sashes

6	Window size 600 x 900mm high set in opening created elsewhere (PC Amount R1 200-00 Vat excl supplied)	No	2
7	Window size 1000 x 925mm high (PC Amount R1 500-00 Vat excl supplied)	No	1
8	Window size 2000 x 925mm high (PC Amount R3 000-00 Vat excl supplied)	No	2

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METALWORK

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

9	Window size 1511 x 1264mm high (PC Amount R3 500-00 Vat excl supplied)	No	1	
10	Window size 4000 x 925mm high (PC Amount R6 000-00 Vat excl supplied)	No	1	
<u>PRESSED STEEL DOOR FRAMES</u>				
<u>1,2mm Double rebated frames suitable for half brick walls</u>				
11	Frame for door size 813 x 2032mm high	No	6	
12	Frame for door size 900 x 2032mm high	No	2	
<u>1,2mm Double rebated frames suitable for one brick walls</u>				
13	Frame for door 813 x 2032mm high	No	3	
14	Frame for door 900 x 2032mm high	No	6	
15	Frame for door 900 x 2032mm high set on opening created elsewhere	No	5	
16	Frame for door 1413 x 2032mm high	No	1	
<u>PRESSED STEEL TRANSFORMER ROOM DOORS AND FRAMES</u>				
<u>"Transformer" doors</u>				
17	Double door 1800 x 2100mm high with 650 x 850mm high louvred ventilation panel and rebated frame suitable for one brick wall (PC Amount R4 000-00 Vat excl. supplied)	No	1	
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Section No. 3 BUILDINGS Bill No. 10 METALWORK				

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

18	Double door 1626 x 2100mm high with 600 x 850mm high louvred ventilation panel and rebated frame suitable for one brick wall (PC Amount R4 000-00 Vat excl. supplied)	No	1	
<u>DOORS</u>				
<u>Steel sliding doors including frames, sliding gear, ironmongery etc.</u>				
19	Sliding door size 900 x 2100mm high (PC Amount R3 000-00 each VAT excl. supplied)	No	4	
20	Sliding door size 1000 x 2100mm high (PC Amount R3 500-00 each VAT excl. supplied)	No	2	
21	Sliding door size 1000 x 2100mm high (PC Amount R4 000-00 each VAT excl. supplied and delivered to site)	No	9	
<u>STEEL ROLLER SHUTTERS ETC</u>				
<u>"Wispeco" powder coated roller shutters fixed to brickwork or concrete</u>				
22	Crank operated slatted roller shutter for 800 x 2100mm high opening (PC Amount R4 500-00 (Vat excl. supplied, delivered and installed by Specialists)	No	1	
23	Crank operated slatted roller shutter for 1700 x 1300mm high opening (PC Amount R5 500-00 (Vat excl. supplied, delivered and installed by Specialists)	No	1	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

24	Crank operated slatted roller shutter for 1800 x 2100mm high opening (PC Amount R11 000-00 (Vat excl. supplied, delivered and installed by Specialists)	No	4		
25	Crank operated slatted roller shutter for 2550 x 2125mm high opening (PC Amount R15 000-00 (Vat excl. supplied, delivered and installed by Specialists)	No	1		
26	Crank operated slatted roller shutter for 3100 x 2100mm high opening (PC Amount R17 500-00 (Vat excl. supplied, delivered and installed by Specialists)	No	1		
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Section No. 3 BUILDINGS Bill No. 10 METALWORK					

**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

Section No. 3

BUILDINGS

Bill No. 10

METALWORK

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Section No. 3
BUILDINGS
Bill No. 10
METALWORK

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No		Quantity	Rate	Amount
	<u>SECTION NO 3</u>			
	<u>BILL NO 11</u>			
	<u>PLASTERING</u>			
	For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Plastering of concrete soffits</u>			
	The plasterer should make sure that the surface to be plastered does not deviate from the required plane by more than 10mm. All high areas should be removed by hacking or cutting. Fill low areas by applying undercoats of plaster not exceeding 15m in thickness, apply one coat plaster to surface, leave to stiffen, strike off with a striker board, and wood float to an even surface and to a thickness of 10 - 15mm thick.			
	<u>SCREEDS</u>			
	<u>Screeds on concrete</u>			
1	15mm Thick on floors and landings	m2	157	
2	22mm Thick on floors and landings	m2	2	
3	Average 50mm thick on floors to falls	m2	254	
	<u>GRANOLITHIC</u>			
	Carried to Collection			R
	Section No. 3 BUILDINGS Bill No. 11 PLASTERING			

**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

	<u>Granolithic screeds</u>		
4	30mm Thick on floors and landings	m2	536
5	75mm coved skirting	m	24
	<u>INTERNAL PLASTER</u>		
	<u>Cement plaster on brickwork</u>		
6	On walls	m2	1 391
7	On narrow widths	m2	12
	<u>EXTERNAL PLASTER</u>		
	<u>Cement wash of 1:3 liquid cement and sand mixture applied with a brush</u>		
8	On brick walls, piers, etc.	m2	61
	<u>Cement plaster on brickwork</u>		
9	On walls	m2	22
10	On narrow widths	m2	2

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Section No. 3
BUILDINGS
Bill No. 11
PLASTERING

**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

Section No. 3

BUILDINGS

Bill No. 11

PLASTERING

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BUILDINGS
Bill No. 11
PLASTERING

**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

Item
No

Quantity

Rate

Amount

SECTION NO 3**BILL NO 12****TILING**

For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.

SUPPLEMENTARY PREAMBLESDescriptions

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

WALL TILING

300 x 600 x 12,5mm Thick glazed Porcelain tiles (PC Amount R300-00 Vat excl. supplied and delivered to site) fixed to internal wall plaster backing with TAL tile adhesive (elsewhere specified) mixed with TAL bonding liquid in lieu of water with joints continuous in both directions and grouted with TAL tile grout (elsewhere specified), excess grout on the surface to be cleaned with water as work proceeds.

1	On walls	m2	422	
2	On narrow widths	m2	3	
3	Fair exposed cutting and fitting around pipe not exceeding 50mm internal diameter	No	13	

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Section No. 3
BUILDINGS
Bill No. 12
TILING

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

4	Fair exposed cutting and fitting around pipe exceeding 100mm and not exceeding 100mm internal diameter	No	10	
<u>FLOOR TILING</u>				
<u>500 x 500 x 12,5mm Thick Porcelain matt finish tile (PC Amount R225,00/m2 VAT excl. supplied and delivered to site) with fixed to internal floor screed with TAL tile adhesive (elsewhere specified) mixed with TAL bonding liquid in lieu of water with joints continuous in both directions and grouted with tile grout (elsewhere specified), excess grout on the surface to be cleaned with water as work proceeds.</u>				
5	On floors and landings	m2	149	
6	Skirting of 600 x 100mm high cut tile	m	195	
<u>Mesh backed ceramic mosaics , size 48 x 48mm, sheet size 300 x 300mm (PC Amount R600,00/m2 VAT excl. supplied and delivered to site) fixed mesh side down to internal floor with White TAL Mosaic Fix tile adhesive mixed with bonding liquid in lieu of water (elsewhere specified), laid with diagonal joints continuous in both directions with tile grout (elsewhere specified) applied with flexible spatula, excess grout to be removed with damp sponge and tiles to be washed off with Glint Tile Cleaner once grout has cured.</u>				
7	On floors and landings	m2	8	
<u>Sundries</u>				
8	Aluminium edge strip on top of cut skirting (PC Amount R85-00/m Vat excl. supplied and delivered to site)	m	196	
Carried to Collection				R
Section No. 3 BUILDINGS Bill No. 12 TILING				

**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

Section No. 3

BUILDINGS

Bill No. 12

TILING

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BUILDINGS
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TILING

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**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

Item No		Quantity	Rate	Amount
	<u>SECTION NO 3</u>			
	<u>BILL NO 13</u>			
	<u>GLAZING</u>			
	For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.			
	<u>GLAZING TO STEEL WITH PUTTY</u>			
	<u>4mm Clear float glass</u>			
1	Panes exceeding 0,5m2 and not exceeding 2m2	m2	15	
	<u>4mm Obscure glass</u>			
2	Panes exceeding 0,1m2 and not exceeding 0,5m2	m2	10	
	<u>MIRRORS, ETC</u>			
	<u>6mm Thick mirrors with bevelled edges, holed for and fixed with chromium plated dome capped mirror screws with rubber buffers to plugs in brickwork or concrete</u>			
3	Mirror 450 x 450mm high with four (4) screws	No	8	
4	Mirror 450 x 900mm high with four (4) screws	No	1	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No		Quantity	Rate	Amount
	<p><u>SECTION NO 3</u></p> <p><u>BILL NO 14</u></p> <p><u>PAINTWORK</u></p> <p>For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.</p> <p><u>ON FLOATED PLASTER</u></p> <p><u>Plascon Polvin Super Acrylic to interior new cement plaster (NW 205).Surface to be dry, sound and clean and cured for a minimum of 14 days, with a moisture content measured with a Doser Hygrometer (or equivalent), of BD 2 scale - 8% or less. Prime with one coat of Plascon Plaster Primer (UC 56) with an overcoating time of 16 hours and finish with two coats of Polvin Super Acrylic (EPL) with 1 hour drying time between coats, for a maintenance cycle of 5 years in a C1 - inland environment.</u></p>			
1	On internal walls	m2	978	
	Carried to Collection			R
	<p>Section No. 3</p> <p>BUILDINGS</p> <p>Bill No. 14</p> <p>PAINTING</p>			

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

	<p><u>Plascon Professional Superior Matt to exterior cement plaster.</u></p> <p><u>Surface to be assessed and the appropriate surface preparation clauses selected for remedial procedure. Prime with one coat Professional Plaster Primer (PP700) with an overcoating time of 16 hours and finish with two coats Professional Superior Matt (PEM 950) with 2 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment.</u></p> <ul style="list-style-type: none"> • <u>Environment : C1 - inland</u> • <u>Topcoat : Professional Superior Matt</u> • <u>Number of coats of topcoat : two coats</u> • <u>Overcoating time for topcoat : 2,00 hour</u> • <u>Primer/Base coat : Professional Plaster Primer</u> • <u>Overcoating time for primer/base coat : 16,00 hour</u> • <u>Specification document : RD107t.</u> 				
2	On external walls	m2	22		
<u>ON BAGGED BRICKWORK OR CONCRETE</u>					
	<p><u>Plascon Professional Superior Matt to exterior cement plaster.</u></p> <p><u>Surface to be assessed and the appropriate surface preparation clauses selected for remedial procedure. Prime with one coat Professional Plaster Primer (PP700) with an overcoating time of 16 hours and finish with two coats Professional Superior Matt (PEM 950) with 2 hours drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment.</u></p> <ul style="list-style-type: none"> • <u>Environment : C1 - inland</u> • <u>Topcoat : Professional Superior Matt</u> • <u>Number of coats of topcoat : two coats</u> • <u>Overcoating time for topcoat : 2,00 hour</u> • <u>Primer/Base coat : Professional Plaster Primer</u> • <u>Overcoating time for primer/base coat : 16,00 hour</u> • <u>Specification document : RD107t.</u> 				
3	On external walls	m2	61		
Carried to Collection					
<p>Section No. 3 BUILDINGS Bill No. 14 PAINTING</p>					
R					

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

ON METAL

Plascon Super Universal Enamel to exterior new mild steel. Surface to be clean and dry. Remove surface contaminants using Metalcare Aquasolv Degreaser (GR 1) with bristle brush or Brillo pads. Rinse thoroughly with tap water until surface is water break-free. Remove rust and millscale by abrasive blasting to ISO 8501 - 01:1988 - Sa2½ or by hand/mechanical wire brushing to St3 of the same standard. Allow to dry completely and prime within 4 hours of cleaning. Prime with one coat Metalcare Mild Steel Primer (UC 501) with an overcoating time of 16 hours and finish with two coats Super Universal Enamel (NY 1/G) with 16 hours drying time between coats, for a maintenance cycle of 3 years in a C1 - inland environment.

4	On door frames	m2	52
5	On doors and frames	m2	37
6	On windows with burglar bars	m2	52
7	On columns and beams	m2	446
8	On members of roof trusses	m2	572
9	On gates, grilles, burglar screens, balustrading, etc (both sides measured over the full flat area)	m2	14

ON WOOD

Carried to Collection

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Section No. 3
 BUILDINGS
 Bill No. 14
 PAINTING

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

	<p><u>Plascon Woodcare Clear Varnish to interior new wood (NW 601).Surface to be dry, sound and clean. Wash knots and resinous areas with Lacquer Thinners (ILS 1) and coat with Woodcare Knot Seal (PK 2) and apply one coat of Plascon Woodcare Pretreatment (WWP 1), overcoated within 48 hours with a moisture content, measured with a Doser Hygrometer (or equivalent), of BD 2 scale (A1-A5) < 14% or less. Prime with one coat of Woodcare Clear Varnish (CVI 5) with an overcoating time of 16 hours and finish with two coats of Woodcare Clear Varnish (CVI 5) with 16 hours drying time between coats, for a maintenance cycle of 3 years in a C1 - inland environment.</u></p>	m2	20	
10	<p>On doors</p>	m2	20	
	<p><u>Plascon Professional Eggshell Enamel to interior new wood.Surface to be dry, sound and clean. Wash knots and resinous areas with Lacquer Thinners (ILS 1) and coat with Woodcare Knot Seal (PK 2) and apply one coat of Plascon Woodcare Pretreatment (WWP 1), overcoated within 48 hours with a moisture content, measured with a Doser Hygrometer (or equivalent), of BD 2 scale (A1-A5) < 14% or less. Prime with one coat Professional Wood Primer (PP 800) with an overcoating time of 16 hours and finish with two coats Professional Eggshell Enamel (PSB 700) with 16 hours drying time between coats, for a maintenance cycle of 5 years in a C1 - inland environment.</u></p>	m2	77	
11	<p>On doors</p>	m2	77	
	<u>ON FIBRE-CEMENT</u>			
	<p><u>Plascon Professional Gloss Enamel to exterior new fibre cement (NW 172).Surface to be dry, sound and clean, with a moisture content, measured with a Doser Hygrometer (or equivalent), of BD 2 scale - 8% or less. Prime with one coat of Professional Plaster Primer (PP 700) with an overcoating time of 16 hours and finish with two coats of Professional Gloss Enamel (PSB 800) with 16 hours drying time between coats, for a maintenance cycle of 2 years in a C1 - inland environment.</u></p>	m2	60	
12	<p>On fascias and barge boards</p>	m2	60	
	Carried to Collection			R
	<p>Section No. 3 BUILDINGS Bill No. 14 PAINTING</p>			

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

PAINTWORK ETC TO PREVIOUSLY PAINTED WORK

ON FLOATED PLASTER

Plascon Professional All Purpose Matt to previously painted interior cement plaster.

Surface to be assessed and the appropriate surface preparation clauses selected for remedial procedure. Prime with one coat Professional Plaster Primer (PP700) with an overcoating time of 16 hours and finish with two coats Professional All Purpose Matt (PEM 800) with 1 hour drying time between coats, for a maintenance cycle of 3 years in a C1 - inland environment.

- Environment : C1 - inland
- Topcoat : Professional All Purpose Matt
- Number of coats of topcoat : two coats
- Overcoating time for topcoat : 1.00 hour
- Primer/Base coat : Professional Plaster Primer
- Overcoating time for primer/base coat : 16.00 hour
- Specification document : RD118t.

13 On internal walls m2 481

Plascon Super Acrylic Polvin to previously painted exterior cement plaster.

Surface to be assessed and the appropriate surface preparation clauses selected for remedial procedure. Prime with one coat Plascon Plaster Primer (UC56) with an overcoating time of 16 hours and finish with two coats Super Acrylic Polvin (EPL 30) with 1 hour drying time between coats, for a maintenance cycle of 7 years in a C1 - inland environment.

- Environment : C1 - inland
- Topcoat : Super Acrylic Polvin
- Number of coats of topcoat : two coats
- Overcoating time for topcoat : 1.00 hour
- Primer/Base coat : Plascon Plaster Primer
- Overcoating time for primer/base coat : 16.00 hour
- Specification document : RD116r.

14 On external walls m2 456

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**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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SECTION 4: PLUMBING & DRAINAGE

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No	<u>SECTION NO 4</u>	Quantity	Rate	Amount
	<u>BILL NO. 1</u>			
	<u>SANITARY FITTINGS ETC</u>			
	For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.			
	<u>SANITARY FITTINGS ETC</u>			
	<u>"Vaal"</u>			
1	Vaal Sanitaryware Hibiscus Elite vitreous china close coupled suite colour White (Code: 772402WH), overall size 643 x 355 x 830mm high with Hibiscus Jazz thermoset seat (Code: 8531Z000), comprising 90° outlet open rim pan (Code: 772300WH) with matching 6 litre front single flush cistern (Code: 710740) including lid and fitments.	No	9	
2	Vaal Sanitaryware Pearl Paraplegic vitreous china floor mounted paraplegic washdown suite colour White (Code: 7300SC), comprising semi close couple 90° outlet open rim washdown pan and matching 9 litre cistern complete with lid, fitments and purpose made side-flush lever and purpose-made chromium plated side flush lever.	No	1	
3	Vaal Sanitaryware 600 x 385 x 380mm Lavatera top inlet white vitreous china wall mounted urinal (Code: 705426WH) including 38mm chromium plated domical grating (Code:8787Z0) and chromium plated top inlet spreader (Code: 7054Z1), flush valve (by others), fixed on and including two hanger brackets (Code: 8127Z0).	No	4	
	Carried to Collection			R
	Section No. 4 PLUMBING & DRAINAGE Bill No. 1 SANITARY FITTINGS			

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

4	<p>Vaal Sanitaryware Hibiscus vitreous china wall hung basin colour White (Code: 702303WH) with Universal half pedestal (Code: 715222WH), overall size 510 x 405mm with two tapholes including integrated overflow and chainstay hole(basin waste text)(basin waste code prefix)(basin waste code)(basin waste code suffix), bolted to wall with 2No.10mm bolts (Code: 8448Z000) and sealed with silicone sealant where basin meets wall.</p>	No	9	
<u>"Franke"</u>				
5	<p>Franke Grade 304 18/10 stainless steel Luxtub LDL washtrough, size 600 x 500mm x 257mm deep with one pressed bowl with 43 litre bowl, PVC waste and plug with handle, fitted on pair of Franke Falcon pressed galvanised mild steel brackets (product code: 300322) fixed to the wall with 6mm stainless steel anchor bolts.</p>	No	5	
Carried to Collection				R
<p>Section No. 4 PLUMBING & DRAINAGE Bill No. 1 SANITARY FITTINGS</p>				

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Section No. 4

PLUMBING & DRAINAGE

Bill No. 1

SANITARY FITTINGS

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Section No. 4

PLUMBING & DRAINAGE

Bill No. 1

SANITARY FITTINGS

**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

Item No		Quantity	Rate	Amount
	<u>SECTION NO 4</u>			
	<u>BILL NO. 2</u>			
	<u>SANITARY PLUMBING</u>			
	For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.			
	<u>SANITARY PLUMBING</u>			
	<u>uPVC, soil and vent pipes</u>			
1	50mm Pipes	m	29	
2	110mm Pipes	m	16	
3	50mm Pipes laid in and including trenches not exceeding 1m deep below surface beds	m	6	
	<u>Extra over uPVC, soil and vent pipes for fittings</u>			
4	50mm BSP adaptor	No	13	
5	50mm Bend	No	9	
6	50mm Junction	No	14	
7	110mm Bend	No	14	
8	110mm Pan connector	No	10	
9	110mm Access bend	No	9	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No	Quantity	Rate	Amount
<p><u>SECTION NO 4</u></p>			
<p><u>BILL NO. 3</u></p>			
<p><u>WATER SUPPLIES</u></p>			
<p>For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.</p>			
<p><u>SUPPLEMENTARY PREAMBLES</u></p>			
<p><u>"Polycop" polypropylene pipes:</u></p>			
<p>Polypropylene pipes 54mm diameter and under shall be seamless copper coloured class 16 pipes jointed with "Fast-fuse" heat welded thermoplastic or brass compression fittings as designed for use with copper pipes as stated</p>			
<p>Pipes shall be firmly fixed to walls etc with coloured nylon snap-in pipe clips with provision for accommodating thermal movement and jointed and fixed strictly in accordance with the manufacturer's instructions</p>			
<p>All pipe diameters are nominal external</p>			
<p><u>"Polylink" polypropylene pipes:</u></p>			
<p>Polypropylene pipes 63mm diameter and over shall be class 12 pipes jointed with cast iron "Supraclamp" running joints</p>			
<p>Fusion welded bends, once or twice mitred as necessary, and tees shall be factory manufactured</p>			
<p>Fusion welded bends and tees shall include jointing to pipes with PVC rubber ring double Z joint couplers</p>			
<p>Carried to Collection</p>			
<p>Section No. 4 PLUMBING & DRAINAGE Bill No. 3 WATER SUPPLIES</p>			R

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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

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

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

All pipe diameters are nominal external

WATER SUPPLIES TO FIRE APPLIANCES

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

1	Excavation not exceeding 2m deep	m3	289
2	Rip and scarify ground level to a depth of 150mm and consolidate and compacting to 93% Mod AASHTO density at -2% to 1% OMC	m2	289
3	Risk of collapse to sides of trench and hole excavations not exceeding 1,5m deep	m2	578
4	Backfilling to trenches, holes, with materials obtained from excavations compacted in 150mm layers to 90% Mod AASHTO density	m3	145
5	Backfilling to trenches, holes, with selected materials supplied by the contractor compacted in 150mm layers to 90% Mod AASHTO density to form fill blanket	m3	58
6	Backfilling to trenches, holes, with selected granular supplied by the contractor materials compacted in 150mm layers to 90% Mod AASHTO density to form bedding cradle	m3	87

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Section No. 4
 PLUMBING & DRAINAGE
 Bill No. 3
 WATER SUPPLIES

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

7	Extra over all excavations for carting away surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	145	
8	Keeping excavations free of water		Item	
	<u>Class 12 black HDPE high density polyethylene pipes with and including "Plasson" compression fittings</u>			
9	22mm Pipes laid in trenches not exceeding 1m deep (trenches e/m)	m	49	
10	50mm Pipes laid in trenches not exceeding 1m deep (trenches e/m)	m	54	
11	32mm Pipes laid in trenches not exceeding 1m deep (trenches e/m)	m	76	
12	100mm Pipes laid in trenches not exceeding 1m deep (trenches e/m)	m	110	
	<u>Extra over class 12 HDPE high density polyethylene pipes with and including "Plasson" compression fittings</u>			
13	22mm Fittings	No	48	
14	32mm Elbow	No	15	
15	50mm Bend	No	6	
16	32mm Tee	No	5	
17	32mm Junction	No	5	
18	100mm Junction	No	6	
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	Section No. 4 PLUMBING & DRAINAGE Bill No. 3 WATER SUPPLIES			

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

19	32 x 22mm Reducing elbow	No	5	
20	32 x 22 x 32mm Reducing junction	No	3	
21	100mm Elbow	No	7	
22	100mm Tee	No	3	
23	100 x 32 x 100mm Junction	No	8	
24	100 x 50 x 100mm Reducing junction	No	4	
25	100 x 50mm Reducing elbow	No	5	
<u>Class 0 copper pipes with capillary couplings</u>				
26	15mm Pipes	m	42	
27	22mm Pipes	m	5	
28	28mm Pipes	m	4	
<u>Extra over class 0 copper pipes for capillary fittings</u>				
29	15mm Fittings	No	76	
30	22mm Fittings	No	1	
<u>Galvanised steel pipes</u>				
31	25mm Pipes	m	35	
32	50mm Pipes	m	29	
<u>Extra over galvanised steel pipes for steel fittings</u>				
33	25mm Fittings	No	37	
34	50mm Bend	No	12	
<u>WASTE UNIONS ETC</u>				
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Section No. 4 PLUMBING & DRAINAGE Bill No. 3 WATER SUPPLIES				

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

<u>"Cobra Watertech"</u>				
35	Cobra Watertech 32mm chrome plated Aqua basin click waste (Code: 302-32NOSLOT) with 62mm diameter flange and 80mm long shank.	No	9	
36	"Cobra Ref. 316" sink waste with 70mm diameter flange, 45mm long shank, backnut, plug and chain	No	5	
<u>TRAPS ETC</u>				
<u>"Marley"</u>				
37	40mm Deep seal "P" or "S" trap	No	5	
<u>"Cobra Watertech"</u>				
38	Cobra Watertech 40mm chrome plated bottle trap (Code: 360) with 75mm deep re-seal, adjustable telescopic pipe and 40mm outlet.	No	13	
39	Cobra Watertech 40mm rough brass shower P trap (Code: 373) with shallow seal and chrome plated grating.	No	6	
<u>TAPS, VALVES, ETC</u>				
<u>"Cobra Watertech"</u>				
40	Cobra Watertech 15mm MI x FI x 75mm long extension piece with sliding wall flange (Code: 059-15).	No	10	
41	Cobra Watertech 15mm compression type angle regulating valve with 10mm bendable copper outlet tube service connection (Code: 232/350).	No	19	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

42	<p>Cobra Watertech 15mm chrome Metering deck mounted pillar tap (Code: KM2-100), manufactured in accordance with SANS 1808-9, installed in accordance with the manufacturers recommendations</p> <ul style="list-style-type: none"> • Metering pillar tap chrome • Includes self-closing non-hold open flow controller with flow cycle of 1-20 seconds ½" male inlet backnut washer and streamline outlet for flow aesthetics • Excellent water-saving product • SANS 1808-9. 	No	8	
43	<p>Cobra Watertech chrome plated Cobra shower arm (Code: 028) with 130mm throw.</p>	No	6	
44	<p>Cobra Watertech chrome plated Classic shower head (Code: 28274) with five spray patterns, ball-jointed connector and Anti-lime nipples.</p>	No	6	
45	<p>Cobra Watertech 15mm chrome Noka undertile bath/shower diverter mixer (Code: NA-961), manufactured in accordance with SANS 1480, installed in accordance with the manufacturers recommendations</p> <ul style="list-style-type: none"> • Single lever underwall diverter bath mixer chrome-plated • Includes sliding wall flange 2 × ½" female inlets and 1 × ½" female shower outlet • SANS 1480. 	No	6	
46	<p>Cobra Watertech exposed urinal chrome plated Junior Flushmaster flushvalve (code: FJ6.000) with non-hold open feature, wall flange and 20mm "Ball-o-Stop" control inlet.</p>	No	4	
47	<p>Cobra Watertech 15mm chrome plated pillar tap (Code: NM-502-21B) with blue indice and elbow action lever, manufactured in accordance with SANS 226:2009 Type 2 (BS 5412).</p>	No	1	
48	<p>Cobra Watertech chrome plated 15mm diameter outlet x 215mm long with 27mm offset offset urinal flush pipe (Code: FJT5-5).</p>	No	4	
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<p>Section No. 4 PLUMBING & DRAINAGE Bill No. 3 WATER SUPPLIES</p>				

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

49 Cobra Watertech 15mm chrome Belina deck mounted sink mixer (Code: BE-970), manufactured in accordance with SANS 1480, installed in accordance with the manufacturers recommendations

- Sink mixer with aerated swivel outlet and mounting kit chrome
- Includes ½" female iron 400mm long flexible hoses
- Features minimalistic styling
- SANS 1480 DZR brass.

No 5

FIRE APPLIANCES ETC

"Chubb"

50 4,5kg Dry chemical powder fire extinguisher, including standard hard wood backing plugged and backing finished with one coat dark stain and two coats clear suede polyurethane varnish

No 6

51 "Everyway" hose reel complete with 30m plastic hose, chromium plated stopcock, shut-off nozzle and wall bracket

No 3

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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PLUMBING & DRAINAGE

Bill No. 3

WATER SUPPLIES

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PLUMBING & DRAINAGE

Bill No. 3

WATER SUPPLIES

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No	Quantity	Rate	Amount
<p><u>SECTION NO 4</u></p>			
<p><u>BILL NO. 4</u></p>			
<p><u>SOIL DRAINAGE</u></p>			
<p>For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.</p>			
<p><u>SUPPLEMENTARY PREAMBLES</u></p>			
<p><u>uPVC pipes and fittings:</u></p>			
<p>Soil, waste and vent pipes and fittings shall be solvent weld jointed</p>			
<p><u>uPVC pressure pipes and fittings:</u></p>			
<p>Pipes for water supply shall be of the class stated</p>			
<p>Pipes of 40mm diameter and smaller shall be plain ended with solvent welded uPVC loose sockets and fittings</p>			
<p>Pipes of 50mm diameter and greater shall have sockets and spigots with push in type integral rubber ring joints. Bends shall be uPVC and all other fittings shall be cast iron, all with similar push-in type joints</p>			
<p><u>Laying, backfilling, bedding, etc. of pipes</u></p>			
<p>Pipes shall be laid and bedded and trenches shall be carefully backfilled in accordance with manufacturers' instructions</p>			
<p>Carried to Collection</p>			
<p>Section No. 4 PLUMBING & DRAINAGE Bill No. 4 SOIL DRAINAGE</p>			
			R

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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

SOIL DRAINAGE

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

1	Excavation not exceeding 2m deep	m3	349
2	Risk of collapse to sides of trench and hole excavations not exceeding 1,5m deep	m2	698
3	Backfilling to trenches, holes, with selected materials obtained from excavations compacted in 150mm layers to 90% Mod AASHTO density to form fill blanket	m3	244
4	Backfilling to trenches, holes, with selected granular supplied by the contractor materials compacted in 150mm layers to 90% Mod AASHTO density to form bedding cradle	m3	105
5	Extra over all excavations for carting away surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	105
6	Keeping excavations free of water		Item
<u>Prescribed density tests on filling</u>			
7	"Modified AASHTO Density" test	No	10

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

**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

SANITARY PLUMBING

uPVC Class 6 Underground drain pipes including couplings in running length, etc. (excavation, filling and cart away e/m)

8	110mm Pipes (No excavations)	m	2
9	200mm Pipes (No excavations)	m	2
10	110mm Pipes laid in and including trenches not exceeding 1m deep	m	188
11	110mm Pipes laid in and including trenches exceeding 1m and not exceeding 2m deep	m	111
12	200mm Pipes laid in and including trenches exceeding 1m not exceeding deep	m	49
<u>Extra over Class 6 uPVC pipes for fittings</u>			
13	110mm Bend	No	22
14	110mm Junction	No	24
15	110mm Gully trap	No	2
16	200 x 110mm Reducing bend	No	16
17	200 x 110 x 200mm Reducing junction	No	3
18	200mm Junction	No	4
19	200mm Bend	No	22
20	200 x 110mm Reducing bend	No	2
21	200 x 200 x 200mm Junction	No	6

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

	<u>uPVC gulleys</u>			
22	110mm Gulley not exceeding 750mm deep, incl of pre-cast concrete surround, excavation etc.	No	2	
	<u>MANHOLES, ETC.</u>			
	<u>Money Provision:</u>			
23	Provide as sum of R30 000-00 (thirty thousand rand) for the provision of Manholes not clearly defined or detailed at the time of tender but intended for execution by the contractor and valued at rates herein before or omitted if not required.		Item	30 000.00
	<u>SUNDRIES</u>			
24	Cutting into and join to existing manhole, including all excavations, backfilling, cart away and all necessary pipes and joints, etc.	No	2	
25	110mm "ABC" cleaning eye end of pipe	No	2	
26	200mm "ABC" cleaning eye end of pipe	No	2	
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**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

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SOIL DRAINAGE

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No	<u>SECTION NO. 4</u>	Quantity	Rate	Amount
	<u>BILL NO. 5</u>			
	<u>FLOOR DRAINS AND CHANNELS</u>			
	<u>THE FOLLOWING IN FLOOR CHANNELS</u>			
	<u>EXCAVATIONS</u>			
	<u>Excavation in earth not exceeding 2m deep</u>			
1	Trenches	m3	15	
2	Rip and scarify ground level to a depth of 150mm and consolidate to 90% mod. AASHTO density	m2	25	
	<u>Risk of collapse of excavations</u>			
3	Sides of trench and hole excavations not exceeding 1,5m deep	m2	24	
	<u>Keeping excavations free of water</u>			
4	Keeping excavations free of water		Item	
	<u>FILLING ETC</u>			
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 93% Mod AASHTO density</u>			
5	Backfilling to trenches, holes, etc	m3	2	
	<u>Extra over all excavations for carting away</u>			
6	Surplus material from excavations on site to a dumping site to be located by the contractor	m3	13	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

SOIL POISONING

Soil insecticide to be executed with SABS compliance by a firm of specialists under a 5 year guarantee

7 To bottoms and sides of trenches, etc. m2 49

Weedkiller mixed in accordance to supplier's specifications

8 To bottoms and sides of trenches etc m2 49

Prescribed density tests on filling

9 "Mod. AASHTO Density" test No 3

UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

15MPa/19mm concrete

10 Surface blinding under footings and bases m3 1

REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

30MPa/19mm concrete

11 Bottom slabs m3 3

TEST CUBES

12 Allow for preparing a set of three (3) concrete strength test cubes, each size 150 x 150 x 150mm, sending them to an approved Testing Laboratory for testing and paying all charges in connection therewith. No 1

CONCRETE SUNDRIES

Finishing top surfaces of concrete smooth with a steel trowel

13 Surface beds, slabs, etc m2 25

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 FLOOR DRAINS AND CHANNELS

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

REINFORCEMENT

Fabric reinforcement

14	Steeledale Mesh standard square fabric mesh, nominal mass 1,93 kg/m ² with nominal 5,6mm thick wires and 200 x 200mm pitch (Ref 193), complying with SANS 1024/2006 requirements, in sheets 2,4 x 6m long.	m2	25
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MASONRY

Brickwork of NFP bricks in class II mortar

15	One brick walls	m2	18
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BRICKWORK SUNDRIES

Brickwork reinforcement

16	150mm Wide reinforcement built in horizontally	m	212
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PLASTERING

Cement plaster on brickwork

17	On walls	m2	18
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METALWORK

The following in framed and welded framing and coverplates to ducts

18	100 x 65 x 8mm angle iron, fixed to wall with and including 200mm fixing lugs formed of 8mm round bars 200mm long, twice bent and filled welded to angle iron at 300mm centres and fixed to walls	m	336
19	600mm Wide RS40 rectagrid (43kg/m ²) laid in loose on steel framing (e/m)	m	20

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

20	Sow comfort plastic flooring laid in strict accordance to the manufacturer's specifications (PC Amount R700/m2 Vat excl. supplied)	m2	119
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TILING

300 x 600 x 11,5mm Porcelain tiles (PC R300-00/m2 VAT excl. supplied) fixed with approved adhesive to plastered wall with straight joints in both direction flush pointed with tinted jointing compound

21	On walls	m2	18
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22	On floors and landings	m2	12
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THE FOLLOWING IN FLOOR DRAINS AND PIPES

EARTHWORKS

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

23	Excavation not exceeding 2m deep	m3	45
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24	Risk of collapse to sides of trench and hole excavations not exceeding 1,5m deep	m2	150
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25	Backfilling to trenches, holes, with selected materials obtained from excavations compacted in 150mm layers to 90% Mod AASHTO density to form fill blanket	m3	27
----	--	----	----

26	Backfilling to trenches, holes, with selected granular supplied by the contractor materials compacted in 150mm layers to 90% Mod AASHTO density to form bedding cradle	m3	18
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**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

27	Extra over all excavations for carting away surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	27		
28	Weed-killing treatment of surface under paving etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	240		
29	Soil poisoning under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	240		
30	Keeping excavations free of water			Item	
	<u>Prescribed density tests on filling</u>				
31	"Modified AASHTO Density" test	No	6		
	<u>SANITARY PLUMBING</u>				
	<u>uPVC Class 6 Underground drain pipes including couplings in running length, etc. (excavation, filling and cart away e/m)</u>				
32	50mm Pipes laid in and including trenches not exceeding 1m deep	m	25		
33	110mm Pipes laid in and including trenches not exceeding 1m deep	m	55		
34	200mm Pipes laid in and including trenches exceeding 1m not exceeding deep	m	70		
	<u>Extra over Class 12 uPVC pipes for fittings</u>				
35	50mm Bend	No	3		
36	50mm Junction	No	2		
37	110mm Bend	No	15		

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FLOOR DRAINS AND CHANNELS

**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

38	110mm Junction	No	6
39	110 x 50mm Reducing bend	No	7
40	110 x 50 x 110mm Reducing junction	No	8
41	100 x 50mm Access junction	No	4
42	200mm Bend	No	3
43	200 x 110mm Reducing bend	No	5
44	200 x 200 x 200mm Junction	No	4
45	200 x 200 x 200mm Side junction	No	1
	<u>Floor drains, etc.</u>		
46	Rofu Engineering grade AISI 304 stainless steel RO 125 NW50 Funnel type floor drain with round top flange and round cover plate with slots (Code: RO125HNW50FUNNELRND- slots), suitable for tiled floor covering, overall size 150mm diameter x 195mm deep, with 50,8mm diameter horizontal waste outlet with mitred bend connected to waste pipe.	No	4
47	Rofu Engineering grade AISI 304 stainless steel RO 200 NW 100 floor drain with round top flange and round cover plate with slots (Code: RO200HNW100RND - slots), suitable for tiled floor covering, overall size 240mm diameter x 270mm deep, with 110mm diameter horizontal waste outlet with mitred bend connected to waste pipe.	No	3
48	Rofu Engineering grade AISI 304 stainless steel RO 200 NW 100 square floor drain with perforated circular grating pattern (Code: RO200HNW100Round), suitable for tiled floor covering, size 240 x 210mm deep 240 x 210mm deep, with 104mm diameter horizontal waste outlet with mitred bend connected to waste pipe.	No	3

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FLOOR DRAINS AND CHANNELS

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

49	<p>Rofo Engineering grade AISI 304 stainless steel RO 200 NW100 Heavy duty with grating floor drain with square top flange and square cover plate with circle aperture (Code: RO200HNW100with gratingSQ - circular), suitable for tiled floor covering, overall size 320mm x 310mm deep, and 110mm diameter horizontal with mitred bend waste outlet connected to waste pipe.</p>	No	6	
50	<p>Rofo Engineering grade AISI 304 stainless steel RO 280 NW 100 floor drain with round top flange and round cover plate with slots (Code: RO280HNW100 RND - slots), suitable for tiled floor covering, overall size 310mm diameter x 300mm deep, with 110mm diameter horizontal waste outlet with mitred bend connected to waste pipe.</p>	No	3	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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FLOOR DRAINS AND CHANNELS

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FLOOR DRAINS AND CHANNELS

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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<u>SECTION NO 4</u>			
<u>BILL NO 6</u>			
<u>WORK IN CONNECTION WITH SECTION BILL 1 TO 5</u>			
<u>TESTING</u>			
1	Item		
Provide all necessary water, etc., for and test the whole of the plumbing services, sanitary fittings, pumps, etc., and in stages as deemed necessary, including chlorination, complete to the satisfaction of the architect and the local authority, replace any defective work free of charge, including any necessary re-testing and leave in perfect condition upon completion			
2	Item		
Allow for testing and commisioning the whole of the plumbing services, sanitary fittings, pumps, etc., including any necessary re-setting, etc., for optimal performance of the entire system to duration of the contract, maintenance and guarantee period			
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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PLUMBING & DRAINAGE

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PLUMBING & DRAINAGE

SECTION 5: EXTERNAL WORKS

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No	<u>SECTION NO 6</u>	Quantity	Rate	Amount
	<u>BILL NO 1</u>			
	<u>APRONS AROUND BUILDINGS</u>			
	For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.			
	<u>EARTHWORKS</u>			
	<u>Compaction of surfaces</u>			
1	Compaction of ground surface under aprons including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 93% Mod AASHTO density	m2	753	
2	Excavate in pickable earth to reduce ground level below surface beds and cart away excavated material to a dumping place to be found by the contractor (cut to spoil)	m3	169	
3	Rip and scarify ground level to a depth of 150mm and consolidate to 93% mod. AASHTO density	m2	753	
	<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
	<u>25 MPa/20 mm concrete</u>			
4	Aprons cast in panels to falls	m3	93	
5	Stormwater channels cast in panels	m3	58	
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**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

	<u>Finishing top surfaces of concrete smooth with a wood float</u>			
6	Aprons to falls	m2	466	
	<u>Grooves, channels, mortices, sinkings, etc. in concrete</u>			
7	Segmental channel with radius 290mm and minimum depth of 100mm on top of concrete, incl. all excavations, cart away etc.	m	576	
	<u>Smooth formwork to sides</u>			
8	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	964	
	<u>REINFORCEMENT</u>			
	<u>Fabric reinforcement</u>			
9	Steeledale Mesh standard square fabric mesh, nominal mass 2,45 kg/m ² with nominal 5,6mm thick wires and 200 x 200mm pitch (code 245), complying with SANS 1024/2006 requirements cut 1000mm to match aprons	m	388	
10	Steeledale Mesh standard square fabric mesh, nominal mass 2,45 kg/m ² with nominal 5,6mm thick wires and 200 x 200mm pitch (code 245), complying with SANS 1024/2006 requirements cut 500mm and curved to match channels	m	188	
	<u>MOVEMENT JOINTS ETC</u>			
	<u>"Sondor"</u>			
11	Sondor Performance Foams Jointex low density (33kg/m ³), cross linked, closed cell, expanded polyethylene joint former, size 75 x 10mm thick with tear off strip fitted to concrete surface with adhesive as per adhesive manufacturer's recommendation.	m	388	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Sika Primer-3N one component epoxy polyurethane based primer for joint sealants (Sikaflex-PRO 2HP and Sikaflex 11FC), applied in accordance with the manufacturer's instructions.

12 10 x 10mm In expansion joints including raking out of expansion joint filler as necessary

m

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Bill No. 1
APRONS, AND STORMWATER CHANNELS

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Section No. 5

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APRONS, AND STORMWATER CHANNELS

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EXTERNAL WORKS

Bill No. 1

APRONS, AND STORMWATER CHANNELS

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No		Quantity	Rate	Amount
	<u>SECTION NO. 6</u>			
	<u>BILL NO. 2</u>			
	<u>STORMWATER DRAINAGE</u>			
	<u>PREAMBLES</u>			
	For Preambles refer to "Department of Public Works: Specification of material and methods to be used - PW371"			
	<u>STORMWATER DRAINAGE</u>			
	<u>The following in trenches for pipes (pipes e/m)</u>			
1	Excavation not exceeding 2m deep	m3	100	
2	Rip and scarify ground level to a depth of 150mm and consolidate to 90% mod. AASHTO density (minimum CBR 3)	m2	100	
3	Risk of collapse to sides of trench and hole excavations not exceeding 1,5m deep	m2	200	
4	Backfilling to trenches, holes, with selected materials obtained from excavations compacted in 150mm layers to 90% Mod AASHTO density to form fill blanket	m3	50	
5	Backfilling to trenches, holes, with selected materials supplied by the contractor compacted in 150mm layers to 90% Mod AASHTO density to form fill blanket	m3	20	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

6	Backfilling to trenches, holes, with selected granular supplied by the contractor materials compacted in 150mm layers to 90% Mod AASHTO density to form bedding cradle	m3	30
7	Extra over all excavations for carting away surplus material from excavations and/or stock piles on site to a dumping site n.e 1km from site	m3	50
8	Keeping excavations free of water <u>Class 100D concrete pipes</u>		Item
9	300mm pipes laid in and including trenches exceeding 1m and not exceeding 2m deep (trenches e/m)	m	100
<u>THE FOLLOWING IN CATCHPITS, JUNCTION BOXES AND INLET MANHOLES, ETC.</u>			
<u>EXCAVATIONS</u>			
<u>Excavation in earth not exceeding 2m deep</u>			
10	Excavation not exceeding 2m deep	m3	3
11	Rip and scarify ground level to a depth of 150mm and consolidate and compacting to 93% Mod AASHTO density at -2% to 1% OMC	m2	1
<u>Extra over all excavations for carting away</u>			
12	Surplus material from excavations and/or stock piles on site to a dumping site to be located by the contractor	m3	3

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STORMWATER DRAINAGE

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

	<u>Risk of collapse of excavations</u>			
13	Sides of trench and hole excavations not exceeding 1,5m deep	m2	4	
	<u>Keeping excavations free of water</u>			
14	Keeping excavations free of water		Item	
	<u>FILLING ETC</u>			
	<u>Earth filling obtained from the excavations and/or prescribed stock piles on site, compacted to 93% Mod AASHTO density at -2% to 1% OMC</u>			
15	Backfilling to trenches, holes, etc	m3	2	
	<u>Prescribed density tests on filling</u>			
16	"Modified AASHTO Density" test	No	3	
	<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
	<u>15MPa/19mm concrete</u>			
17	Surface blinding under footings and bases	m3	0.05	
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
	<u>30MPa/19mm concrete</u>			
18	Bottoms of catchpits, etc.	m3	0.16	
	<u>CONCRETE SUNDRIES</u>			
	<u>Finishing top surfaces of concrete smooth with a wood float/steel trowel</u>			
19	Surface beds, slabs, etc	m2	1	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

TEST CUBES

20	Allow for preparing a set of three (3) concrete strength test cubes, each size 150 x 150 x 150mm, sending them to an approved Testing Laboratory for testing and paying all charges in connection therewith.	No	3
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SMOOTH FORMWORK (DEGREE OF ACCURACY I)

Smooth formwork to sides

21	Edges, risers, ends and reveals not exceeding 300mm high or wide	m	7
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REINFORCEMENT

Fabric reinforcement

22	Steeledale Mesh standard square fabric mesh, nominal mass 1,93 kg/m ² with nominal 5,6mm thick wires and 200 x 200mm pitch (code 193), complying with SANS 1024/2006 requirements, in sheets 2,4 x 6m long.	m ²	1
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MASONRY

Brickwork of NFP bricks in class II mortar

23	One brick walls	m ²	5
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BRICKWORK SUNDRIES

Brickwork reinforcement

24	150mm Wide reinforcement built in horizontally	m	85
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Holes

25	Leave or form opening through one brickwall for pipe exceeding 200mm and n.e 300mm diameter	No	6
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INTERNAL PLASTER

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<u>Cement plaster on brickwork</u>				
26	On walls	m2	5	
27	On narrow widths	m2	2	
<u>COVERS, ETC.</u>				
<u>Gratings, covers, etc</u>				
28	520 x 790mm x 60,2kg Stormwater catchpit cover and frame complete	No	3	
29	Lifting key for manhole cover	No	3	
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**COMPLETION OF PIGGERY, ABATTOIR AND
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No	Quantity	Rate	Amount
<p><u>SECTION NO 6</u></p>			
<p><u>BILL NO 3</u></p>			
<p><u>EXTERNAL FLUSH CHANNELS</u></p>			
<p><u>FOUNDATIONS</u></p>			
<p>For preambles see "Model Preambles for Trades (2008 Edition)" and Supplementary preambles as specified in the Trades as well as Engineering Specifications attached to these documents.</p>			
<p><u>SUPPLEMENTARY PREAMBLES</u></p>			
<p><u>Nature of ground</u></p>			
<p>The nature of the ground is assumed to be sandy weathered granite, therefore "earth", but possibly interspersed with "hard rock"</p>			
<p><u>Excavation for working space in rock</u></p>			
<p>Notwithstanding clause 11 page 8 of the Standard System of Measuring Building Work, excavation for working space in rock will be measured in cubic metres to the extent executed and given as "extra over" bulk excavation or trench and hole excavation as the case may be</p>			
<p><u>Carting away of excavated material</u></p>			
<p>Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site</p>			
<p>Carried to Collection</p>			
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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

EXCAVATIONS

Excavation in earth not exceeding 2m deep

1	Trenches	m3	18
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Risk of collapse of excavations

2	Sides of trench and hole excavations not exceeding 1,5m deep	m2	17
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Keeping excavations free of water

FILLING ETC

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

3	Backfilling to trenches, holes, etc	m3	3
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Compaction of surfaces

4	Compaction of ground surface under floors etc including scarifying for a depth of 150mm, breaking down oversize material, adding suitable material where necessary and compacting to 95% Mod AASHTO density	m2	29
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Extra over all excavations for carting away

5	Surplus material from excavations on site to a dumping site to be located by the contractor	m3	15
---	---	----	----

SOIL POISONING

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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

	<u>Soil insecticide to be executed with SABS compliance by a firm of specialists under a 5 year guarantee</u>			
6	Under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	4	
7	To bottoms and sides of trenches, etc.	m2	17	
	<u>Weedkiller mixed in accordance to supplier's specifications</u>			
8	Under floors etc including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	4	
9	To bottoms and sides of trenches etc	m2	17	
	<u>UNREINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
	<u>15MPa/19mm concrete</u>			
10	Surface blinding under footings and bases	m3	1	
	<u>REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES</u>			
	<u>30MPa/19mm concrete</u>			
11	Bottoms of channels	m3	4	
	<u>TEST CUBES</u>			
	<u>CONCRETE SUNDRIES</u>			
	<u>Finishing top surfaces of concrete smooth with a power float</u>			
12	Bottoms of channels,etc.	m2	29	
	<u>SMOOTH FORMWORK (DEGREE OF ACCURACY I)</u>			
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**COMPLETION OF PIGGERY, ABATTOIR AND
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	<u>Boxing in smooth formwork to form</u>			
13	100 x 65mm Rebate in side along top edge	m	32	
	<u>REINFORCEMENT</u>			
	<u>Fabric reinforcement</u>			
14	Steeledale Mesh standard square fabric mesh, nominal mass 2,45 kg/m ² with nominal 5,6mm thick wires and 200 x 200mm pitch (Ref 245), complying with SANS 1024/2006 requirements, in sheets 2,4 x 6m long.	m2	59	
	<u>MASONRY</u>			
	<u>Brickwork of NFP bricks in class II mortar</u>			
15	One brick walls	m2	16	
	<u>BRICKWORK SUNDRIES</u>			
	<u>Brickwork reinforcement</u>			
16	150mm Wide reinforcement built in horizontally	m	192	
	<u>METALWORK</u>			
	<u>The following in framed and welded framing and coverplates to ducts</u>			
17	100 x 65 x 8mm angle iron, fixed to wall with and including 200mm fixing lugs formed of 8mm round bars 200mm long, twice bent and filled welded to angle iron at 300mm centres and fixed to walls	m	32	
18	RS40 rectagrid (43kg/m ²) laid in loose on steel framing (e/m)	m2	34	
	Carried to Collection			
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

PLASTERING

Cement plaster on brickwork

19	On walls	m2	18
20	On narrow widths	m2	8

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**COMPLETION OF PIGGERY, ABATTOIR AND
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Item No		Quantity	Rate	Amount
	<u>SECTION NO 5</u>			
	<u>BILL NO. 4</u>			
	<u>PAVING AROUND SOCCER PITCH</u>			
	<u>SUPPLEMENTARY PREAMBLES</u>			
	<u>Materials and workmanship must be in accordance to the following SABS 1200 specifications:</u>			
	C - Site clearance			
	D - Earthworks			
	DM - Earthworks (Roads, subgrade)			
	M - Roads (General)			
	ME - Sub-base			
	MF - Base			
	MK - Kerb and Channeling			
	MM - Ancillary Roadworks			
	<u>Soil poisoning and weed killer</u>			
	Soil insecticide and weed killer to be executed with SABS compliance by a firm of specialists under a 5 year guarantee under paving			
	<u>EXCAVATION, FILLING, ETC</u>			
	<u>Open face excavation in earth over site</u>			
1	Stripping average 100mm thick layer of top soil and stockpiling on site not exceeding 1000m from excavations as directed the Project Manager	m2	340	
2	Excavate in pickable earth to reduce ground level below paving and set aside for later use	m3	61	
3	Excavate in pickable earth to reduce ground level below paving and but cart away excavated material to a dumping place to be found by the contractor (cut to spoil)	m3	41	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

4	Rip and scarify ground level to a depth of 150mm and consolidate to 93% mod. AASHTO density (minimum CBR 5)	m2	340
	<u>Walkway layers</u>		
	The following to be natural selected gravel layers evenly spread and consolidated in layers and dimensions as specified and on the drawings. All thicknesses to be consolidated thicknesses.		
	Where described as "imported" the gravel to be supplied and carted on by the contractor from an approved borrow pit		
5	Selected filling previously set aside laid in 150mm thick layers to 96% mod. AASHTO density, PI <= 6, Grading Modules = 2,6 >= GM >= 1,2	m3	61
6	150mm Thick imported G6 material laid in 150mm thick layers and compacted to 96% mod. AASHTO density, PI <= 6, Grading Modules = 2,6 >= GM >= 1,2 (Layer 1)	m2	340
7	150mm Thick imported G6 material laid in 150mm thick layers and compacted to 96% mod. AASHTO density, PI <= 6, Grading Modules = 2,6 >= GM >= 1,2 (Layer 2)	m2	340
8	"Mod. AASHTO Density" test	No	10

WALKWAYS

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**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

	<u>Interlocking paving</u>			
9	60mm Thick double interlocking (DZZ) precast grey coloured concrete paving blocks laid in a herringbone pattern on and including 25mm thick washed river sand founding layer and covered with plaster sandlayer vibrated into joints with a plate vibrator all laid on subgrade conforming to SANS 1200 D Degree Of Accuracy I. Paving to be inspected and re-sanded after three months.	m2	340	
10	Weed-killing treatment of surface under paving etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	340	
11	Soil poisoning under floors etc, including forming and poisoning shallow furrows against foundation walls etc, filling in furrows and ramming	m2	340	
	<u>Kerbs, etc</u>			
12	Precast concrete figure 8B kerb (SABS 927), levelled and jointed in 1:5 cement mortar complete with 15Mpa/19mm in situ concrete support blocks size 225 x 150 x 225mm high, at joints at 1,0m centres, including leaving 6mm expansion joints at 10m intervals between kerbs	m	115	
13	Precast concrete figure 8B kerb (SABS 927), circular on plan levelled and jointed in 1:5 cement mortar complete with 15Mpa/19mm in situ concrete support blocks size 225 x 150 x 225mm high, at joints at 1,0m centres, including leaving 6mm expansion joints at 10m intervals between kerbs	m	43	
14	Extra over cutting paving blocks to fit edge	m	115	
15	Extra over circular cutting paving blocks to fit edge	m	43	
	<u>Sundries</u>			
16	Mass concrete (25MPa) in 60 x 60mm edge filler strip finished smooth on top with a wood float, including all excavation, formwork, etc	m	158	
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**COMPLETION OF PIGGERY, ABATTOIR AND
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

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SECTION 6: PROVISIONAL SUMS

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Item No

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SECTION NO 7

BILL NO 1

PROVISIONAL AMOUNTS ETC

PROVISIONAL SUMS FOR SELECTED SUB-CONTRACT WORKS

SUPPLEMENTARY PREAMBLES

General

All prime cost amounts and provisional sums are net and include for delivery to site of all articles concerned

Sub contractors will be treated as domestic sub contractors for the purpose of this contract. They shall be selected sub contractors and the main contractor will be afforded the opportunity to reject such sub contractors prior to appointment provided reasonable justification is given

Profit

Where stated, the contractor may allow for profit if required

General attendance upon selected sub-contractors

The item "Attendance" which follows each provisional sum for selected sub-contractors work, shall be deemed to cover all the contractor's costs incurred in providing free of charge to the selected sub-contractors, the following:

1. The services as in clause B7 of the Preliminaries
2. Making good in all trades and cleaning down and removal of rubbish on completion

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 Bill No. 1
 PROVISIONAL SUMS

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

<u>Preliminaries</u>			
The contractor is referred to the Preliminaries for further amplification of "Prime Cost Amounts and Provisional Amounts"			
<u>Electrical Installation</u>			
1	Provide the sum of R1 500 000,00 (one million five hundred thousand rand) for Electrical Installation by Specialists	Item	1 500 000,00
2	Allow for profit on above if required (Excluded from CPAP)	Item	
3	Allow for giving every facility to Specialist as described	Item	
<u>Piggery house curtains</u>			
4	Provide the sum of R300 000,00 (three hundred thousand rand) for the supply and installation of Piggery House Curtains by Specialists	Item	300 000,00
5	Allow for profit on above if required (Excluded from CPAP)	Item	
6	Allow for giving every facility to Specialist as described	Item	
<u>Mechanical Installation</u>			
7	Provide the sum of R1 500 000-00 (one million five hundred thousand rand) for Mechanical Installation by Specialists	Item	1 500 000,00
8	Allow for giving every facility to Specialists as described	Item	
9	Allow for profit on above if required	Item	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

<u>Piggery and Milking Parlour Ventilation</u>			
10	Provide the sum of R1 500 000,00 (one million five hundred thousand rand) for the supply and installation of Piggery and Milking Parlour Ventilation by Specialists	Item	1 500 000,00
11	Allow for profit on above if required (Excluded from CPAP)	Item	
12	Allow for giving every facility to Specialist as described	Item	
<u>Signage</u>			
13	Provide the sum of R50 000,00 (fifty thousand rand) for Signage Installation by Specialists	Item	50 000,00
14	Allow for giving every facility to Specialists as described	Item	
15	Allow for profit on above if required	Item	
<u>Joinery Fittings Installation</u>			
16	Provide the sum of R200 000,00 (two hundred thousand rand) for the supply and installation of joinery fittings by Specialists	Item	200 000,00
17	Allow for giving every facility to Specialists as described	Item	
18	Allow for profit on above if required	Item	
<u>Handrails Installations</u>			
19	Provide the sum of R200 000-00 (two hundred thousand rand) for supply and installation of handrails by Specialists	Item	200 000,00
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

20	Allow for giving every facility to Specialists as described	Item	
21	Allow for profit on above if required	Item	
	<u>Partitions</u>		
22	Provide the sum of R60 000,00 (fifty thousand rand) for landscaping by Specialists	Item	60 000,00
23	Allow for giving every facility to Specialists as described	Item	
24	Allow for profit on above if required	Item	
	<u>Galvanised Steel Partitions, etc.</u>		
25	Provide the sum of R250 000,00 (two hundred and fifty thousand rand) for the supply and installation of Galvanised steel partitions by Specialists	Item	250 000,00
26	Allow for giving every facility to Specialists as described	Item	
27	Allow for profit on above if required	Item	
	<u>Epoxy floor finishes, etc.</u>		
28	Provide the sum of R110 000,00 (one hundred and ten thousand rand) for the supply and application of epoxy floor finishes by an approved Specialists	Item	110 000,00
29	Allow for giving every facility to Specialists as described	Item	
30	Allow for profit on above if required	Item	
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**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

	<u>Milking Parlour Equipments</u>		
31	Provide the sum of R2 500 000-00 (two million five hundred thousand rand) for the supply and installation of Milking Parlour Equipments by Specialists	Item	2 500 000.00
32	Allow for giving every facility to Specialists as described	Item	
33	Allow for profit on above if required	Item	
	<u>Waste water package plant, etc</u>		
34	Provide the sum of R1 500 000-00 (one million five hundred thousand rand) for the supply and installation of Package Plant by Specialists	Item	1 500 000.00
35	Allow for giving every facility to Specialists as described	Item	
36	Allow for profit on above if required	Item	
	<u>Farrowing floor Systems, etc</u>		
37	Provide the sum of R500 000-00 (five hundred thousand rand) for the supply and installation of Farrowing Floor System Equipments by Specialists	Item	500 000.00
38	Allow for giving every facility to Specialists as described	Item	
39	Allow for profit on above if required	Item	
	<u>Freezers and Chillers, etc.</u>		
40	Provide the sum of R1 000 000-00 (one million rand) for the supply and installation of Freezer and Chillers by Specialists	Item	1 000 000.00
41	Allow for giving every facility to Specialists as described	Item	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

42	Allow for profit on above if required	Item	
	<u>Incinerators, etc.</u>		
43	Provide the sum of R200 000-00 (Two hundred thousand rand) for the supply and installation of Incinerators by Specialists	Item	200 000,00
44	Allow for giving every facility to Specialists as described	Item	
45	Allow for profit on above if required	Item	
	<u>Grease Traps, etc.</u>		
46	Provide the sum of R75 000-00 (seventy five thousand rand) for the supply and installation of grease traps by Specialists	Item	75 000,00
47	Allow for giving every facility to Specialists as described	Item	
48	Allow for profit on above if required	Item	
	<u>Timber Roof Construction</u>		
49	Provide the sum of R100 000,00 (one hundred thousand rand) for the supply and installation of Timber Roof Construction by Specialists	Item	100 000,00
50	Allow for giving every facility to Specialists as described	Item	
51	Allow for profit on above if required	Item	
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

<u>Joinery Installation</u>			
52	Provide sum of R200 000-00 (two hundred thousand rand) for the supply and installation of Joinery Installation by Specialists	Item	200 000,00
53	Allow for profit on above if required (Excluded from CPAP)	Item	
54	Allow for giving every facility to specialist as described	Item	
<u>Furniture, etc.</u>			
55	Provide the sum of R200 000-00 (two hundred thousand rand) for the supply and installation of Furniture by Specialists	Item	200 000,00
56	Allow for giving every facility to Specialists as described	Item	
57	Allow for profit on above if required	Item	
<u>Abattoir Special Floor Finishes</u>			
58	Provide the sum of R200 000-00 (two hundred thousand rand) for the supply and installation of Abattoir Floor Finishes by Specialists	Item	200 000,00
59	Allow for giving every facility to Specialists as described	Item	
60	Allow for profit on above if required	Item	
<u>Abattoir Equipments</u>			
61	Provide the sum of R3 000 000-00 (three million rand) for the supply and installation of Abattoir Equipments by Specialists	Item	3 000 000,00
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COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

62	Allow for giving every facility to Specialists as described	Item	1 500 000.00
63	Allow for profit on above if required	Item	
	<u>Fire Protection</u>		
64	Provide the sum of R1 500 000,00 (one million five hundred thousand rand) for Fire Protection by Specialists	Item	
65	Allow for profit on above if required (Excluded from CPAP)	Item	
66	Allow for giving every facility to Specialist as described	Item	
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**COMPLETION OF PIGGERY, ABATTOIR AND
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	<u>BILL NO 2</u>			
	<u>PROVISIONAL AMOUNTS ETC</u>			
	<u>PROVISIONAL SUMS FOR SELECTED SUB-CONTRACT WORKS</u>			
	<u>HOLES THROUGH WALLS</u>			
	<u>Holes</u>			
1	Leave or form opening through one brickwall for pipe n.e 100mm diameter	No	3	
2	Leave or form opening through one brickwall for pipe exceeding 100mm and n.e 200mm diameter	No	4	
	<u>SLEEVES</u>			
	<u>Plastic sleeves for pipes not exceeding 100mm diameter</u>			
3	Sleeve not exceeding 250mm long	No	2	
4	Sleeve exceeding 250mm and not exceeding 500mm long	No	4	
	<u>Plastic sleeves for pipes exceeding 100mm and not exceeding 200mm diameter</u>			
5	Sleeve not exceeding 250mm long	No	4	
6	Sleeve exceeding 250mm and not exceeding 500mm long	No	4	
	<u>HOLES ETC</u>			
	Carried to Collection			R
	Section No. 6 PROVISIONAL SUMS Bill No. 2 BUILDER'S WORK			

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

	<u>Core drilling of hole for pipe not exceeding 50mm diameter</u>			
7	300mm Reinforced concrete slab, beam, wall, etc	No	2	
	<u>Core drilling of hole for pipe exceeding 50mm and not exceeding 100mm diameter</u>			
8	300mm Reinforced concrete slab, beam, wall, etc	No	4	
	<u>Core drilling of hole for pipe exceeding 100mm and not exceeding 200mm diameter</u>			
9	300mm Reinforced concrete slab, beam, wall, etc	No	2	
Carried to Collection				
Section No. 6 PROVISIONAL SUMS Bill No. 2 BUILDER'S WORK				R

**COMPLETION OF PIGGERY, ABATTOIR AND
MILKING PARLOUR AT THE UNIVERSITY OF VENDA**

Section No. 6

PROVISIONAL SUMS

Bill No. 2

BUILDER'S WORK

COLLECTION

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Section No. 6
PROVISIONAL SUMS
Bill No. 2
BUILDER'S WORK

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Bill No	Section No. 6	Page No	Amount
	PROVISIONAL SUMS		
	<u>SECTION SUMMARY - PROVISIONAL SUMS</u>		
1	PROVISIONAL SUMS	153	
2	BUILDER'S WORK	156	
	Carried to Final Summary		R
	Section No. 6 PROVISIONAL SUMS		

FINAL SUMMARY

COMPLETION OF PIGGERY, ABATTOIR AND MILKING PARLOUR AT THE UNIVERSITY OF VENDA

Section No	<u>FINAL SUMMARY</u>	Page No	Amount
1	PRELIMINARIES	30	
2	ALTERATIONS	35	
3	BUILDINGS	96	
4	PLUMBING & DRAINAGE	123	
5	EXTERNAL WORKS	144	
6	PROVISIONAL SUMS	157	
	Sub-total		R
	CREDIT FOR ALL REUSABLE MATERIALS REMOVED FROM DEMOLITION WORKS	Item	
	Sub-total 2		R
	<u>CONTINGENCY SUM</u>		
	Allow the amount of R1 200 000-00 (one million two hundred thousand rand) for Contingencies for building work, to be used as directed by the Project Manager and deducted in whole or in part if not required	Item	1 200 000.00
	<u>SPECIAL CONDITIONS</u>		
	Provide the sum of R750 000,00 (seven hundred and fifty thousand rand) for fluctuations in cost	Item	750 000.00
	Sub total BUILDINGS (VAT excl.)		R
	Value Added Tax @ 15%		R
	<u>VALUE ADDED TAX:</u>		
	Sub Total (VAT INCL.) CARRIED TO TENDER FORM		R
	Carried to Form of Tender		R