



**KWAZULU-NATAL PROVINCE**  
AGRICULTURE AND RURAL DEVELOPMENT  
REPUBLIC OF SOUTH AFRICA

**KWAZULU-NATAL DEPARTMENT OF AGRICULTURE AND RURAL DEVELOPMENT**

**BID No: DARD 29/20A**

**DESCRIPTION OF SERVICE:**

**CONSTRUCTION OF FIVE (5) SHADE CLOTH SEEDLING NURSERY STRUCTURES AND  
ANCILLARY BUILDINGS AT CEDARA RESEARCH STATION**

**NAME OF BIDDER:** \_\_\_\_\_

**PREQUALIFICATION CRITERIA**

Only bidders who meet both of the following prequalification criteria may respond: -

- (i) BBBEE Level 1 (as per the provisions of section 4(1) (a) of the PPPFA Regulations, 2017); and**
- (ii) EME (as per the provisions of section 4(1) (b) of the PPPFA Regulations, 2017)**
- (iii) Minimum 5CE/SH CIDB grading**

**Briefing Session:**

Date	<b>04 November 2020</b>
Time	<b>10h00</b>
Venue	<b>Cedara Auditorium</b>

**Return of Bid:**

Bids must be deposited in the bid box situated at Department of Agriculture and Rural Development, Supply Chain Management, 1 Cedara Road, Cedara, 3200 or send by post to The Director: Supply Chain Management, Private Bag X9059, Pietermaritzburg, 3200.

Tel: **(033) 355 9109** before **11:00** am on the closing date: **17 November 2020**

**Issued by:**

The Department of Agriculture and Rural Development  
1 Cedara Road  
Cedara  
3200

## TABLE OF CONTENTS

		<b>CONTENTS</b>	<b>PAGE</b>
		Cover page	1
		Table of contents	2
<b>Part A</b>	SBD 1	Invitation to Bid	3-4
	SBD 3	Special Instructions and Notices to Bidders Regarding the Completion of Bidding Forms	5
	SBD 3.3	Pricing Schedule (Professional Services)	6
	SBD 4	Declaration of Interest.	7-9
	SBD 6.1	Preference Points Claim Form in Terms of the Preferential Procurement Regulations 2017	10-14
	SBD 6.2	Declaration Certificate for Local Production and content for designated sectors	15-22
	SBD 7.2	Contract Form - Rendering Of Services	23-24
	SBD 8	Declaration of bidder's past Supply Chain Management practices	25-26
	SBD 9	Certificate of Independent Bid Determination	27-29
	SBD 10	Briefing Certificate	30
	SBD11	Authority to sign a Bid	31-36
<b>Part B</b>		General Conditions of Contract	37-51
<b>Part C</b>		Disclaimer	52
<b>Part D</b>		Terms of Reference	53
<b>Part E</b>		Special Terms and Conditions	54 - 69
<b>Part F</b>		Specification, Bill of Quantities & Drawings	70-223
<b>Part F</b>		Bid Evaluation Criteria	224-226

**Bidders are to check that all pages and forms are included in the bid documentation and notify the Department immediately if any pages or sections are missing**

## INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (NAME OF DEPARTMENT/ PUBLIC ENTITY)

BID NUMBER:	DARD 29/20A	CLOSING DATE:	17/11/2020	CLOSING TIME:	11:00 AM
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DESCRIPTION	APPOINTMENT OF A SERVICE PROVIDER FOR THE CONSTRUCTION OF FIVE SHADE CLOTH SEEDLING NURSERY STRUCTURES AND ANCILLARY BUILDINGS AT CEDARA RESEARCH STATION
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BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)

Bid must be deposited in the bid box situated at Department of Agriculture and Rural Development

Supply Chain Management

1 Cedara Road

Cedara, 3200

## BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO

CONTACT PERSON Ms Nozizwe Makaula

TELEPHONE NUMBER 033 - 355 9109

FACSIMILE NUMBER n/a

E-MAIL ADDRESS nozizwe.makaula@kzndard.gov.za

## TECHNICAL ENQUIRIES MAY BE DIRECTED TO:

CONTACT PERSON Mr Thekiso

TELEPHONE NUMBER 082 859 6562

FACSIMILE NUMBER n/a

E-MAIL ADDRESS

## SUPPLIER INFORMATION

NAME OF BIDDER

POSTAL ADDRESS

STREET ADDRESS

TELEPHONE NUMBER

CODE

NUMBER

CELLPHONE NUMBER

FACSIMILE NUMBER

CODE

NUMBER

E-MAIL ADDRESS

VAT REGISTRATION NUMBER

SUPPLIER COMPLIANCE STATUS

TAX COMPLIANCE SYSTEM PIN:

OR

CENTRAL SUPPLIER DATABASE No:

MAAA

B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE

TICK APPLICABLE BOX]

☐ Yes☐ No

B-BBEE STATUS LEVEL SWORN AFFIDAVIT

[TICK APPLICABLE BOX]

☐ Yes☐ No**[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]**

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?

☐ Yes☐ No

[IF YES ENCLOSE PROOF]

ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?

☐ Yes☐ No

[IF YES, ANSWER PART B:3 ]

## QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?

☐ YES ☐ NO

DOES THE ENTITY HAVE A BRANCH IN THE RSA?

☐ YES ☐ NO

DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA?

☐ YES ☐ NO

DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA?

☐ YES ☐ NO

IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?

☐ YES ☐ NO**IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 BELOW.**

## TERMS AND CONDITIONS FOR BIDDING

<b>1. BID SUBMISSION:</b>
1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
1.2. <b>ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.</b>
1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
1.4. <b>THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (SBD7).</b>
<b>2. TAX COMPLIANCE REQUIREMENTS</b>
2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.
2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.
2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
2.6 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

**NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.**

SIGNATURE OF BIDDER: .....

CAPACITY UNDER WHICH THIS BID IS SIGNED: .....  
(Proof of authority must be submitted e.g. company resolution)

DATE: .....

**SPECIAL INSTRUCTIONS AND NOTICES TO BIDDERS REGARDING THE  
COMPLETION OF BIDDING FORMS**

PLEASE NOTE THAT THIS BID IS SUBJECT TO TREASURY REGULATIONS 16A ISSUED IN TERMS OF THE PUBLIC FINANCE MANAGEMENT ACT, 1999, THE KWAZULU-NATAL SUPPLY CHAIN MANAGEMENT POLICY FRAMEWORK AND THE GENERAL CONDITIONS OF CONTRACT.

1. Unless inconsistent with or expressly indicated otherwise by the context, the singular shall include the plural and vice versa and with words importing the masculine gender shall include the feminine and the neuter.
2. Under no circumstances whatsoever may the bid forms be retyped or redrafted. Photocopies of the original bid documentation may be used, but an original signature must appear on such photocopies.
3. The bidder is advised to check the number of pages and to satisfy himself that none are missing or duplicated.
4. Bids submitted must be complete in all respects.
5. Bids shall be lodged at the address indicated not later than the closing time specified for their receipt, and in accordance with the directives in the bid documents.
6. Each bid shall be addressed in accordance with the directives in the bid documents and shall be lodged in a separate sealed envelope, with the name and address of the bidder, the bid number and closing date indicated on the envelope. The envelope shall not contain documents relating to any bid other than that shown on the envelope. If this provision is not complied with, such bids may be rejected as being invalid.
7. All bids received in sealed envelopes with the relevant bid numbers on the envelopes are kept unopened in safe custody until the closing time of the bids. Where, however, a bid is received open, it shall be sealed. If it is received without a bid number on the envelope, it shall be opened, the bid number ascertained, the envelope sealed and the bid number written on the envelope.
8. A specific box is provided for the receipt of bids, and no bid found in any other box or elsewhere subsequent to the closing date and time of bid will be considered.
9. No bid sent through the post will be considered if it is received after the closing date and time stipulated in the bid documentation, and proof of posting will not be accepted as proof of delivery.
10. No bid submitted by telefax, telegraphic or other electronic means will be considered.
11. Bidding documents must not be included in packages containing samples. Such bids may be rejected as being invalid.
12. Any alteration made by the bidder must be initialed.
13. Use of correcting fluid is prohibited
14. Bids will be opened in public as soon as practicable after the closing time of bid.
15. Where practical, prices are made public at the time of opening bids.
16. If it is desired to make more than one offer against any individual item, such offers should be given on a photocopy of the page in question. Clear indication thereof must be stated on the schedules attached.

**PRICING SCHEDULE**  
**(Professional Services)**

NAME OF BIDDER: .....

CLOSING TIME: **11h00**

CLOSING DATE: **17 November 2020**

OFFER TO BE VALID FOR 120 DAYS FROM THE CLOSING DATE OF BID.

BID NUMBER	DESCRIPTION	TOTAL BID PRICE IN RSA CURRENCY *(All applicable taxes included)
<b>DARD 29/20A</b>	<b>APPOINTMENT OF A SERVICE PROVIDER FOR THE CONSTRUCTION OF FIVE SHADE CLOTH SEEDLING NURSERY STRUCTURES AND ANCILLARY BUILDINGS AT CEDARA RESEARCH STATION</b>	

Official Company  
Stamp

\_\_\_\_\_  
Signature

## DECLARATION OF INTEREST

1. Any legal person, including persons employed by the state<sup>1</sup>, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes a price quotation, advertised competitive bid, limited bid or proposal). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where-
  - the bidder is employed by the state; and/or
  - the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declarant acts and persons who are involved with the evaluation and or adjudication of the bid.
2. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**
  - 2.1 Full Name of bidder or his or her representative: .....
  - 2.2 Identity Number : .....
  - 2.3 Position occupied in the Company (director, trustee, shareholder<sup>2</sup>): .....
  - 2.4 Company Registration Number: .....
  - 2.5 Tax Reference Number: .....
  - 2.6 VAT Registration Number: .....
  - 2.6.1 The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / persal numbers must be indicated in paragraph 3 below.

<sup>1</sup>"State" means –

- (a) any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
- (b) any municipality or municipal entity;
- (c) provincial legislature;
- (d) national Assembly or the national Council of provinces; or
- (e) Parliament.

<sup>2</sup>"Shareholder" means a person who owns shares in the company and is actively involved in the management of the enterprise or business and exercises control over the enterprise.

2.7 Are you or any person connected with the bidder presently employed by the state? YES / NO

2.7.1 If so, furnish the following particulars:

2.7.2 If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector? YES / NO

2.7.2.1 If yes, did you attached proof of such authority to the bid document? YES / NO

(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the bid.

2.7.2.2 If no, furnish reasons for non-submission of such proof:

.....  
.....  
.....

2.8 Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months? YES / NO

2.8.1 If so, furnish particulars:

.....  
.....  
.....

2.9 Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this bid? YES / NO

2.9.1 If so, furnish particulars.

.....  
.....  
.....

2.10 Are you, or any person connected with the bidder, aware of any relationship (family, friend, other) between any other bidder and any person employed by the state who may be involved with the evaluation and or adjudication of this bid? YES/NO



2.10.1 If so, furnish particulars

.....  
.....  
.....

2.11 Do you or any of the directors / trustees / shareholders / members of the company have any interest in any other related companies whether or not they are bidding for this contract?

YES/NO

2.11.1 If so, furnish particulars.....

.....  
.....

**3 Full details of directors / trustees / members / shareholders.**

Full Name	Identity Number	Personal Reference Number	Tax Number	State Number	Employee Number / Persal Number

**4 DECLARATION**

I, THE UNDERSIGNED (NAME).....  
CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2 and 3 ABOVE IS CORRECT.  
ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF  
PARAGRAPH 23 OF THE GENERAL CONDITIONS OF CONTRACT SHOULD THIS DECLARATION  
PROVE TO BE FALSE.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Position

\_\_\_\_\_  
Name of bidder

## PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

**NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.**

### 1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2

a) The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable;

1.3 Points for this bid shall be awarded for:

- (a) Price; and
- (b) B-BBEE Status Level of Contributor.

1.4 The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20
<b>Total points for Price and B-BBEE must not exceed</b>	<b>100</b>

1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

### 2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **“prices”** includes all applicable taxes less all unconditional discounts;
- (h) **“proof of B-BBEE status level of contributor”** means:
 

1)	level certificate issued by an authorized body or person;	B-BBEE    Status
2)	as prescribed by the B-BBEE Codes of Good Practice;	A sworn affidavit
3)	requirement prescribed in terms of the B-BBEE Act;	Any            other
- (i) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

### 3. POINTS AWARDED FOR PRICE

#### 3.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

<b>80/20</b>	<b>or</b>	<b>90/10</b>
$P_s = 80 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$	or	$P_s = 90 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$

Where

P <sub>s</sub>	=	Points scored for price of bid under consideration
P <sub>t</sub>	=	Price of bid under consideration
P <sub>min</sub>	=	Price of lowest acceptable bid

### 4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTOR

- 4.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

## 5. BID DECLARATION

- 5.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

## 6. B-BBEE STATUS LEVEL OF CONTRIBUTOR CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1

- 6.1 B-BBEE Status Level of Contributor: . = .....(maximum of 20 points)  
(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

## 7. SUB-CONTRACTING

- 7.1 Will any portion of the contract be sub-contracted?

(*Tick applicable box*)

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

- 7.1.1 If yes, indicate:

- What percentage of the contract will be subcontracted .....%
- The name of the sub-contractor.....
- The B-BBEE status level of the sub-contractor.....
- Whether the sub-contractor is an EME or QSE

**(Tick applicable box)**

YES		NO	
-----	--	----	--

- v) Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations, 2017:

Designated Group: An EME or QSE which is at least 51% owned by:	EME √	QSE √
Black people		
Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		
Black people who are military veterans		
OR		
Any EME		
Any QSE		

**8. DECLARATION WITH REGARD TO COMPANY/FIRM**

8.1 Name of company/firm:.....

8.2 VAT registration number:.....

8.3 Company registration number:.....

**8.4 TYPE OF COMPANY/ FIRM**

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited

[TICK APPLICABLE BOX]

**8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

.....

.....

.....

.....

**8.6 COMPANY CLASSIFICATION**

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider
- ☐ Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

8.7 Total number of years the company/firm has been in business.....

8.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 6.1, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If the B-BBEE status level of contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
  - (a) disqualify the person from the bidding process;
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
  - (d) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
  - (e) forward the matter for criminal prosecution.

WITNESSES

1. ....

2. ....

.....  
SIGNATURE(S) OF BIDDERS(S)

DATE:.....

ADDRESS: .....

.....

.....

## DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This Standard Bidding Document (SBD) must form part of all bids invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2011, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

### 1. General Conditions

- 1.1. Preferential Procurement Regulations, 2017 makes provision for the promotion of local production and content.
- 1.2. Regulation 9.(1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Where necessary, for bids referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as indicated in paragraph 4.1 below.

**The SABS approved technical specification number SATS 1286:2011 is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp) at no cost.**

1.6 A bid may be disqualified if –

- (a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and
- (b) the bidder fails to declare that the Local Content Declaration Templates (Annex C, D and E) have been audited and certified as correct.

## 2. Definitions

- 2.1. **“bid”** includes written price quotations, advertised competitive bids or proposals;
  - 2.2. **“bid price”** price offered by the bidder, excluding value added tax (VAT);
  - 2.3. **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
  - 2.4. **“designated sector”** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;
  - 2.5. **“duly sign”** means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility(close corporation, partnership or individual).
  - 2.6. **“imported content”** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour or intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;
  - 2.7. **“local content”** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;
  - 2.8. **“stipulated minimum threshold”** means that portion of local production and content as determined by the Department of Trade and Industry; and
  - 2.9. **“sub-contract”** means the primary contractor’s assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.
3. **The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:**

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
	_____ %
	_____ %
<b>Other</b>	_____ %



4. Does any portion of the services, works or goods offered have any imported content?

(Tick applicable box)

YES		NO	
-----	--	----	--

- 4.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency at 12:00 on the date of advertisement of the bid.

The relevant rates of exchange information is accessible on [www.reservebank.co.za](http://www.reservebank.co.za).

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Bidders must submit proof of the SARB rate (s) of exchange used.

5. Were the Local Content Declaration Templates (Annex C, D and E) audited and certified as correct?

(Tick applicable box)

YES		NO	
-----	--	----	--

- 5.1. If yes, provide the following particulars:

- (a) Full name of auditor: .....
- (b) Practice number: .....
- (c) Telephone and cell number: .....
- (d) Email address: .....

(Documentary proof regarding the declaration will, when required, be submitted to the satisfaction of the Accounting Officer / Accounting Authority)

6. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the AO/AA provide directives in this regard.

**LOCAL CONTENT DECLARATION**  
**(REFER TO ANNEX B OF SATS 1286:2011)**

**LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)**

**IN RESPECT OF BID NO. ....**

**ISSUED BY:** (Procurement Authority / Name of Institution):

.....  
NB

1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.

2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thdti.gov.za/industrialdevelopment/ip.jsp>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, ..... (full names),  
do hereby declare, in my capacity as .....  
of .....(name of bidder  
entity), the following:

(a) The facts contained herein are within my own personal knowledge.

(b) I have satisfied myself that:

- (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
- (ii) the declaration templates have been audited and certified to be correct.

(c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

**If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.**  
**The local content percentages for each product has been calculated using the**

**formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.**

(d) I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

**SIGNATURE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**WITNESS No. 1** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**WITNESS No. 2** \_\_\_\_\_

**DATE:** \_\_\_\_\_

### Local Content Declaration - Summary Schedule

**Note:** VAT to be excluded from all calculations

Pula  EU  GBP [illegible]

### Imported Content Declaration - Supporting Schedule to Annex C

(D1)	<b>Tender No.</b>	
(D2)	<b>Tender description:</b>	
(D3)	<b>Designated Products:</b>	
(D4)	<b>Tender Authority:</b>	
(D5)	<b>Tendering Entity name:</b>	
(D6)	<b>Tender Exchange Rate:</b>	Pula

**Note:** VAT to be excluded from all calculations

EU       GBP

### **A. Exempted imported content**

[illegible]

(D19) Total exempt imported value	R 0
-----------------------------------	-----

**This total must correspond with  
Annex C - C 21**

### **B. Imported directly by the Tenderer**

[illegible]

(D32) Total imported value by tenderer	R 0
--	-----

**C. Imported by a 3rd party and supplied to the Tenderer**

[illegible]

(D45) Total imported value by 3rd party	R 0
---	-----

#### D. Other foreign currency payments

Type of payment	Local supplier making the payment	Overseas beneficiary	Foreign currency value paid	Tender Rate of Exchange
(D46)	(D47)	(D48)	(D49)	(D50)

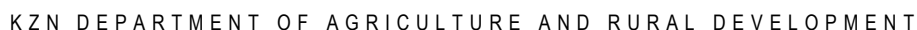
**(D52) Total of foreign currency payments declared by tenderer and/or 3rd party**

(D53) Total of imported content & foreign currency payments - (D32), (D45) & (D52) above	R 0
--	-----

**Signature of tenderer from Annex B**

Date: \_\_\_\_\_

**This total must correspond with  
Annex C - C 23**



## Annex E

## Local Content Declaration - Supporting Schedule to Annex C

(E1)	<b>Tender No.</b>	
(E2)	<b>Tender description:</b>	
(E3)	<b>Designated products:</b>	
(E4)	<b>Tender Authority:</b>	
(E5)	<b>Tendering Entity name:</b>	

**Note: VAT to be excluded from all calculations**

[illegible]

(E9) Total local products (Goods, Services and Works)	R 0
---	-----

(E10) **Manpower costs** (Tenderer's manpower cpst R 0

(E11)	<b>Factory overhead</b> (Rental, depreciation & amortisation, utility costs, consumables etc.	R 0
-------	---	-----

(E12) **Administration overheads and mark-up** (Marketing, insurance, financing, interest etc. R 0

(E13) Total local content	R 0
---------------------------	-----

**This total must correspond with Annex C**

**Signature of tenderer from Annex B**

Date: \_\_\_\_\_

**CONTRACT FORM - RENDERING OF SERVICES**

**THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SERVICE PROVIDER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SERVICE PROVIDER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.**

**PART 1 (TO BE FILLED IN BY THE SERVICE PROVIDER)**

1. I hereby undertake to render services described in the attached bidding documents to (name of the institution)..... in accordance with the requirements and task directives / proposals specifications stipulated in Bid Number..... at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the Purchaser during the validity period indicated and calculated from the closing date of the bid .
2. The following documents shall be deemed to form and be read and construed as part of this agreement:
  - (i) Bidding documents, viz
    - Invitation to bid;
    - Tax clearance certificate;
    - Pricing schedule(s);
    - Filled in task directive/proposal;
    - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011;
    - Declaration of interest;
    - Declaration of bidder's past SCM practices;
    - Certificate of Independent Bid Determination;
    - Special Conditions of Contract;
  - (ii) General Conditions of Contract; and
  - (iii) Other (specify)
3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the services specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.
4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfilment of this contract.
5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.
6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT) .....

CAPACITY .....

SIGNATURE .....

NAME OF FIRM .....

**WITNESSES**

1 .....

2 .....

DATE: .....

**CONTRACT FORM - RENDERING OF SERVICES****PART 2 (TO BE FILLED IN BY THE PURCHASER)**

1. I ..... in my capacity As .....  
accept your bid under reference number ..... dated ..... for the  
rendering of services indicated hereunder and/or further specified in the annexure(s).
2. An official order indicating service delivery instructions is forthcoming.
3. I undertake to make payment for the services rendered in accordance with the terms and  
conditions of the contract, within 30 (thirty) days after receipt of an invoice.

DESCRIPTION OF SERVICE	PRICE (ALL APPLICABLE TAXES INCLUDED)	COMPLETION DATE	B-BBEE STATUS LEVEL OF CONTRIBUTI ON	MINIMUM THRESHO LD FOR LOCAL PRODUCTI ON AND CONTENT (if applicable)

4. I confirm that I am duly authorised to sign this contract.

SIGNED AT ..... ON .....

NAME (PRINT) .....

SIGNATURE .....  
OFFICIAL STAMP**WITNESSES**1 .....  
.....



**DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES**

- 1 This Standard Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be disregarded if that bidder, or any of its directors have-
  - a. abused the institution's supply chain management system;
  - b. committed fraud or any other improper conduct in relation to such system; or
  - c. failed to perform on any previous contract.
- 4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector? <b>(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied).</b>  The Database of Restricted Suppliers now resides on the National Treasury's website( <a href="http://www.treasury.gov.za">www.treasury.gov.za</a> ) and can be accessed by clicking on its link at the bottom of the home page.	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)? <b>The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/> +



4.4.1	If so, furnish particulars:
-------	-----------------------------

**CERTIFICATION**

I, THE UNDERSIGNED (FULL NAME) .....

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....  
**Signature**

.....  
**Date**

.....  
**Position**

.....  
**Name of Bidder**



**SBD 9**

**CERTIFICATE OF INDEPENDENT BID DETERMINATION**

- 1 This Standard Bidding Document (SBD) must form part of all bids<sup>1</sup> invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
  - a. disregards the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
  - b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
- 4 This SBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (SBD 9) must be completed and submitted with the bid:

<sup>1</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.

<sup>2</sup> Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.



### **CERTIFICATE OF INDEPENDENT BID DETERMINATION**

I, the undersigned, in submitting the accompanying bid:

---

(Bid Number and Description)

in response to the invitation for the bid made by:

---

(Name of Institution)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of: \_\_\_\_\_ that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation;
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder



**SBD 9**

6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices;
  - (b) geographical area where product or service will be rendered (market allocation)
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit, a bid;
  - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
  - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Position

\_\_\_\_\_  
Name of Bidder



Bid No: **DARD 29/20A**

**CONSTRUCTION OF FIVE (5) SHADE CLOTH SEEDLING NURSERY STRUCTURES AND  
ANCILLARY BUILDINGS AT CEDARA RESEARCH STATION**

---

THIS IS TO CERTIFY THAT (NAME): .....

ON BEHALF OF: .....

ATTENDED THE COMPULSORY BRIEFING SESSION  
ON.....(DATE)

AND IS THEREFORE FAMILIAR WITH THE CIRCUMSTANCES AND THE SCOPE OF THE  
SERVICE TO BE RENDERED.

.....  
**NAME AND SIGNATURE OF BIDDER OR AUTHORISED REPRESENTATIVE**

**DATE:**.....

.....  
**NAME AND SIGNATURE OF DEPARTMENTAL REPRESENTATIVE**

**DATE:** .....

**DEPARTMENTAL OFFICIAL STAMP:**

**SBD 11****AUTHORITY TO SIGN A BID****A. COMPANIES**

If a Bidder is a company, a certified copy of the resolution by the board of directors, personally signed by the chairperson of the board, authorising the person who signs this bid to do so, as well as to sign any contract resulting from this bid and any other documents and correspondence in connection with this bid and/or contract on behalf of the company must be submitted with this bid, that is before the closing time and date of the bid

**AUTHORITY BY BOARD OF DIRECTORS**

By resolution passed by the Board of Director.....20.....,

Mr/Mrs.....

(whose signature appears below) has been duly authorised to sign all documents in connection with this bid on behalf of

(Name of Company) .....

**IN HIS/HER CAPACITY AS:** .....

**SIGNED ON BEHALF OF COMPANY:**

.....  
(PRINT NAME)

**SIGNATURE OF SIGNATORY:** ..... **DATE:** .....

**WITNESSES:** 1.....

2.....

**B. SOLE PROPRIETOR (ONE - PERSON BUSINESS)**

I, the undersigned..... hereby confirm that I am the  
sole owner of the business trading as.....

.....

**SIGNATURE**..... **DATE**.....

**C. PARTNERSHIP**

The following particulars in respect of every partner must be furnished and signed by every partner:

Full name of partner	Residential address	Signature
.....	.....	.....
.....	.....	.....
.....	.....	.....

We, the undersigned partners in the business trading  
as.....hereby authorise  
.....to sign this bid as well as any contract resulting from  
the bid and any other documents and correspondence in connection with this bid and /or contract  
on behalf of

.....  
**SIGNATURE**

.....  
**SIGNATURE**

.....  
**SIGNATURE**

.....  
**DATE**

.....  
**DATE**

.....  
**DATE**





#### D. CLOSE CORPORATION

In the case of a close corporation submitting a bid, a certified copy of the Founding Statement of such corporation

shall be included with the bid, together with the resolution by its members authorising a member or other official of

the corporation to sign the documents on their behalf.

By resolution of members at a meeting on ..... 20.....

at..... Mr/Ms....., whose signature appears below, has been authorised to sign all documents in connection with this bid on behalf of

(Name of Close Corporation) .....

.....

#### SIGNED ON BEHALF OF CLOSE CORPORATION:

.....

(PRINT NAME)

IN HIS/HER CAPACITY AS .....DATE: .....

SIGNATURE OF SIGNATORY: .....

WITNESSES: 1.....

2.....



## E CO-OPERATIVE

A certified copy of the Constitution of the co-operative must be included with the bid, together with the resolution by its members authoring a member or other official of the co-operative to sign the bid documents on their behalf.

By resolution of members at a meeting on ..... 20.....

at.....

Mr/Ms....., whose signature appears below, has been authorised to sign all documents in connection with this bid on behalf of (Name of cooperative) .....

**SIGNATURE OF AUTHORISED REPRESENTATIVE/SIGNATORY:** .....

**IN HIS/HER CAPACITY AS:** .....

**DATE:** .....

**SIGNED ON BEHALF OF CO-OPERATIVE:** .....

**NAME IN BLOCK LETTERS:** .....

**WITNESSES: 1**.....

**2**.....

**F JOINT VENTURE**

If a bidder is a joint venture, a certified copy of the resolution/agreement passed/reached signed by the duly authorised representatives of the enterprises, authorising the representatives who sign this bid to do so, as well as to sign any contract resulting from this bid and any other documents and correspondence in connection with this bid and/or contract on behalf of the joint venture must be submitted with this bid, before the closing time and date of the bid.

**AUTHORITY TO SIGN ON BEHALF OF THE JOINT VENTURE**

By resolution/agreement passed/reached by the joint venture partners on.....20.....

Mr/Mrs.....,Mr/Mrs.....

Mr/Mrs.....and Mr/Mrs.....

(whose signatures appear below) have been duly authorised to sign all documents in connection with this bid on behalf of:(Name of Joint Venture) .....

IN HIS/HER CAPACITY AS: .....

SIGNED ON BEHALF OF (COMPANY NAME): .....  
(PRINT NAME)

SIGNATURE: ..... DATE: .....

IN HIS/HER CAPACITY AS: .....

SIGNED ON BEHALF OF (COMPANY NAME): .....  
(PRINT NAME)

SIGNATURE: ..... DATE: .....

IN HIS/HER CAPACITY AS: .....

SIGNED ON BEHALF OF (COMPANY NAME): .....  
(PRINT NAME)

SIGNATURE: ..... DATE: .....



IN HIS/HER CAPACITY AS: .....

**G. CONSORTIUM**

If a bidder is a consortium, a certified copy of the resolution/agreement passed/reached signed by the duly authorised representatives of concerned enterprises, authorising the representatives who sign this bid to do so, as well as to sign any contract resulting from this bid and any other documents and correspondence in connection with this bid and/or contract on behalf of the consortium must be submitted with this bid, before the closing time and date of the bid.

**AUTHORITY TO SIGN ON BEHALF OF THE CONSORTIUM**

By resolution/agreement passed/reached by the consortium on.....20.....

Mr/Mrs.....

(whose signature appear below) have been duly authorised to sign all documents in connection with this bid on behalf of:

(Name of Consortium) .....

IN HIS/HER CAPACITY AS: .....

**SIGNATURE:** ..... **DATE:** .....



## **PART B**

### **GENERAL CONDITIONS OF CONTRACT**

**DEFINITIONS:** The following terms shall be interpreted as indicated:

- (a) "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.
- (b) "Contract" means the written agreement entered into between the Province and the Contractor, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- (c) "Contract price" means the price payable to the Contractor under the contract for the full and proper performance of his contractual obligations.
- (d) "Corrupt practice" means the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.
- (e) "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
- (f) "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognised new product results that is substantially different in basic characteristics or in purpose or utility from its components.
- (g) "Day" means calendar day.
- (h) "Delivery" means delivery in compliance with the conditions of the contract or order.
- (i) "Delivery ex stock" means immediate delivery directly from stock actually on hand.
- (j) "Delivery into consignees store or to his site" means delivery and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the Contractor bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.
- (k) "Dumping" occurs when a private enterprise abroad market its goods and services on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.
- (l) "Force majeure" means an event beyond the control of the Contractor and not involving the Contractor's fault or negligence and not foreseeable. Such event may include, but is not restricted to, acts of the Province in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- (m) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder,



- and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- (n) “GCC” means the General Conditions of Contract.
- (o) “Goods” means all the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- (p) “Imported content” means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the Contractor or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic, where supplies covered by the bid will be manufactured.
- (q) “Local content” means that portion of the bidding price which is not included in the imported content provided that local manufacture does take place.
- (r) “Manufacture” means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.
- (s) “Order” means an official written order issued for the supply of goods or works or the rendering of a service.
- (t) “Project site” where applicable, means the place indicated in bidding documents.
- (u) “Province” means the procuring Department, incorporating the KwaZulu-Natal Provincial Legislature.
- (v) “Republic” means the Republic of South Africa.
- (w) “SCC” means the Special Conditions of Contract.
- (x) “Services” means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the Contractor covered under the contract.
- (y) “Written” or “in writing” means handwritten in ink or any form of electronic or mechanical writing.



## **1. CESSION OF CONTRACTS**

- 1.1 The Contract is personal to the Contractor who shall not sub-let, assign, cede or make over the Contract or any part thereof, or any share of interest therein, to any other person without the written consent of the Province, and on such conditions as it may approve.
- 1.2 This sub-clause shall not apply to sub-contracts given to regular suppliers of the Contractor for materials and minor components relating to the goods or services supplied. The Province reserves the right to require the Contractor to submit, for noting, the names of such sub-contractors in order to ascertain their registration on the Provincial Suppliers Database and they must be legal entities.

## **2. DISCREPANCIES**

Should there appear to be any discrepancies, ambiguities or want of agreement in description, dimensions, qualities or quantities in the Contract, the Contractor shall be obliged to refer the matter to the Provinces' Representative for a decision, before proceeding to execute the Contract or part thereof in respect of which the said discrepancies, ambiguities or want of agreement appear to exist.

## **3. QUALITY AND GUARANTEE**

- 3.1 All Goods supplied shall be equal in all respects to samples, patterns or specifications where such are provided. Any changes to quality or brands will have to be approved by the Province, as this is a change to the conditions of the contract.
- 3.2 Should the Province, after the award of the Contract and/or during the manufacture of the goods specified, decide on a variation or alteration to the specification, either at the suggestion of the Contractor or otherwise, which will be to the Province's advantage, such variation or alteration shall be performed to the Province's satisfaction. Any variation in the Contract Price arising there from shall be subject to agreement between the Province and the Contractor.
- 3.3 The Contractor shall not be relieved of his obligations with respect to the sufficiency of the materials and workmanship and the quality of the Goods supplied by the reason of no objection having been taken thereto by the Province's Representative at the time the Goods were delivered.
- 3.4 The Contractor warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The Contractor further warrants that all goods supplied under this contract shall have no defect, arising from design, materials or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the Contractor, that may develop under normal use of the supplied goods in the conditions prevailing in the country of the final destination.
- 3.5 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in the Special Conditions of Contract.



- 3.6 The Province shall promptly notify the Contractor in writing of any claims arising under this warranty. The Contractor shall immediately remedy the said defect free of cost to the Province. Should the Contractor delay remedial work in excess of time stipulated by the Province's representative, the Province may have such remedial work executed at the Contractor's expense. Should the Province decide that the defect is such that it cannot be remedied, the Goods may be rejected. Such rejected goods shall be held at the risk and expense of the Contractor and shall, on request of the Province, be removed by him immediately on receipt of notification of rejection. The Contractor shall be responsible for any loss the Province may sustain by reason of such action as the Province may take, in terms of this clause.
- 3.7 The risk in respect of the Goods purchased by the Province under the contract shall remain with the Contractor until such goods have been delivered to the Province.
- 3.8 The principle feature of the Goods and Work are described in the Goods or Services Information, but the Goods or Services Information does not purport to indicate every detail of construction, fabrication or arrangements of Goods and Works necessary to meet the requirements. Omission from the Goods or Services information of reference to any part or parts shall not relieve the Contractor of his responsibility for carrying out the Work as required under the Contract.
- 3.9 If any dispute arises between the Province and the Contractor in connection with the quality and guarantee of the Goods, either party may give the other notice in writing of the existence of such dispute, and the same shall thereupon be referred to arbitration in South Africa by a person mutually agreed upon by both parties. The submission shall be deemed to be a submission to arbitration within the meaning of the terms of the arbitration laws in force in the Republic of South Africa.

#### **4. FAILURE TO COMPLY WITH CONDITIONS AND DELAYED EXECUTION**

- 4.1 If a bidder amends or withdraws his/her/their bid after the closing time but before the bidder is notified that his/her/their bid has been accepted, or when notified that his/her/their bid has been accepted, he/she/they fail/fails, within the period stipulated in the conditions of bid or such extended period as the Province may allow, to sign a contract or to provide security when requested to do so, he/she/they shall, unless the Province decides otherwise, and without prejudice to any other right which the Province may have under paragraphs 4.2 and 4.4, including the right to claim damages if a less favourable bid is accepted or less favourable arrangements are to be made, forfeit any deposit which may have been made with the bid.
- 4.2 Should the contractor fail to comply with any of the conditions of the contract, the Province shall be entitled, without prejudice to any of its other rights, to cancel the contract.
- 4.3 Upon any delay beyond the contract period in the case of a supplies contract, the Province shall, without canceling the contract, be entitled forthwith to purchase supplies of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any supplies delivered later at the contractor's expense and risk, or forthwith to cancel the contract and buy such supplies as may be required to complete the contract, and without prejudice to its rights, be entitled to claim damages from the contractor.
- 4.4 Upon any delay beyond the contract period in the case of a service contract, the Province shall, without prejudice to any other right and without canceling the contract, be entitled forthwith to arrange the execution of the service not rendered in conformity with the





contract or to cancel the contract, and without prejudice to its other rights, be entitled to claim damages from the contractor.

4.5 In the event of the Province availing itself of the remedies provided for in paragraph 4.2-

4.5.1 the contractor shall bear any adverse difference in price of the said supplies services and these amounts plus any other damages which may be suffered by the Province, shall be paid by the contractor to the Province immediately on demand, or the Province may deduct such amounts from moneys (if any) otherwise payable to the contractor in respect of supplies or services rendered or to be rendered under the contract or under any other contract or any other amounts due to the contractor; or

4.5.2 if the Contractor fails to supply the goods or render the service within the period stipulated in the contract, the Province shall have the right, in its sole discretion, to claim any damages or loss suffered.

4.6 No damages shall be claimed in respect of any period of delay which the contractor can prove to be directly due to a state of war, sanctions, strikes, lockouts, damage to machinery as a result of accidents, fire, flood or tempest or act of God, which could not be foreseen or overcome by the contractor, or to any act or omission on the part of persons acting in any capacity on behalf of the Province.

4.7 If the delivery of the supplies or the rendering of the service is likely to be delayed or is in fact being delayed on account of any of the reasons mentioned in paragraph 4.6, full particulars of the circumstances shall be reported forthwith in writing to the Province and at the same time the contractor shall indicate the extension of the delivery period which is desired.

## **5. PATENTS**

5.1 The Contractor shall pay all royalties and expenses and be liable for all claims in respect of the use of patent rights, trademarks or other protected rights, and hereby indemnifies the Province against any claims arising there from.

5.2 The Contractor shall indemnify the Province against all third-party claims of infringement of patent, trademark, or industrial design rights arising from the use of the goods or any part thereof by the Province.

## **6. PACKAGING, MARKING AND DELIVERY**

6.1 All goods shall be crated, packed or battened securely in such a manner as to prevent damage during loading, transport and off-loading. Unless otherwise specified, packing cases and packing materials are included in the Contract Price, and shall be and remain the property of the Province.

6.2 All goods shall be clearly marked in the manner stated in the Goods or Services Information.

6.3 Goods shall be delivered to the address within the Province's area of jurisdiction as set out in the Special Conditions of Contract or Goods and Services Information.



- 6.4 Goods shall be delivered on Weekdays between 08:00 and 16:00, free of all charges, only when ordered upon an official letter or form of order issued by the Province. No goods will be received on Saturdays, Sundays and public holidays. This paragraph (6.4) is applicable only when not excluded in the Special Conditions of Contract.
- 6.5 Goods delivered shall in all cases be accompanied by delivery notes in duplicate, one which will be retained by the Province. The Contractor shall be responsible for the safe delivery as to the quality, quantity and condition of the goods.
- 6.6 Delivery, unless otherwise provided for in the Special Conditions of Contract, shall be affected within seven (7) days from receipt of the order. The Contractor shall advise the Province upon receipt of an order in writing of any anticipated delays, citing reasons therefore and put forward a new anticipated delivery date. The Province may then extend the delivery date, if and as it deems fit.
- 6.7 Should the Contractor fail to supply the material within the time stated in his bid, or within the extended time allowed to him in terms of clause 6.6 hereof, the Province reserves the right (after giving the Contractor seven days' notice in writing) to cancel the contract and purchase the materials elsewhere and the bidder shall refund to the Province any extra cost incurred over and above the contract price. No liability shall, however, be attached to the Contractor if delivery of materials is rendered impossible or delayed by reason of circumstances beyond the Contractor's control.
- 6.8 If the Contractor cannot produce proof satisfactory to the Province that the delay was due to circumstances beyond his control, no price increase after the due date will be recognized.
- 6.9 If at any time the Province ascertains that, due to negligence of the Contractor or for reasons beyond his control:
- 6.9.1 No work on the order has been commenced and in the opinion of the Province, there is little or no prospect of work being commenced in reasonable time;
- 6.9.2 Delivery of any materials is being or is likely to be delayed beyond the delivery date promised, and/or
- 6.9.3 There is little or no prospect of the order being completed within a reasonable time after the promised date; the Province may, by notice to the Contractor in writing, cancel as from the future date specified in such notice, the whole or any part of the order in respect of which material has not been delivered by that date without incurring any liability by reasons of such cancellation. The cases where circumstances beyond the control of the Contractor have delayed commencement or completion of the order, cancellation of the order will be effected by mutual arrangement or where this is not possible by the decision of the Province. The Contractor shall then as soon as possible after such date deliver to the Province that part of the order which has been completed, and payment is to be effected is for the part performance on a proportional basis, subject to the uncompleted part not being an integral or essential part of the contract.
- 6.10 Should a price other than an all-inclusive price be required, this shall be specified in the SCC.



## **7. CONSIGNMENT OF GOODS**

- 7.1 Goods, if delivered by Spoornet may be consigned carriage paid in the Contractor's name, care of the Province to the place of delivery stipulated, but not in the name of the State. Goods consigned to stores located in areas which Spoornet may refuse to deliver, must be done so care of a local agent or to a local depot from which they may be re-delivered by road to such stores.
- 7.2 Contractors shall arrange with Spoornet to deliver goods to the Province's stores during the hours and on the days that the stores are open.
- 7.3 The Province will not be responsible for any damage, re-delivery charges or any other charges raised by Spoornet.
- 7.4 Claims on the South African Transport Services or on any other carrier in respect of weight, quantity, damage or loss, shall be made by the Contractor.

## **8. PAYMENT**

- 8.1 The Contractor shall furnish the Province with an invoice accompanied by a copy of the delivery note upon fulfilment of other obligations stipulated in the contract.
- 8.2 Payments shall be made promptly by the Province, but in no case later than thirty days (30) days after submission of an invoice or claim by the Contractor.
- 8.3 Payments will be made in Rand unless otherwise stipulated.
- 8.4 Payments for goods are made by the Province only. Any disputes regarding late or delayed payments must be taken up with the department and if a problem persists, the Supply Chain Management Office can be requested to investigate the delays.

## **9. INVOICES**

All invoices submitted by the Contractor must be Tax Invoices indicating quantity ordered and quantity delivered, the amount of tax charged and the total invoice amount.

## **10. CONTRACT PRICE ADJUSTMENT**

- 10.1 Firm contract prices shall not be subject to adjustment. Contract prices which are not firm shall be increased or reduced by the amount of variation between the Cost to Bidder and the actual cost to the Contractor, such variations to be subject to the following conditions:-
  - 10.1.1 Where the Cost to Bidder was based on a printed catalogue or list price, the variation shall be the difference between that price list and the price list actually charged. Should it transpire that the Cost to Bidder was not based on the latest available price list at the Date of Bid, the Province shall have the right to elect the price list on which any variation shall be based.
  - 10.1.2 Where the Cost to Bidder was based on a quotation by the manufacturer, or where the Contractor is the manufacturer, and the Contract Price was based on the cost of materials and labour ruling at a certain date, the variation in the Contract Price shall be calculated by means of the Steel and Engineering Industries Federation of South Africa (SEIFSA) formula if



this is stipulated in the Contract, or if the Province's representative considers it to be appropriate. Where the use of the SEIFSA formula is not appropriate, the variation shall be calculated by means of another formula acceptable to the Province, which shall be indicated in the Special Conditions of Contract. Only those cost increases due to wage increases prescribed by regulating measures having the force of law, or increases in the cost of materials and railage as may be proven by documentary evidence, or published data, will be considered in determining Contract Price variation.

- 10.1.3 Any difference between Rates and Charges ruling at the time of bid and those actually paid by the Contractor will be for the account of the Province. The Contract Price adjustment arising from any variation in Rates and Charges shall, in every instance, be applied to the appropriate value, or tonnage, of the Goods shipped. Where a variation in the Cost to bidder has been allowed, the contract price shall be adjusted by the product of such variation and every component of Rates and Charges which is based on the value of the Goods, whether or not the costs of such components have varied.
- 10.1.4 No claim for increased costs will be entertained if the Contractor is unable to produce documentation to substantiate Cost to Bidder and Rates and Charges on which the contract price was based and documentation to support his claim. Such documentation must, in the opinion of the Province, adequately support the Contractor's claim. No claim for increased costs to the Contractor arising from negligence on his part, or that of the manufacturer, will be considered.
- 10.1.5 The Contractor shall, in respect of every consignment or shipment of Goods delivered, supply to the Province's Representative documentary evidence of variation, if any, in Cost to Bidder and Rates and Charges.
- 10.1.6 Claims for increased cost shall be submitted with the invoice for the Goods in respect of which the claim is made, or as soon thereafter as possible. Claims shall not be considered if received more than 90 days after the expiry of the Contract unless notice of intention to claim has been given to the Province before such date.
- 10.1.7 In the event of there being no claim by the Contractor for increased costs, the Contractor shall not be entitled to full payment under the Contract before he has submitted to the Province, in his own name or in the name of the manufacturer, a certificate declaring that there have been no adjustments in the cost of manufacture which entitle the Employer to a reduction in the Contract Price as provided for in this clause.

## **11. REMEDIES IN THE CASE OF DEATH, SEQUESTRATION, LIQUIDATION OR JUDICIAL MANAGEMENT**

- 11.1 In the event of the death of a contractor or the provisional or final sequestration of his/her/their estate or of his/her/their cession or transfer of a contract without the approval of the Province or of the surrender of his/her/their estate or of his/her/their reaching a compromise with his/her/their creditors or of the provisional or final liquidation of a contractor's company/closed corporation or the placing of its affairs under judicial management, the Province may, without prejudice to any other rights it may have, exercise any of the following options :



- 11.1.1 Cancel the contract and accept any of the bids which were submitted originally with that of the contractor or any offer subsequently received to complete the contract. In such a case the estate of the contractor shall not be relieved of liability for any claim which has arisen or may arise against the contractor in respect of supplies not delivered or work not carried out by the contractor, under the contract.
- 11.1.2 Allow the executor, trustee, liquidator or judicial manager, as the case may be, for and on behalf of and at the cost and expense of the estate of the contractor to carry on with and complete the contract.
- 11.1.3 For and on behalf of and at the cost and expense of the estate of the contractor, itself carry on with and complete the contract and in that event the Province may take over and utilize, without payment, the contractor's tools, plant and materials in whole or in part until the completion of the contract.
- 11.2 Should the Province elect to act in terms of paragraph 11.1.3 it shall give notice of its requirements to the executor, trustee, liquidator or judicial manager of the contractor's estate and should the said executor, trustee, liquidator or judicial manager fail within 14 days of the dispatch of such notice to make provision to the satisfaction of the Province for the fulfillment of such requirements, or should no trustee, liquidator or judicial manager be appointed within 14 days of the occurrence mentioned in paragraph 11.1, the Province may apply any remedy open to it in terms of the contract as if a breach thereof had taken place.
- 11.3 Should the Province act in terms of paragraph 11.1.3 the contractor must leave the premises immediately and may not occupy such premises on account of retention or any other right.

## **12. LAW TO APPLY**

- 12.1 The Contract shall in all respects be construed in accordance with the law of the Republic of South Africa, and any difference that may arise with the law of the Republic of South Africa, and any difference that may arise between the Province and the Contractor in regard to the Contract, shall be settled in the Republic of South Africa.

## **13. OFFERING OF COMMISSION OR GRATUITY**

- 13.1 If the Contractor, or any person employed by him, is found to have either directly or indirectly offered, promised or given to any office bearer of the Province or person in the employ of the Province, any commission, gratuity, gift or other consideration, the Province shall have the right, summarily and without recourse to law and without prejudice to any other legal remedy which it may have in regard to any loss or additional cost or expenses, to cancel the Contract without paying any compensation to the Contractor.

## **14. PREFERENCES**

- 14.1 Should the Contractor apply for preferences in the submission of his bid, and it is found at a later stage that these applications were incorrect or made under false pretences, the Province may, at its own right:-
  - 14.1.1 Recover from the Contractor all costs, losses or damages incurred or sustained by the Province as a result of the award of the Contract; and / or
  - 14.1.2 Cancel the contract and claim any damages which the Province may suffer by having to make less favourable arrangements after such cancellation.



14.1.3 The Province may impose penalties, however, only if provision therefore is made in the Special Conditions of Bid.

## **15. WEIGHTS AND MEASURES**

15.1 The quantities of goods offered or delivered shall be according to South African standard weights and measures.

## **16. SECURITY**

16.1 Special Conditions of Contract relating to Surety/Guarantee requirement must be dealt with in strict compliance with the Conditions of Bid set out herein.

16.2 In respect of contracts less than R 500 000, the guarantees and sureties required may be based on a risk evaluation conducted by the Province inviting the bid.

16.3 No deposits are required for bid applications for contracts below R 500 000.

## **17. ORDERS**

17.1 Goods shall be delivered and services rendered only upon receipt of a written official order or the signing of a contract with the Province, and accounts shall be rendered as indicated on the official order or in the contract, as the case may be.

17.2 The Province reserves the right to call upon any Contractor during the contract period to make known the following details:

- 17.2.1 Name of Institution placing order;
- 17.2.2 Provincial official order number;
- 17.2.3 Quantity ordered; and
- 17.2.4 List of items ordered.

## **18. EXPORT LICENCES**

18.1 When orders are placed for goods in respect of which an export licence from the country of origin of supplies is required, the Contractor shall:

18.1.1 Not incur any direct or indirect costs in connection with the supply or dispatch of such supplies before he has obtained such licence;

18.1.2 If the government of the country from which the supplies are to be exported refuses, or fails to grant such licence within three months of the placing of the order, the order shall be considered to be cancelled and no liability will be accepted for any loss or expenses irrespective of the nature thereof, including loss or expenditure suffered or incurred by the Contractor or any other person in respect of the production, supply, transportation or delivery of such supplies.

## **19. INSURANCE**

19.1 The goods supplied under the contract shall be fully insured in a freely convertible Currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.





- 19.2 Any insurance policies taken out by a Contractor to cover goods delivered for a contract must be taken out with a company registered in South Africa in terms of relevant insurance and companies acts.

## **20. INSPECTION, TESTS AND ANALYSES**

- 20.1 In terms of Provincial policy, inspections of a Bidder's goods and services are permitted. Bidders and Contractors must allow reasonable access to premises to officials from the department inviting the bid, or person specially appointed by the Province to carry out inspection or tests. There are two main categories: Firstly, where the bid conditions call for goods to be inspected during the contract period. Secondly, where the inspection results are to be submitted with the bid document.
- 20.2 If it is a bid condition that goods to be produced should at any stage during production or on completion be subject to inspection, the premises of the Contractor shall be open, at all reasonable hours, for inspection by a representative of the Province or of an organization acting on its behalf.
- 20.3 Inspections tests and analyses may be carried out prior to dispatch in regard to such contract goods as may be deemed necessary by the Province, and the Contractor shall provide, if required, all the required facilities for the inspection, tests and analyses of the goods free of charge and shall, if required, provide all the materials, samples and labour and available apparatus which may be required for the purposes of such inspection, tests and analyses free of charge, unless otherwise specified.
- 20.4 If there are no inspection requirements in the bid documents and no mention thereof is made in the letter of acceptance, but during the contract it is decided that inspections shall be carried out, the Province shall itself make the necessary arrangements, including payment arrangements, with the testing authority concerned. The premises of the Bidder Contractor must be open and accessible at all reasonable times for the purposes of these tests.
- 20.5 If the inspection, tests and analyses show the goods or service to be in accordance with contract requirements, the cost of the inspection, tests and analyses shall be defrayed by the Province calling for such tests or analyses. Where the supplies or services do not comply with the contract, the costs shall be defrayed by the Contractor and the Province shall have the right, without prejudice to any other legal remedy it may have, to deduct such costs from payments due to the Contractor under the contract or under any other contract.
- 20.6 Goods and services which do not comply with the contract requirements may be rejected.
- 20.7 Any goods may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract, and such rejected goods shall be held at the cost and risk of the Contractor who shall, when called upon, remove them immediately at his own cost and forthwith substitute them for goods which do comply with the requirements of the contract, failing which such rejected goods shall be returned at the Contractor's cost and risk. Should the Contractor fail to provide the substitute goods forthwith, the Province may, without giving the Contractor a further opportunity to substitute the rejected goods, purchase such supplies as may be necessary at the expense of the Contractor, for example, the transport costs and other expenses regarding the rejected goods must be refunded by the Contractor.
- 20.8 Where imported goods are to be inspected before delivery, the Contractor shall notify his suppliers abroad of the conditions applicable to inspections.



- 20.9 Provisions contained in sub-clause 20.1 and 20.8 shall not prejudice the right of the Province to cancel the contract on account of a breach of the conditions thereof.

## **21. RESTRICTION OF BIDDING**

- 21.1 Without prejudice on any other legal remedies, the Province may impose restrictions on a Bidder in terms of which bids to the Province will not be accepted for such period as determined by the Province. This information may be passed to other provinces or State organisations in the Republic of South Africa. These restrictions may be imposed in terms of the breach of any of the requirements to be met in terms of the accepted bid or contract. The Province may also make a restriction on a bidder from another province or State institution applicable to this Province.

## **22. CONTRACTOR'S LIABILITY**

- 22.1 In the event of the contract being cancelled by the Province in the exercise of its rights in terms of these conditions, the Contractor shall be liable to pay to the Province any losses sustained and/ or additional costs or expenditure incurred as a result of such cancellation, and the Province shall have the right to recover such losses, damages or additional costs by means of set-off from moneys due or which may become due in terms of the contract or any other contract or from guarantee provided for the due fulfilment of the contract and, until such time as the amount of such losses, damages or additional costs have been determined, to retain such moneys or guarantee or any deposit as security for any loss which the Province may suffer or may have suffered.
- 22.2 The Contractor may be held responsible for any consequential damages and loss sustained which may be caused by any defect, latent or otherwise, in supply or service rendered or if the goods or service as a result of such defect, latent or otherwise, does not conform to any condition or requirement of the contract.

## **23. PRICE LISTS**

Price lists which are part of the contract shall not be amended without the approval of the Province, unless the SCC specify otherwise.

## **24. SUBMISSION OF CLAIMS**

- 24.1 Claims must be submitted within 90 days of the delivery date of items, but the delivery date will be calculated according to the delivery period stipulated in terms of the contract, unless an extension for late delivery has been granted by the Province.
- 24.2 For period contracts, no price increase will be granted within the first 180 days of the contract period. No price increase applications which are submitted later than 90 days after the contract period expired will be considered. The claims shall be accompanied by documentary proof and, if required, an auditor's report sustaining the claim shall be provided.
- 24.3 Claims referring to formulae and indices must be clearly set out in terms of indices or formulae values used to calculate the bid price, and the adjusted indices or values.

## **25. PROVINCIAL PROPERTY IN POSSESSION OF A CONTRACTOR**

- 25.1 Province's property supplied to a Contractor for the execution of a contract remains the property of the Province and shall at all times be available for inspection by the Province





or its representatives. Any such property in the possession of the Contractor on the completion of the contract shall, at the Contractor's expense, be returned to the Province forthwith.

- 25.2 The Contractor shall be responsible at all times for any loss or damages to the Province's property in his possession and, if required, he shall furnish such security for the payment of any such loss or damages as the Province may require.

## **26. RIGHTS TO PROCURE OUTSIDE THE CONTRACT**

- 26.1 The Province reserves the right to procure goods outside the contract in cases of urgency or emergency or if the quantities are too small to justify delivery costs, or if the goods are obtainable from another organ of Province or if the Contractor's point of supply is not situated at or near the place where the goods are required or if the Contractor's goods are not readily available.
- 26.2 No provision in a contract shall be deemed to prohibit the obtaining of goods or services from a Province or local authority.

## **27. AMENDMENT OF CONTRACT**

No agreement to amend or vary a contract or order or the conditions, stipulations or provisions thereof shall be valid and of any force and effect unless such agreement to amend or vary is entered into in writing and signed by the contracting parties. Any waiver of the requirement that the agreement to amend or vary shall be in writing.

## **28. NOTICES**

- 28.1 Every written acceptance of a bid shall be posted to the supplier/bidder concerned by registered or certified mail and any other notice to him/her/it shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him/her/it in writing and such posting shall be deemed to be proper service of such notice.
- 28.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting such notice.

## **29. INCIDENTAL SERVICES**

- 29.1 The Contractor may be required to provide any or all of the following services, including additional services, if any, specified in the Special Conditions of Bid:
- (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;
  - (b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
  - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
  - (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the Contractor of any warranty obligations under this contract; and
  - (e) training of the Province's personnel, at the Contractor's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.



- 29.2 Prices charged by the Contractor for incidental services, if not included in the Contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Contractor for similar services.

### **30. USE OF CONTRACT DOCUMENTS AND INFORMATION INSPECTION**

- 30.1 The Contractor shall not, without the Province's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Province in connection therewith, to any person other than a person employed by the Contractor in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.
- 30.2 The Contractor shall not, without the Province's prior written consent, make use of any document or information mentioned in GCC clause 30.1 except for purposes of performing the contract.
- 30.3 Any document, other than the contract itself mentioned in GCC clause 30.1 shall remain the property of the Province and shall be returned (all copies) to the Province on completion of the Contractor's performance under the contract or so required by the Province.
- 30.4 The Contractor shall permit the Province to inspect the Contractor's records relating to the performance of the Contractor and to have them audited by auditors appointed by the Province, if so required by the Province.

### **31. SPARE PARTS**

- 31.1 If specified in SCC, the Contractor may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Contractor:
- (a) such spare parts as the Province may elect to purchase from the Contractor, provided that this election shall not relieve the Contractor of any Warranty obligations under the contract.
  - (b) In the event of termination of production of the spare parts:
    - (i) Advance notification to the Province of the pending termination, in sufficient time to permit the Province to procure needed requirements; and
    - (ii) Following such termination, furnishing at no cost to the Province, the blueprints, drawings, and specifications of the spare parts, if requested.

### **32. PENALTIES**

- 32.1 Subject to GCC Clause 4, if the Contractor fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the Province shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of delayed goods or unperformed services, using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The Province may also consider termination of the contract in terms of the GCC.

### **33. ANTI-DUMPING AND COUNTERVAILING DUTIES AND RIGHTS**

- 33.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of



any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favorable difference shall on demand be paid forthwith by the Contractor to the State or the State may deduct such amounts from moneys (if any) which may otherwise be due to the Contractor in regard to supplies or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him.

#### **34. GOVERNING LANGUAGE**

- 34.1 The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.

#### **35. TAXES AND DUTIES**

- 35.1 A foreign Contractor shall be entirely responsible for all taxes, stamp duties, licence fees, and other such levies imposed outside the Province's country.
- 35.2 A local Contractor shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the Province.
- 35.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid the Province must be in possession of a tax clearance certificate, submitted by the bidder. This certificate must be an original issued by the South African Revenue Services.



## **PART C**

### **DISCLAIMER**

#### **[1] COMPLETENESS OF THE DOCUMENT**

The information regarding subsurface conditions, materials on site and site information supplied, is provided in good faith for the contractor's convenience as an indication of conditions likely to be encountered. The information provided will not be regarded as in any way limiting the Contractor's responsibilities. He/ She will be held to have satisfied him/herself of all conditions to be encountered on site and to allow accordingly for all the necessary in his/her tendered rates.

#### **[2] APPLICABLE STANDARDS**

The South African Bureau of Standards, Standard Specifications for Civil Engineering Construction (SABS 1200) shall apply to this Contract together with additional amendments as set out herein. The Contractor shall have available for reference on site at all times a full set of the above specifications, together with any other to which they refer. These specifications shall remain the property of the Contractor but shall be made available to the Engineer whenever required throughout the duration of the Contract.

#### **[3] CONTRACT DOCUMENTS**

In addition, the attached drawings 1-25 (See Annexure F - List of Drawings), as well as the Special terms and Conditions Project Particular Specifications (PPS) and these Terms of Reference are deemed to be part of the contract documentation.

If the contractor has the impression that the information provided in the drawings and the technical specifications and or Bill of Quantities contradict each other or are perceived to be ambiguous, (s)he should point this out to the Engineer and ask for clarification at before the commencement of any construction. The same applies for any other purported differences between these documents.



## **PART D**

### **TERMS OF REFERENCE**

#### **1. BACKGROUND**

- 1.1. KZN Department of Agriculture and Rural Development (DARD) aims to transform the lives of rural communities in KwaZulu-Natal by providing food insecure households and rural Black farmers with sufficient horticultural seedlings. There is presently a shortage of seed and seedlings supply for food production. The Department will, among other research stations, use Cedara research station to execute the plan by establishing “mega nurseries”, which will tackle the seedling shortages. At the same time this will provide employment for rural communities and the youth, and offer the potential for financial gains for Black farmers and their employees. In the process, skills and knowledge will be transferred to the Youth, through the use of the Cedara research station as the knowledge hub to provide agricultural technical support.

#### **2. OBJECTIVES**

- 2.1. To appoint a suitably qualified Service Provider for the construction five (5) seedling nursery structures, combined services nursery main building and ancillary works.
- 2.2. To ensure the timely and cost effective realization of well-built shade cloth nurseries and main brick main building, to benefit emerging farmers.
- 2.3. To create a training hub for agricultural technicians and horticultural graduates.
- 2.4. To increase the supply of vegetable and tree seedlings and make them available to emerging farmers.

#### **3. SCOPE OF SERVICES**

- 3.1. This contract covers the following:
  - 3.1.1. The construction of five 52m x 22m shade cloth nurseries.
  - 3.1.2. Construction of pump station and installation of 1.8kms pipe line.
  - 3.1.3. Installation of a bulk water storage reservoir;
  - 3.1.4. Installation of irrigation inside the nurseries
  - 3.1.5. Construction of nursery drainage management structures.
  - 3.1.6. Electrical works (Installation of a transformer and power supply to the pumps).
  - 3.1.7. The construction of a steel portal based combined services nursery main building;
  - 3.1.8. Installation of fencing
- 3.2. Documents to accompany this bid specification are listed in the Table of Contents.

#### **4. PROJECT LOCATION**

- 4.1. The site is situated in at Cedara farm in Umngeni LM in the Umgungundlovu District Municipality], approximately 10km west of Pietermaritzburg.
- 4.2. Site Coordinates: **27°32' 30"S 30° 16' 35" E.**



## **PART D**

### **SPECIAL TERMS & CONDITIONS**

#### **APPOINTMENT OF A SERVICE PROVIDER FOR THE CONSTRUCTION OF A PACKING SHED WITH COLDROOM FOR THE ILEMBE PACKHOUSE PROJECT IN NDWEDWE LOCAL MUNICIPALITY, ILEMBE DISTRICT**

##### **1. INTRODUCTION**

- 1.1 Bidders must ensure that they are fully aware of all the Terms and Conditions contained in this bid document. Only bidders that fully meet the prequalification shall be considered.
- 1.2 The Bidder is required to check the number of consecutively numbered pages. Should any found to be missing or in duplicate, or the text of figures indistinct, or should there be any doubt or obscurity as to the meaning of any part of these documents, the Bidder must ascertain the true meaning or intent of the same prior to the submission of his/her Bid. No claims arising from any incorrect interpretation will be admitted.

##### **2. ACCEPTANCE OF BID**

- 2.1 The Departmental Bid Adjudication Committee is under no obligation to accept any bid.

##### **3. AMENDMENT OF CONTRACT**

- 3.1 Any amendment to or renunciation of the provisions of the contract shall at all times be done in writing and shall be signed by both parties, subject to the Departmental Bid Adjudication Committee approval.

##### **4. AWARD**

- 4.1 The award will be to one Bidder. Bidders who meet the prequalification shall be scored on functionality and only bidders with a minimum score of 70 shall be evaluated on price and preference points.

##### **5. BASIS OF QUANTITIES**

- 5.1 Quantities are as reflected on the Bill of Quantities.

##### **6. BBBEE CERTIFICATE / SWORN AFFIDAVIT**

- 6.1 A bidder must submit a valid BBBEE certificate or a sworn affidavit together with the bid for pre-qualification purposes and for claiming BBBEE points.
- 6.2 All BBBEE certificates issued by IRBA, Accountants and Accounting Officers are no longer valid certification and will no longer be considered.

##### **7. CHANGE OF ADDRESS**

- 7.1 Bidders must advise the Departmental Supply Chain Management, Contract Administration should their ownership or address (*domicilium citandi et executandi*) details change from the time of bidding to the expiry of the contract.



## 8. COMPETENCY OF THE SERVICE PROVIDER

- 8.1 The Scope of Works for this contract covers two competencies (the civil engineering related Construction of a steel portal frame based Combined Services Main Building - Category CE in CIDB terms - and the construction of a seedling nursery with irrigation - CIDB Category SH - that may not necessarily be covered by the Contractor him/herself. If this is the case, the contractor shall subcontract that part of the contract for which (s)he lacks the required level of competence, and list the sub-contractor's particulars in Annexure C3.
- 8.2 It is estimated that tenderers should have a CIDB contractor grading designation of **5CE/SH or higher**. The contractor is to submit evidence of his/her OWN **Active** registration.
- 8.3 For evaluation processes, the Department shall apply the evaluation criteria as outlined in the Bid Evaluation Criteria of this bid.
- 8.4 It shall be vital for the appointed supplier to have sufficient financial resources and capacity to finance and execute as per terms and conditions of the contract.
- 8.5 Apart from the provision under (8.1), the following services are deemed to be of a specialist nature:
- The steel portal structure and roof;
  - Electrical works,
  - Bulk water reservoir,
  - Irrigation infrastructure including nursery drainage management structures,
  - Installation of a septic tank with drain field.

It is strongly recommended that the contractor sub-contracts these services unless he/she can submit evidence of being a specialist in one or more of those fields himself/herself. Details of such evidence in the form of registration with a professional body and/or copies of compliance certificates to be submitted in Annexure C2.

## 9. COMPULSORY SITE BRIEFING

- 9.1 A compulsory site-briefing meeting will be held with prospective Bidders. Attendance at the meeting will be compulsory and non-attendance shall invalidate any bid. The date and time of the meeting will be published in the Bid Advertisement or, in the case of a quote, be communicated when the prospective service provider is invited to quote.

## 10. COUNTER OFFERS

- 10.1 Counter offers shall not be considered.

## 11. DELIVERY CONDITIONS

- 11.1 Delivery of services must be made in accordance with the instructions appearing on the official purchase order.
- 11.2 All deliveries or dispatches must be accompanied by a delivery note stating the official purchase order number against the delivery that has been affected.
- 11.3 In respect of items awarded to them, contractors must adhere strictly to the delivery periods stipulated by them in their bid document.



- 11.4 The instructions appearing on the official purchase order form regarding the supply, dispatch and submission of invoices must be strictly adhered to.
- 11.5 All invoices submitted must be original.
- 11.6 Deliveries not complying with the order form shall be returned to the contractor at the contractor's expense.
- 11.7 No locally manufactured product may be substituted during the contract period with an imported product, and vice versa, without prior approval of the Departmental Bid Adjudication Committee.

## **12. DETAILS OF CONSTRUCTION CONTRACTS AWARDED TO THE BIDDER PAST/CURRENT (ANNEXURE C1)**

- 12.1 The bidder must furnish the following details of all verifiable past and current construction contracts.
  - 12.1.1 Date of commencement of contract/s;
  - 12.1.2 Value per contract; and
  - 12.1.3 Contract details; that is, with whom held, phone number and Address/s of the companies.

## **13. ENTERING OF DEPARTMENTAL PREMISES**

- 13.1 No representative from a company shall be permitted to enter Departmental premises, buildings or containers where stores are kept unless he/ she is accompanied by the responsible official in charge of stores.

## **14. EQUAL BIDS**

- 14.1 If two or more bidders score an equal total number of points, the contract must be awarded to the bidder that scored the highest points for BBBEE.
- 14.2 If functionality is part of the evaluation process and two or more bidders score equal total points and equal preference points for BBBEE, the contract must be awarded to the bidder that scored the highest points for functionality.
- 14.3 If two or more bidders score equal total points in all respects, the award shall be decided by the drawing of lots.

## **15. INVOICES**

- 15.1 All invoices submitted by the Contractor must be Tax Invoices accompanied by payment certificates, indicating the work done, the amount of tax charged and the total invoice amount.
- 15.2 A tax invoice shall be in the currency of the Republic of South Africa and shall contain the following particulars:
  - 15.2.1 The name, address and registration number of the supplier;
  - 15.2.2 The name and address of the recipient;





- 15.2.3 An individual serialized number and the date upon which the tax invoice is issued;
- 15.2.4 A description of the goods or services supplied;
- 15.2.5 The payment certificate;
- 15.2.6 The value of the payment certificate amount, the amount of tax charged and the description of the works completed;

## **16. IRREGULARITIES**

- 16.1 Companies are encouraged to advise the Department timeously of any possible irregularities which might come to their notice in connection with this or other contracts.

## **17. JOINT VENTURES**

- 17.1 In terms of the Preferential Procurement Regulations, 2017 pertaining to the Preferential Procurement Policy Framework Act 5 of 2000, a trust, consortium or joint venture must submit a consolidated BBBEE Status Level Verification Certificate for every separate bid.
- 17.2 Should this bid be submitted by a joint venture, the joint venture agreement must accompany the bid document before the closing date and time of bid. The joint venture agreement must clearly specify the percentage of the contract to be undertaken by each company participating therein.
- 17.3 The non-submission of a BBBEE Certificate by a trust, consortium or joint venture shall result in zero (0) preference points being allocated for evaluation purposes.
- 17.4 Each party to a Joint Venture/ Consortium must submit an original valid Tax Clearance Certificate together with the bid before the closing date and time of bid.
- 17.5 The joint venture or consortium must submit a formal agreement that outlines the roles and responsibilities of each member of the joint venture or consortium, nomination of an authorised person to represent the joint venture or consortium in all matters relating to this bid and the details of the bank account for payments to be effected.
- 17.6 The joint venture or consortium must comply with Central Suppliers Database (CSD) registration requirements as per National Treasury directive.

## **18. LATE BIDS**

- 18.1 Bids are late if they are received at the address indicated in the bid documents after the closing date and time.
- 18.2 A late bid shall not be considered and, where practical, shall be returned unopened to the Bidder, accompanied by an explanation.

## **19. NOTIFICATION OF AWARD OF BID**

- 19.1 The successful bidder shall be notified via an advert in the same media as the invitation to tender.

## **20. PAYMENT FOR SUPPLIES AND SERVICES**

- 20.1 A contractor shall be paid by the Department in accordance with the services rendered as per the payment certificate.



- 20.2 There will be no payment for materials or equipment delivered to site, unless they have been installed or otherwise used in the construction process.
- 20.3 Should a contractor indicate a special discount on his/her account provided payment is made within a certain time, the Department shall make every effort to take advantage of such discount.
- 20.4 Any query concerning the non-payment of accounts must be directed to the Department. The following protocol shall apply if accounts are queried:
- 20.4.1 Contact must be made with the officer-in-charge of the District Office;
- 20.4.2 If there is no response from the District Office, the Director: Finance must be contacted;
- 20.5 Information as contained on the Central Suppliers Database must be valid/correct. Non-compliance with Tax Requirements shall affect payment.

## **21. PERIOD OF CONTRACT**

- 21.1 The contract is ad hoc / once off.
- 21.2 The completion period is 8 months. See Clause 59 Period of Completion & Rate of Progress.

## **22. PRE-QUALIFICATION CRITERIA**

- 22.1 Only bidders who meet both of the following prequalification criteria may respond:-
- (i) **BBBEE level 1 (as per the provisions of section 4(1)(a) of the PPPFA Regulations, 2017); and**
- (ii) **EME and QSE (as per the provisions of section 4(1)(b) of the PPPFA Regulations, 2017); and**
- (iii) **Minimum CIDB 5 CE/SH**
- 22.2 Bidders must submit documentary proof of compliance with the above prequalification criteria.
- 22.3 Bidders who fail to comply with the above-stipulated prequalification criteria or fail to submit documentary proof of the compliance with the prequalification criteria shall not be considered for this bid.

## **23. QUALITY CONTROL/ TESTING OF PRODUCTS**

- 23.1 The Department reserves the right to inspect and verify the quality and specifications of the supplied materials and equipment, as well as other items listed on the Bill of Quantities, **before** construction and/or installation. In case of deviations in terms of dimensions, strength, numbers or otherwise, the Contractor shall replace these goods for the correct ones at his/her own expense.
- 23.2 The same replacement obligation to the Contractor would apply during installation and during and after commissioning.



- 23.3 In the case of sustained or repeated non-adherence to the specifications of the materials and/or equipment, as well as in the case of general negligence during the implementation process, the contract may be cancelled. The Department will in such cases seek compensation from the contractor for the estimated costs for completion.
- 23.4 In cases of deliberate negligence or unwillingness to adhere to the Departmental specifications, the Service provider will be reported to the Provincial and/or National Treasury for listing on the Restricted section of the Central Suppliers database.

## **24. ORDER OF PRECEDENCE**

- 24.1 This invitation to bid/quote is issued in accordance with the provisions of the Public Finance Management Act (PFMA), Chapter 16 A of the *Treasury Regulations* and shall be subject to the provisions of the *National Treasury Government Procurement General Conditions of Contract* (July 2010). The *Special Terms and Conditions* are supplementary to that of the *General Conditions of Contract*. Where, however, the *Special Terms and Conditions* are in conflict with the *General Conditions of Contract*, the *Special Terms and Conditions* shall prevail.

## **25. SUPPLIERS DATABASE REGISTRATION**

- 25.1 A bidder submitting an offer must be registered on the Central Suppliers Database at National Treasury. A bidder who has submitted an offer and is not registered on the Central Suppliers Database shall not be considered at the time of award. No pending registrations shall be considered.
- 25.2 A Joint Venture/Consortium must be registered on the Central Suppliers Database at the time of submitting the bid.
- NB: If a bidder is found to be employed by the State, he/she shall be disqualified.**

## **26. TAX AND DUTIES**

- 26.1 During quotation stage, prices offered and paid must include all customs, excise and import duties, and any other tariffs or taxes levied by the government or statutory body having jurisdiction on the goods provided under this contract, including Value Added Tax (applicable at the current rate).

## **27. TAX COMPLIANCE PIN**

- 27.1 The bidder must submit a valid Tax Compliance Pin with the bid. Bidders should note that their tax compliance status shall be verified through the Central Supplier Database and SARS.
- 27.2 Where a Tax Compliance Pin is not submitted with the bid, the Department shall use the Central Supplier Database to verify the tax matters of the bidder.

## **28. UNSATISFACTORY PERFORMANCE**

- 28.1 Unsatisfactory performance occurs when performance is not in accordance with the contract conditions.
- 28.2 The Departmental official shall warn the contractor in writing that action shall be taken in accordance with the contract conditions unless the contractor complies with the contract



conditions and delivers satisfactory supplies or services within a specified reasonable time (7 days minimum).

28.3 If the Contractor fails to commence the Works or to proceed with and complete the Works in compliance with the projected timeframes, the Head of Department or his/her representative shall take action in terms of its his/her delegated powers and adopt and exercise one of the following courses wholly or partly, viz: -

28.3.1 To direct the Contractor, in writing, on any day named therein to suspend and discontinue the execution of the Works, and to withdraw himself and his workmen from the said Site or Sites,

28.3.1 To make a recommendation to the Accounting Officer for cancellation of the contract concerned.

28.3.2 To Contract or Contracts by calling for Bids or otherwise with any other Contractor or Contractors for the completion of the Works, or any part thereof, at such times and upon such terms as to the Department shall deem best.

28.4 In relation to the foregoing provisions the Department shall charge any sums of money which may be paid by the Department for completing the said Contract against the Contractor and if such amount shall exceed this Contract, then the Department shall have the right to recover such excess or any balance thereof from the Contractor by legal proceedings.

28.5 When correspondence is addressed to the contractor, reference shall be made to the contract number/ item number/s and an explanation of the complaint.

## **29. VALIDITY PERIOD OF BID AND EXTENSION THEREOF**

29.1 The validity (binding) period for the bid shall be **120 days** from close of bid. However, circumstances may arise whereby the Department will request bidders to extend the validity (binding) period. Should this occur, the Department shall request bidders to extend the validity (binding) period under the same terms and conditions as originally offered for by bidders. This request shall be done before the expiry of the original validity (binding) period.

## **30. VALUE ADDED TAX (VAT)**

30.1 Bid prices must be inclusive of 15% VAT.

30.2 Bidders who make taxable supplies in excess of R1 million in any 12-month consecutive period are liable for compulsory VAT registration, but a person may also choose to register voluntarily provided that the minimum threshold of R50 000 (as of 1 March 2010) has been exceeded in the past 12-month period. Bidders who meet the above requirement must register as VAT vendors, if successful, within one month of award of the bid.

30.3 For the purposes of calculating preference points, VAT shall not be considered during quotation process.

## **31. SERVICE LEVEL AGREEMENT**

31.1 The successful Bidder and the Department will sign a Service Level Agreement (SLA) prior to commencement of works. A proposed schedule of works must be provided by the



contractor for the approval of the Engineer within two weeks of receiving notification of a successful bid.

- 31.2 The *Special Terms and Conditions (STC)*, the *Standard Technical Specifications (STS)* and the *Project Particular Specifications (PPS)* as listed in this bid document, together with the *Drawings*, are deemed to form part of the SLA.

## **32. COMMENCEMENT OF THE WORK**

- 32.1. Site establishment must start within two (2) weeks, and the actual works within three weeks after hand-over of the site, provided that;

- 32.1.1. An official order has been issued;
- 32.1.2. The contractor is in possession of all relevant documentation required for works execution;
- 32.1.3. No exceptional circumstances such as inclement weather or other outside the control of either party to the contract prevail.

- 32.2. In case work has not commenced within two (2) weeks of the site hand-over and no attenuating circumstances for the delay can be provided, the Department reserves itself the right to cancel the contract

## **33. HANDOVER OF SITE TO CONTRACTOR**

- 33.1. The Department will organize a site hand-over to the contractor who will then be introduced to the project stakeholders and participants.
- 33.2. The site will be handed back at works completion after a final inspection by the Engineer revealed no outstanding patent defects.
- 33.3. The Contractor will control the site for the contract duration. Only the Contractor's own employees, Contractor's local labour and Departmental Representatives will be allowed on site.
- 33.4. The Contractor is responsible in the administration, control and security on the site at all times during the contract duration.

## **34. WATER AND POWER**

- 34.1. The Contractor shall make the necessary arrangements for the provision of any water and power. No payment will be made for the provision or use of these services and the cost of these shall be included in the Bid/quoted amount.

## **35. LOCATION OF CAMP**

- 35.1. The Contractor's camp may be erected on the site of the works but must meet the approval of the Engineer, project beneficiaries and landowners.
- 35.2. No persons other than a night watchman may sleep in the camp, without the approval of the local relevant Stakeholder.

## **36. HOUSING OF CONTRACTOR'S EMPLOYEES**



- 36.1. The Contractor shall make his own arrangement for housing, payment and feeding his employees and transporting them to and from the site. However, it may be possible to arrange temporary local accommodation for the Contractor's staff with the participants.
- 36.2. The Contractor is in all respects responsible for the housing and transporting of his employees, and for the arrangement thereof, and no extension of time due to any delays resulting from this, will be granted.

### **37. LABOUR SOURCE & CAPACITY**

- 37.1. The Contractor will be required to satisfy the Department that a sufficient and experienced labor force is employed or that sufficient experienced labour can be acquired to complete the services and produce an acceptable quality of workmanship.
- 37.2. The contractor is encouraged to source unskilled labour from the project participants or local community. The Contractor and the Departmental representative (Engineer or local Agricultural adviser) may negotiate with the participants in this regard to establish all the conditions for the utilization of the local labour.
- 37.3. The Contractor will be responsible for all hiring, payment, housing and transport of all labour used for the duration of the contract.

### **38. SECURITY & RISK**

- 38.1. No one shall be allowed on the construction site after normal working hours except for the necessary security personnel.
- 38.2. The Contractor shall also be responsible for safeguarding all plants, machinery, equipment and materials on site. The Engineer shall not be responsible for any lost, damaged or stolen property or materials. Should any of these situations arise, no allocations will be made in terms of finances or time.

### **39. MATERIALS: DELIVERY, ON & OFF-LOADING, STORAGE & RESPONSIBILITY**

- 39.1. The Contractor shall be responsible for the safe delivery, loading, off-loading, handling and storage of any equipment and materials on site.
- 39.2. All equipment, materials and plant stored on site must be suitably protected against damage or loss by theft or otherwise.
- 39.3. The Contractor shall remain fully responsible for all material and plant etc. until the completed works are handed over and have been officially accepted by the Department.

### **40. EXISTING ROADS, MUNICIPAL PAVEMENTS, ETC.**

- 40.1. The Contractor is advised that he will be held responsible for any damage to the existing paving, roads, municipal pavements, fences, boundary walls, etc., and will have to repair such damage at his expense.

### **41. DAMAGE TO PROPERTY**



41.1. If the Contractor or his/her employees, while engaged in the execution of the contract, shall break, deface, injure, destroy or allow to fall into disrepair any part of the Works or property belonging to the Department, or any private property including: buildings, paving, roads, fences, walls or grounds contiguous to the premises of the Department on which he or they may be employed, the Contractor will be required to repair, in a perfect and workmanlike manner, at own expense all damage to the approval of the Department. The Completion Certificate will not be issued until the Department is satisfied that all necessary remedial work has been satisfactorily completed

41.2. The Contractor shall take every precaution against damage or nuisance being caused by dust, both to the properties of the Department and all surrounding properties and shall indemnify the Department against any claim that might arise there from.

## **42. UNDERGROUND CABLES AND PIPES**

42.1. If such services are discovered, immediate notification must be made to the Department and all work in the vicinity of such cables, pipes, etc., shall cease until safe to proceed.

42.2. Should the Contractor damage underground cable or pipes, such damage shall be repaired as soon and safely as possible by the Contractor.

42.3. The cost of making good such damage will be met by the Contractor as this must be covered by the Contractors works insurance.

## **43. DAILY RAINFALL RECORDS**

43.1. Submission of rainfall figures is required for the granting of permission of extending the contract period on the basis of inclement weather. If none are kept, the Engineer is under no obligation to grant extension of the completion period for inclement weather.

## **44. INSPECTION OF WORK**

44.1. The Departmental representative may at all reasonable times have access to the site where work is being executed for inspection purposes.

44.2. The Engineer may request that evidence of the quality or strength of any materials be supplied by the contractor wherever necessary.

## **45. NOTICE OF COVERING WORK**

45.1. The Contractor shall give due notice to the engineer whenever any work or materials are intended to be covered in with earth or otherwise in order that their correct dimensions and quality may be ascertained before being covered.

45.2. If any such work or materials are covered without such notice having been given, the work or materials shall be uncovered at the Contractor's expense on instructions given by the Engineer.

## **46. SUB-CONTRACTED WORK**

46.1. The contractor shall not sub-contract the entire contract. The contractor must indicate in *Annexure C3 – Additional Information: Subcontracted Works* which part(s), if any, (s)he intends to subcontract.





- 46.2. Contractor to submit name(s) of the specialists (s)he intends to subcontract these, and any other works, in Annexure C3.
- 46.3. Sub- contracting shall not relieve the contractor from any liability or obligation under the contract and his/her shall be liable for the acts, defaults and neglects of any sub-contractor, his/her agent or employees as fully as if they were the acts, defaults or neglects of the contractor, his agents or employees.

## 47. INSURANCE

- 47.1. All accepted approved contractors would be required to provide the following insurance's for the project awarded to them:
- 47.1.1. Insurance against damage, destruction or loss to **50% of the value of the contract.**
  - 47.1.2. Public Liability insurance.
  - 47.1.3. All risks (works) policy and Political.
- 47.2. The Contractor shall provide the Engineer with proof that Insurance has been obtained for the contract period.

## 48. OCCUPATIONAL HEALTH AND SAFETY

- 48.1. Bidders (including those sub-contractors and/or suppliers who are preparing prices/quotations for submission to the main bidder) must ensure that they make adequate financial provision in their bids for full compliance with the *Occupational Health and Safety Act (85/1993): Construction Regulations, 2014*, as published in the *Government Gazette* of 7 February 2014, or later amendments thereto. Financial provision shall therefore be made by each Bidder for, inter alia, the following:
- Carrying out and documenting risk assessments of all work to be carried out under the contract.
  - Preparation of safe work procedures.
  - Preparation of an H&S plan, discussing it with the Department, and then amending it as agreed.
  - Preparation of a Project H&S File to include all requirements of Annexure A.
  - Regular updating of all of the foregoing.
  - Provision of medical certificates of employees.
  - Provision of PPE and protective clothing for employees
  - Complying with all H&S requirements for the duration of the contract.
  - Provision of forced ventilation (as required when working in confined spaces).
  - The completion and checking of the safety file upon completion of the works and handing it over to the Department
- 48.2 To enable the Department to appraise the allowances that Bidders have made for H&S in their bids, so that he/she can fulfil his/her obligations in terms of Clause 7 of the Construction Regulations, separate items have been included in the Bill of Quantities for Health and Safety.
- 48.3 Failure to submit realistic prices for the scheduled H&S items is likely to prejudice the bid.





48.4 The Principal Contractor and Sub-Contractors must submit proof of compliance with the OHS requirements table below with the construction phase H&S plan where applicable.

*Table 1 – OHS Requirements and submission dates*

<b>PAM Item No.</b>	<b>Requirement</b>	<b>OHSA Requirement</b>	<b>Submission Date</b>
2.1	Notification of Intention to Commence Construction / Building Work	Complete Schedule 1 (Construction Regulations)	Before commencement on site
2.2	Assignment of Responsible Person to Supervise Construction Work	All relevant appointments, as per OHS Act and Construction Regulations.	Before commencement on site
2.3	Competence of Responsible Persons	Department Requirement & OHS Act	Together with H&S plan
2.4	Compensation of Occupational Injuries and Diseases Act (COIDA) 130 of 1993	COIDA Requirement	Together with H&S plan
2.5	Health and Safety Organogram	Department Requirement	Together with H&S plan
2.6	Initial Hazard Identification and Risk Assessment based on the Department's assessment	Construction Regulations.	Together with H&S plan
2.7	Medical Certificate of Employees	Construction Regulations	On commencement of construction.

48.6 The successful bidder shall be required to submit the Contractor's Health and Safety Plan as required in terms of Regulation 7 of the Occupational Health and Safety Act 1993 Construction Regulations 2014.

48.7 The Contractor shall pay particular attention to watching and warning lighting and must provide any necessary barriers, etc., required for the protection of the public in terms of the Act.

## **49. INJURY TO PERSONS**

49.1. The Contractor shall be liable for and shall indemnify the department in respect of any liability, loss, claim or proceedings whatsoever, whether arising in Common Law or by Statute in respect of personal injuries to or death of any person whomsoever arising out of or in the course of or caused by the execution of the Works.

## **50. DISAGREEMENTS**

50.1. Notice of disagreement. The Contractor has the right by written notice to the Engineer to require him to consider any disagreement which he raises with the Engineer provided the said written notice shall be given within 14 days after the cause of disagreement has arisen.



- 50.2. Ruling on disagreements. The Engineer shall give a ruling on the disagreement in writing to the Contractor no later than 14 days after his receipt of a written request from the Contractor requiring him to do so. The Engineer shall provide such a ruling with as little delay as possible. During the response time the Contractor shall not alter the status of the works under contention.

## 51. FIXED PRICE CONTRACT

- 51.1. The contract shall **not** be subject to contract price adjustment.

## 52. PRICING - COMPLETENESS OF BID

- 52.1. Bidders are required to Bid for all services, products and commissioning as specified in this document and associated plans. If he/she does not bid on all items, his/her bid will be rejected.
- 52.2. All bid/quoted prices are to be in South African currency and must **exclude** VAT.
- 52.3. All items as described in the project specification are to be priced in full.
- 52.4. Transport/Delivery costs must be included in the pricing if the Pricing Schedule does not list them separately.
- 52.5. VAT must be filled in as the sub total followed by the complete price for the entire project.
- 52.6. The Bid price page must be signed by a person legally authorized to do so.

## 53. QUANTITIES OF WORK

- 53.1. The Contractor shall receive payment only for the works actually executed and approved by the Engineer.

## 54. PROGRESS PAYMENTS

- 54.1. Payment shall only be made for claims that are commensurate with the works actually executed and complete.
- 54.2. Payment will only be made against the construction progress as pertaining to **built /installed** items. Movable items and materials on site are generally excluded from progress payments until they have been fully installed or fitted or built up.
- 54.3. If any item or part of an item in an invoice is disputed by the Engineer, the Engineer shall give notice of such with reasons.
- 54.4. The contractor shall be paid based on monthly payment certificates submitted and verified value of work by the engineer.
- 54.5. Part payments will be made after the Engineer has approved the work and will be made in accordance with the Retention clause (56).
- 54.6. The penultimate payment occurs after works completion. The final payment will be made after the 12 months liability period when the contractor has dealt with all defects, if any.



## 55. COMPLETION OF THE WORKS

55.1. Work completion will be established over three stages.

55.1.1. Practical completion

This is defined as the stage when the works are found to be substantially complete and can be used for the purposes intended. This assessment will be solely made by the Engineer. When the Contractor thinks he has completed the works, an inspection will be made by the Engineer who will draw up a list of patent defects, commonly known as a “snag list”, if any. *Patent defects* are defects that are visible or discoverable upon an ordinary and proper inspection.

57.1.2. Works completion

This stage will be reached after the Contractor has, to the sole assessment of the Engineer, fixed all defects listed on the snag list. It is at works completion that the Contractor will be paid out 50% of his/her retention money.

57.1.3. Final completion

Final Completion occurs 12 months after Works completion, after expiry of the liability period.

55.2 Certificates of Completion and Final Approval will be issued by the Engineer for practical and final construction completion.

## 56. RETENTION

56.1. A 10% retention will be withheld on payment for duration of the construction.

56.2. The Department will pay out half of this retention, or 5% of the bid value as part of the second last payment at **practical completion** of the works. The remainder, viz 5%, will be paid out at **final completion** after expiry of the defect liability period 12 months after practical completion), the bidder having eliminated all defects.

56.3. In some instances, the Engineer may decide to shorten this period order to allow all payments to be completed within the financial year. However, this is **not** a given and the Contractor will be notified during the course of the construction if such would be the case.

## 57. DEFECT LIABILITY PERIOD

57.1. The defect liability period is 12 calendar months calculated from the date of Practical Completion.

57.2. The contractor shall unconditionally guarantee all materials, workmanship related to the works for that period. The guarantee shall cover any defects due to inferior materials and/or workmanship of the Contractor, or any of his sub-contractors, fair wear and tear excepted. The Contractor shall repair, remedy or replace any such defects, part or complete works without delay and at his own cost.

## 58. CONTINGENCIES

58.1. An amount of 10% of the subtotal for all materials, equipment and services has been set aside for Contingencies. This allowance will only be accessed for unforeseen additional



expenditure not covered in the contract. Payment of the entire amount of the Contingencies allocation is therefore **not** a given, as the occurrence of limited or even absence of any approved Contingencies will reduce the total amount paid out for this contract.

- 58.2. Approval from the Engineer for the use of the Contingencies allocation is required before any purchases can be made or work is started from this allocation. Any allowance must be in line with SCM Delegations.

## **59. PERIOD OF COMPLETION & RATE OF PROGRESS**

- 59.1. The project has to reach works completion within **8 months** calculated from the date of site handover.
- 59.2. If the Works are delayed by any cause beyond the Contractor's control, the Contractor shall have the right within twenty-one days of any such cause of delay arising, to apply in writing to the Department to extend the date of completion, stating the cause of delay and period of extension applied for.
- 59.3. The Department upon receipt of such written application may by order in writing extend such date of completion by a period to be determined, or may refuse to extend such date of completion, or may postpone giving a decision upon such application until completion of the Contract period set out in sub-clause (a) of this clause.
- 59.4. The date of completion will be extended only to the extent approved by the Department.
- 59.5. Should the Contractor fail to apply in writing for an extension within the time set out above in (59.2), or should the Department refuse to grant any extension in writing within three weeks after receipt of the application, then the application shall be deemed not to have been approved and the Contract period provided in 59.1 shall not be exceeded.
- 59.6. When the Works are completed the Department will give a completion certificate and the date of such certificate shall be the date of commencement of the guarantee period.

## **60. PENALTY CLAUSE / FINES FOR LATE OR NON-COMPLETION**

- 60.1. If the contractor does not complete the work within the time stipulated and no extenuating circumstances can be given for the delay, the Department may impose a fine as detailed below. The total will be subtracted from the retention allowance.
- 60.2. If the contractor fails to complete the works and the Department is forced to employ another contractor to complete the works, the defaulting contractor will be held liable for the costs as far they exceed the original total Bid value.
- 60.3. The department will deduct a penalty for late completion of up to **0.05% of the contract value per working day delay**. This will be deducted from the retention.

## **61. LOCAL PRODUCTION AND CONTENT**

- 61.1. The Department of Agriculture and Rural Development promotes Local Production and Content. In the case of designated sectors, only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.



61.2. This bid document carries a minimum threshold for local content of 100% for all items that are locally manufactured such as:

- 61.2.1. Wire products (All fencing products including welded mesh fencing)
- 61.2.2. Fabricated structural steel products (Gate-, Corner- and Straining Posts, Line Poles and gates)
- 61.2.3. Roof and Cladding
- 61.2.4. Frames
- 61.2.5. Fasteners
- 61.2.6. Gutter and down-pipes
- 61.2.7. Wooden poles
- 61.2.8. Corrugated iron (steel reservoir)
- 61.2.9. Irrigation materials
- 61.2.10. Roller shutter doors
- 61.2.11. Steel doors and frames
- 61.2.12. Steel windows & frames

The following items have thresholds lower than 100% (As per August 2020):

- Pumps (70-100%)
- Valves (70%)
- Electrical cables (90%)
- Transformers (10-100%)

61.3. Department of Agriculture and Rural Development reserves the right at its sole discretion to set minimum thresholds for sectors which may not have been declared as designated sectors by the DTI in an effort to stimulate local production and content where relevant.

61.4. Bidders are required to assess their product and /or service offering against the designated sector

lists as published by the Department of Trade and Industry (the DTI) and to ensure full compliance to the minimum local content threshold, if relevant, before submitting its response to this tender.

61.5. The Department of Trade & Industry's latest list of designated sectors can be accessed on [http://www.dti.gov.za/industrial\\_development/ip.jsp](http://www.dti.gov.za/industrial_development/ip.jsp)

61.6. Service Provider should ensure that they complete SDB 6.2 of this document. Failure to complete SDB 6.2 shall result in disqualification



## **PART F**

### **SPECIFICATIONS**

#### **A | STANDARD TECHNICAL SPECIFICATIONS**

*References are to the:*

(1) SANS1200 Standardized Specifications.

(2) Additions and Variations to SANS1200 Standardized Specifications, in particular:

#### **C3 SCOPE OF WORK AND PROJECT SPECIFICATIONS**

In the event of any discrepancy between the Scope of Works and a part or parts of the SANS1200 Standardized Specifications, the Bill of Quantities or the Drawings, the Projects Particular Specifications shall take precedence and prevail in the Contract.

##### **C3.1 DESCRIPTION OF THE WORKS**

###### **C3.1.1 DEPARTMENT'S OBJECTIVES**

The Department's objective is to appoint a suitable service provider to undertake a construction of **five (5)** shade cloth nurseries (52m x 22m) and construction of a Combined Services Nursery Main Building (CSNMB) as well as other ancillary works at Cedara Research station uMngeni Local Municipality area, KwaZulu-Natal Province.

The Department desires that the work required be of a high standard and be completed in the shortest practical time whilst making use of local labour where practical possible.

The successful contractor would be required to supply proof of experience (Annexure C2) and have the knowledge and skills required to implement Nursery project.

###### **C3.1.2 OVERVIEW OF THE WORKS**

###### **C 3.1.2.1 Section-1 - Nurseries**

Section -1 of the contract includes: construction of seedling nursery structures, construction of a 200 KL water reservoir, Construction of pump station, installation of pipe line, installation of irrigation, drainage structures, electrical works.

###### **C 3.1.2.2 Section-2 – Combined Services Main Building**

Section-2 of the contract includes:

1. The construction of a steel portal based main building;
2. Security fencing;

###### **C3.1.3 EXTENT OF WORKS**

The Works to be carried out by the Contractor under this Contact comprise mainly the following:

- 1) Location and protection of existing services.
- 2) Geotechnical investigation of the site for the Main Building;
- 3) Site clearance and Levelling.
- 4) Excavations for building foundations and Nursery pole works;
- 5) Formwork and Concrete work (foundations, floors, concrete footings for portal structure);
- 6) Steel portal structure;
- 7) Brickwork



- 8) Plastering & painting
- 9) Ceilings;
- 10) Doors & windows;
- 11) Plumbing for the main building, kitchen/ablution and guardhouse;
- 12) Electrical works (reticulation and connection to the grid);
- 13) Construction of septic tank and drain fields;
- 14) Supply and installation of security fence.
- 15) Construction of the nurseries with pole frames, straining wires and shade cloth net cover.
- 16) Installation of water reticulation system: connection of the five nurseries to pump station.
- 17) Installation of an irrigation system in all 5 nurseries, which includes: Fertilizer mixing tanks, valves, pipe networks and sprinklers.
- 18) Construction of a 200KL water reservoir.
- 19) Construction drainage management infrastructure: concrete canals and treatment facilities.
- 20) Construction of pathways: construct concrete curbs/lips along path ways.

**Additional work:** This description of the Works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract. Costs of any additional works, or listed works of which the specifications and or quantities change in such a way that they would potentially increase the costs of implementation, will be first offset against savings made elsewhere, and, if exceeding those, will be covered by the Contingencies allocation.

**Quantities:** Estimated quantities of each type of work are given in the Bill of Quantities.

**Geotechnical survey:** Provision is made for a specialist geotechnical engineer to be appointed to test the soil conditions where buildings and water reservoir are to be constructed. All excavations and backfilling for trenches will be done by the contractor and his attention is drawn to the fact that he will not receive any additional payment for re-programming of the works and/or any delays that may be caused by poor coordination between him/her, Research Station, the Municipality or other contractor, unless otherwise agreed by the Engineer.

**Community Liaison Services:** All costs as a result of liaison by the contractor with any stake holder and the accommodation of the main contractor's activities on the site must be allowed for by the contractor in the Bill of Quantities' Preliminary & General cost items. The same applies to all the insurances. The main contractor will be fully responsible for the required insurances for work implemented by himself and the work of (a) subcontractor(s).

**Damage repairs:** The Contractor is advised that he will be held responsible for any damage to the existing pavings, roads, municipal pavements, fences, boundary walls, etc., and will have to repair such damage at his expense.

## C3.2 ENGINEERING

### C3.2.1 DESIGN

- (a) The Department is responsible for the design of all Permanent Works as reflected in the Contract Documents unless otherwise stated.
- (b) The Contractor shall supply all details necessary to assist the Engineer in the compilation of the as-built drawings and plans.
- (c) The Department's Design is contained in the Tender Documentation and Drawings. Amendments to the design, if necessary, will be issued during the construction phase.

### C3.2.3 CONTRACTOR'S DESIGN

Where the Contractor is to supply the design of designated parts of the permanent Works or temporary Works he shall supply full working drawings supported by a professional engineer's design certificate.





#### C3.2.4 DRAWINGS

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless agreed upon by the Engineer. The Engineer will, at the request of the Contractor in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the drawings.

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the contract. The position of pipe bends, junction boxes, duct ends and all other underground infrastructure shall be given by either co-ordinates or stake value and offset. Where necessary, levels shall also be given. A marked-up set of drawings shall also be kept and updates by the Contractor. This information shall be supplied to the Engineer's Representative on a regular basis.

All information in possession of the Contractor, required by the Engineer and/or the Engineer's representative to complete the as-built drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

The Drawings prepared by the Department for the permanent Works are bound in a separate document or is attached at the back of this volume. The Department reserves the right to issue and/or amend additional drawings during the Contract.

### C3.3 TECHNICAL EXPERTISE REQUIRED

#### C.3.3.2 SUBCONTRACTING

The following work elements are regarded as specialist fields and should be implemented by a person who has got the required specialist skills and expertise. Refer to TOR 8.4

- Installation of a 200KL water reservoir,
- Irrigation system and nursery drainage management infrastructure.
- Supply & erection of the steel structure plus roof for the main building;
- Supply & installation of a septic tank and drain field;
- Electrical Works.

Local suppliers and emerging contractors should be considered for other non-specialist works. However, please note that implementation of this mega-nursery complex requires special expertise and resources, which should be taken into account when selecting a sub-contractor and/or suppliers.

### C3.4 CONSTRUCTION

#### C3.4.1 WORKS SPECIFICATIONS

##### *C3.4.1.1 Applicable SANS 1200 Standardized Specifications*

(a) The following SANS 1200 Standardized Specifications for civil engineering construction are applicable:

SANS 1200 A : General (1986)  
SANS 1200 AB : Engineer's office (1986)  
SANS 1200 AH : General (Structural)  
SANS 1200 C : Site clearance (1982)  
SANS 1200 D : Earthworks  
SANS 1200 DB : Earthworks (pipe trenches) (1989)  
SANS 1200 DM: Earthworks (roads, sub-grade) (1981)  
SANS 1200 G : Concrete (structural) (1982)  
SANS 1200 GA : Concrete (small works) (1982)  
SANS 1200 H : Structural steel (1990)  
SANS 1200 HA : Structural steel – Sundry items (1990)





SANS 1200 HB :Structural steel – Cladding & sheeting (1985)  
SANS 1200 L : Medium-pressure pipelines (1983)  
SANS 1200 LB : Bedding (pipes) (1984)  
SANS 1200 LE : Storm water drainage (1983)  
SANS 1200 LD : Sewers (1982)

- (b) The term “Project specification” must be interpreted as “Scope of Works” wherever it appears in these standardized specifications.
- (c) Where reference is made in the Project Particular Specifications (PPS) to specifications that are included in updated, or “sansified”, versions of the corresponding SABS1200 series, the SANS 2001 version will take precedence.

#### C3.4.1.4 Variations and Additions to the SANS 1200 Standardized Specifications

Variations and additions to the SANS 1200 Standardized Specifications have been listed below, The clauses are numbered using the letters of the above standardised specifications preferred by “PS”. The number of the clause in the standardised specification is shown in brackets in the clause heading.

### VARIATIONS AND ADDITIONS TO SANS 1200 STANDARDISED SPECIFICATIONS

#### SABS 1200 A | GENERAL

#### A3 MATERIALS

##### PS A 3.1 QUALITY

Substitute the second sentence of the first paragraph of A 3.1 with the following:

*Materials shall bear the official mark of the appropriate standard.*

#### A5 CONSTRUCTION

##### A 5.1 SURVEY

##### PS A 5.1.1 Setting Out of the Works

Substitute the first sentence in A 5.1.1 with the following:

*Setting out of the works is the sole responsibility of the Contractor. The Contractor shall, within two (2) weeks after the site has been handed over to him, ascertain himself of the correctness of all pegs and benchmarks. Any discrepancy shall immediately be reported in writing to the Engineer. Any costs or subsequent costs arising from discrepancies that had not been reported to the Engineer within the aforementioned period shall be sole responsibility of the Contractor*

Add the following:

*The Engineer may alter any part of the Works to suit local conditions. The Contractor must therefore contact the Engineer immediately after the preliminary setting out of any part of the Works before starting with detail setting out, or construction. Only after the Engineer has approved a specific site or part of the Works may the detail setting out and construction commence. Setting out of the works will not be measured and paid for directly, and compensation for the work involved in setting out shall be deemed to be covered by the tendered rates for the various items of work included under the contract. The Contractor will not be allowed to continue with any work until the Engineer has been given the opportunity to inspect the setting out of the Works.*

**PS A 5.4 Alteration and Repair of Existing services**

A 5.4 should be read as follows:

*Unless the contrary is clearly specified or ordered, the contractor shall not carry out alterations to existing services. When this is necessary, the contractor shall inform the engineer, who either will arrange for such work to be executed by the owner of the service, or instruct the contractor to make such arrangements himself.*

*When the contractor damages existing services, he shall immediately inform the engineer, or when this is not possible, the relevant authority, and obtain instructions as to who should carry out repairs. In urgent cases, the contractor shall take the necessary steps to minimize damage to and interruption of the service.*

*No repairs of electric power lines and cables shall be attempted.*

*The employer will accept no liability for damages due to a delay in having such alterations or repairs effected. The contractor shall provide all reasonable opportunity, access and assistance to persons carrying out alterations or repairs of existing services."*

Add the following to A 5.4:

*Detected existing services shall also be indicated on the "As Built" drawings.*

*Where the Contractor is responsible for the cost of repairs carried out by the Employer or others, the costs will be recovered by means of a deduction from the Contractor's monthly payment certificate, or be withheld from the retention payment at Works completion.*

Add the following clauses to Section 5 (CONSTRUCTION):

**5.9 SITE MEETINGS**

*The contractor will be required to attend regular site meetings, normally held once a month to discuss general progress, quality of work, problems, claims, payments, etc, but not matters concerning the day-to-day running of the contract. The engineer shall determine the date, time and venue for such site meetings."*

**5.10 COMMUNITY LIAISON OFFICER (CLO)**

*A Community Liaison Officer shall be appointed for the Contract in consultation with the PSC and Municipality. His/her role will be to liaise between the Contractor, labourers, community and PSC. The Contractor will pay his remuneration; provisional sum has been provided for this expenditure. The CLO will assist with the appointment of labour, based on recommendation by the PSC. The CLO must submit a written report about the status of the project at every site meeting.*

**A8 MEASUREMENT AND PAYMENT****PS A 8.1.2 Preliminary and general items or section****PS A 8.1.2.2 Tendered sums**

This section should read as follows:

*The contractor's tendered sums under items 8.3 and 8.4 in BOQ shall collectively cover all charges for risks, costs and obligations in terms of the general conditions of contract and of this standardized specification, except where provision is made in these project specifications to cover compensation for any of these items;*

- *Site overheads and supervision;*
- *profit and financing costs;*



- expenses of a general nature not specifically related to any item or items of permanent or temporary work;
- providing facilities on site for the contractor's personnel, including offices, storage facilities, workshops, ablutions, for providing services such as water, electricity, sewerage, sewage and rubbish disposal, for access roads and all other facilities required, as well as for the maintenance and removal on completion of the works of these facilities and the cleaning-up of the camp site on completion of the works

**PS A 8.1.2.3 Contractor to price all items**

Add the following:

*"The scheduled time-related items will be adjusted pro rata to any authorized extension to the tendered time for completion of the Contract, in full settlement of any claims for time-related establishment costs."*

**PS A 8.2.2 Payment of Time Related items**

Replace this sub-clause with the following:

*The preliminaries amounts due to the contractor shall be assessed by the Engineer as an amount pro-rated to the value of the Work duly executed in the same ratio as the Preliminaries bears to the Contract Price excluding VAT, Preliminary amount and Contingencies. This means that payments will be according to the actual progress made, and will not necessarily consist of equal monthly part payments based on time progress since commencement of the works.*

**PS A 8.5 Sum stated provisionally by Engineer**

The following activity falls under A 8.5.b (3)

- |  |                  |
|--|------------------|
| 1) Community Liaison Officer .....     | Unit : Prov. Sum |
| 2) Overheads, charges and profit ..... | Unit : %         |

*The Contractor will pay the remuneration of the CLO. A provisional sum has been provided for this expenditure.*

<b>SABS 1200 AB   ENGINEER`S OFFICE</b>
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**AB 5 CONSTRUCTION****PS AB 5.1 NAME BOARDS**

Add the following to AB 5.1:

*The name boards shall be erected within a month of the commencement date of the contract and shall be placed at the position indicated by the Engineer. Any damage to these boards shall be repaired within fourteen days of a written instruction issued by the Engineer. No payment shall be made in terms of the contract prior to the erection of the name boards.*

*The Contractor will be permitted to erect a maximum of two of his own name boards, in positions approved by the Engineer. The Engineer reserves the right to order the removal of these boards if they are not kept in good repair.*

**PS AB 5.5 SURVEY ASSISTANTS**

*Substitute "two or more suitably educated survey labourers" in the first sentence of AB 5.5 with one semi-skilled labourer."*



Add the following to AB 5

**PS AB 5.6 SURVEY EQUIPMENT**

*The Contractor shall provide the following tested and approved survey equipment on site for the duration of the contract and for the use of the Engineer whenever needed:*

- a) *One automatic level plus tripod;*
- b) *One tacheometer staff and one level staff, both graduated metrically; and*
- c) *One 5 m and one 100 m tape measure.*

*The above-mentioned equipment may by arrangement be shared between the Contractor and the Engineer's representative.*

*The Contractor shall keep the equipment continuously insured against any loss, damage or breakage, and he shall indemnify the Engineer and the Employer against any claims in this regard. Damaged equipment shall be replaced immediately.*

*The Contractor shall maintain the equipment in good working order and keep it clean throughout the contract period.*

**AB 8.2 PAYMENT**

Add to 8.2 the following subclause:

**PS AB 8.2.2 Survey Assistants and Survey Equipment**

*No payment shall be made for the survey assistants or survey equipment and costs shall be deemed to be covered by the rates tendered for the Contractor's facilities.*

<b>SABS 1200 C   SITE CLEARANCE</b>
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**PS C 3.1 DISPOSAL OF MATERIAL**

Substitute the first sentence of C 3.1 with the following:

*Material obtained from clearing and grubbing shall be disposed of at the site indicated during the site hand over.*

**C5 CONSTRUCTION**

**PS C 5.1 AREAS TO BE CLEARED AND GRUBBED**

Substitute the first sentence of C 5.1 with the following:

*The Engineer will indicate to the Contractor which areas need to be cleared and grubbed. The Contractor may proceed with clearing and grubbing after the Engineer had the opportunity to inspect the setting out of the Works. Measurement and payment for clearing and grubbing shall only occur for areas as instructed by the Engineer.*

Add the following to 5.1:

*"Pipeline routes shall be cleared to a distance of 1,0 m on both sides of the pipeline centre line. Route pegs or markers shall not be removed or damaged during clearing operations."*

**SABS 1200 D | EARTHWORKS****D3 MATERIALS****PSD 3.1.2 CLASSES OF EXCAVATION**

Add the following to D3.1.2

*Under this contract soft and intermediate excavation shall be classified together as soft excavation, and hard rock and boulder excavation shall be classified together as hard rock excavation.*

*(NOTE: "Hard" excavation generally includes material such as formations of unweathered rock that can be removed only after blasting.)"*

*Notwithstanding anything to the contrary as may be stated in or reasonably inferred from anything contained elsewhere in the Contract, the following shall apply with specific reference to the above only: "Granular soil" shall mean material with a Plasticity Index (PI) equal to or less than six (6); and "Cohesive soil" shall mean material with a Plasticity Index (PI) in excess of six (6).*

**D 3.3 SELECTION****PS D 3.3.1 General**

The second sentence of D 3.3.1 should be read as:

*The Contractor shall deal in such a way with materials from all excavations for structures and pipe trenches to ensure that usable material is not contaminated with unsuitable material. If usable material is contaminated, such contaminated material shall be removed and replaced with material of standard at least equal to the in situ usable material, all at the Contractor's expense. No additional payment shall be made in respect of this and all relevant costs shall be deemed to be included in the tendered rates.*

**D 5.2.2 Excavation****PS D 5.2.2.1 Excavations for general earthworks and for structures**

Add the following to D 5.2.2.1:

*Excavations for the drainage dam/pit shall be extended to 300mm more than the required depth, rocks and / or boulders and sharp aggregates shall be removed to prevent any damage to the reservoir.*

*Materials under foundations and floors of structures that are regarded by the Engineer as unsuitable for the bearing of such structures shall be removed to the depths and widths ordered. The excavated voids shall then be filled with suitable material to be compacted as per the engineer's specifications.*

**PS D 5.2.2.3 Disposal**

Substitute the second sentence of D 5.2.2.3 with the following:

*Unsuitable material should be excavated and disposed of as directed to spoil or as fill in areas in which it would be deemed suitable.*

**PS D 5.2.3.2 Backfilling of trenches and backfilling against structures**

Add the following to D 5.2.3.2:

*C/ Backfilling around structures shall be compacted to 95% (100 % for sand) of mod AASHTO*



*density. When specifically ordered by the Engineer the backfilling against structures shall be done using a mixture of soil cement. The mixture shall contain 5% cement and just sufficient water for it to be placed and compacted like ordinary backfilling material.*

## **D8 MEASUREMENT AND PAYMENT**

### **PS D 8.1 BASIC PRINCIPLES**

Add the following to D 8.1.:

- 8.1.4 *The rates for excavation shall also cover the cost of dealing with any storm water or subsurface drainage water that may appear in the excavations.*

### **D 8.3 SCHEDULED ITEMS**

#### **PS D 8.3.2 Bulk Excavation**

Add the following sub item to D 8.3.2:

*Extra-over 8.3.2(b) (5) for soil cement backfilling where specifically ordered by the Engineer (percentage of cement indicated).....Unit: m<sup>3</sup>*

#### **PS D 8.3.3 Restricted Excavation**

Substitute D 8.3.3 with the following:

*No separate payment shall be made for restricted excavations and all relevant costs shall be deemed to be covered by other tendered rates.*



**SABS 1200 DB | EARTHWORKS (PIPE TRENCHES)**

**DB 1 SCOPE**

Add the following to DB 1.1:

*This specification also covers the excavation for cable trenches.*

**DB 4 PLANT**

**PS DB 4.1 EXCAVATION EQUIPMENT**

Add the following to DB 4.1:

*All excavations exceeding the specified widths shall be backfilled with approved selected material. No payment shall be made for this and all relevant costs shall be deemed to be included in the tendered rates.*

**DB 5 CONSTRUCTION**

**PS DB 5.2 MINIMUM BASED WIDTH SPECIFIED**

Substitute paragraph (b) of DB 5.2 with the following:

*The minimum base width for all pipes with a diameter less than 160 mm shall be 600 mm plus the nominal diameter of the pipes, irrespective of the depth at which they are laid. The minimum base width for electric cable trenches shall be 500 mm.*

**PS DB 5.5 TRENCH BOTTOM**

Substitute "90 %" in the second paragraph of DB 5.5. with "93 % (100 % for sand)"

**DB 5.6 BACKFILLING**

**PS DB 5.6.3 Disposal of Soft Excavation Material**

Substitute DB 5.6.3 with the following

*All surplus and unsuitable material as described in DB 5.6.3 shall be disposed of at the spoil site*

**DB 8 MEASUREMENT AND PAYMENT**

**DB 8.3 SCHEDULED ITEMS**

**PS DB 8.3.2 Excavation in all materials for trenches, backfill, compact & dispose of surplus material. Unit (m³)**

Add the following to DB 8.3.2 (c)

*The rate shall also cover the cost of dealing with any storm water or subsurface water that may appear in the trenches, as well as for excavation against and protecting existing structures.*

**SABS 1200 LB | BEDDING (PIPES)****LB 1 SCOPE****PS LB 1.1 SCOPE**

Add the following to LB1.1:

*This specification also covers the bedding (selected trench material) required for irrigation pipes.*

**LB 5 CONSTRUCTION****LB 5.1 GENERAL****PS LB 5.1.4 Compacting**

Substitute "90 %" in the second paragraph of DB 5.5. with "93 % (100 % for sand)"

Add the following to LB 5.

**PS LB 5.5 PLACING AND BEDDING OF IRRIGATION PIPES**

*Bedding and backfilling for Irrigation pipe shall be executed under this contract. The specialist contractor shall install the pipe and bedding material. Machine compaction shall not be carried out directly over the irrigation pipes, unless the pipe is covered by at least 300mm of fill material.*

**LB 8 MEASURENT AND PAYMENT****LB 8.1 PRINCIPLES****PS LB 8.1.5 Disposal of Displaced Material**

Add the following to LB 8.1.5:

*The provisions of PS D 5.2.2.3 shall apply mutatis mutandis.*

**LB 8.2 SCHEDULED ITEMS**

Add the following items:

*PS LB 8.2.6 Supply and Place bedding for irrigation pipes, from*

- |                                   |                            |
|-----------------------------------|----------------------------|
| <i>a) Trench excavations.....</i> | <i>Unit: m<sup>3</sup></i> |
| <i>b) Other excavations.....</i>  | <i>Unit: m<sup>3</sup></i> |

**== END OF VARIATIONS TO SABS 1200 CLAUSES ==**





### **C3.4.2 SITE ESTABLISHMENT**

#### **C3.4.2.1 Services and facilities provided by the Department**

##### (a) Water source (See also STC 34.1)

A municipal water connection (Umgungundlovu District Municipality) is available in the vicinity of the Site.

The responsible water supply authority in the area of the Site is Cedara research station.

Should the Contractor, in complying with his obligations in terms of sub- clause C3.4.2.1(a): Water, wish to utilize such water supply, he shall himself be responsible for making his own arrangements with the responsible water supply authority for the supply of all water that may require from such reticulation network for construction purposes as well as for domestic consumption.

If so required by the responsible water supply authority, the Contractor shall further be responsible, at the his own cost, for making or otherwise providing metered connections to the available services at the positions specified by the water authority, as well as for the removal of such connections on completion of the Contract.

No warranty is offered or given by the Department that the existing available reticulated water supply will necessarily be adequate for the Contractor's purposes nor that such supply is in any way guaranteed.

All charges as may be levied by the responsible water supply authority in respect of water consumed by the Contractor shall be for the Contractor's account and payment to the Contractor in respect thereof shall, in accordance with the provisions of sub-clause C3.4.2.1(a), be deemed to be included in the sums tendered by the Contractor for the various Preliminary and General items listed in the Schedule of Quantities, as well as in the rates tendered by the Contractor for the various other items listed in the Schedule of Quantities which require the consumption of water.

The Contractor shall, when reasonably required by the Engineer, produce documentary proof that all amounts as may have become due and payable by the Contractor to the responsible water authority have been promptly paid in full.

##### (b) Electricity supply (See also STC 34.1)

Reticulated electrical power supply is available in the vicinity of the Site.

The responsible electricity supply authority in the area of the Site is uMngeni Local Municipality.

Should the Contractor, in complying with his obligations in terms of sub- clause C3.4.2.1 (b): Electricity, wish to avail himself of such supply, he shall, in accordance with the provisions of sub-clause C3.4.2.1 (b), and at his own cost, be responsible for making his own arrangements with the responsible electricity supply authority for the supply of all electrical power he may require from such reticulation network for construction purposes as well for domestic consumption.

If so required by the responsible electricity supply authority, the Contractor shall, at his own cost, be responsible for making metered connections to the available services at the positions specified by the electricity supply authority, as well as for the removal of such connections on completion of the Contract.

No guarantee is given by the Department that the existing available reticulated electrical power supply will necessarily be adequate for the Contractor's purpose, nor that its supply is in any way guaranteed. All charges as may be levied by the responsible electricity supply authority in respect of electrical power consumed by the Contractor shall be for the Contractor's account and payment to the Contractor in respect thereof shall, in accordance with the provisions of sub-clause C3.4.2.1(b), be deemed to be included in the sums tendered by the Contractor for the various Preliminary and General items listed in the Schedule of Quantities, as well as in the rates tendered by the Contractor for the various other items listed in the Schedule of Quantities which require the consumption of electricity.

The Contractor shall, when reasonably required by the Engineer, produce documentary proof that all amounts as may have become due and payable by the Contractor to the responsible electricity supply authority have been promptly paid in full.



### (c) Excrement/Sewage disposal

Reticulated water-borne sewage disposal system does not exist in the vicinity of the site.

The responsible sewage disposal authority is uMngeni Local Municipality.

Should the Contractor, in complying with his obligations in terms of sub- clause C3.4.2.1 (c): Excrement disposal, wish to avail himself of such facility, he shall, in accordance with the provisions of sub-clause C3.4.2.1 (c), and at his own cost, be responsible for making his arrangements with the responsible disposal authority, and for making such arrangements he may require to the available services.

If so required by the responsible sewage disposal authority, the contractor shall, at his own cost, be responsible for making such arrangements to available services at the positions specified by the sewage disposal authority, as well as for the removal of such services on completion of the contract.

No warranty is offered or given by the Department to cater for the sewage disposal for the Contractor's purposes nor that of its operation is in any way guaranteed.

All charges as may be levied by the responsible sewage disposal authority in respect of the disposal of sewage generated by the Contractor shall be for the Contractor's account and payment to the Contractor in respect thereof shall, in accordance with the provisions of sub-clause C3.4.2.1 (c), be deemed to be included in the sums tendered by the Contractor for the various Preliminary and General items listed in the Schedule of Quantities.

The Contractor shall, when reasonably required by the Engineer, produce documentary proof that all amounts that may have become due and payable by the Contractor to the responsible sewage disposal authority have been promptly paid in full.

### **C3.4.2.2 Facilities provided by the Contractor**

#### (a) Facilities for the Engineer

The Contractor shall provide on the Site, for the duration of the Contract and for the use of the Engineer and / or his Representative (as applicable), the various facilities described hereunder. All such facilities shall be provided promptly on the commencement of the Contract and failure on the part of the Contractor to provide any facility required in term of this specification shall constitute grounds for the Engineer to withhold payment of the Contractor's tendered Preliminary and General items until the facility has been provided or restored as the case may be.

#### **(i) Office accommodation**

The Engineer and his Representative shall be allowed free use of all the Contractor's site facilities.

The Engineer and his Representative shall be allowed free use of survey equipment and assistants to carry out control work as and when required, and the Contractor shall provide all pegs, concrete, tools and other necessary items as well as all necessary labour for excavation, bush clearing, stake drainage lines, as and when required for the control of the setting out of the works.

#### **(ii) Site meeting venue**

The Contractor shall provide within his own site establishment facilities, a suitably furnished office or other venues capable of comfortably accommodating a minimum of nine (9) persons at site meetings. The Engineer shall be allowed free use of such venue for conducting any other meetings concerning the Contract at all reasonable times.

#### **(iii) Contract Name Boards**

The Contractor shall provide, erect and maintain two (2) contract name boards at such positions and locations directed by the Engineer, which name boards shall, unless otherwise specified elsewhere in the Contract, comply with the recommendations for the standard board of the South African Association of



Consulting Engineers, with regard to size, painting, Refer to PS AB 5.1.

The Contractor shall keep the contract name boards in good state of repair for the duration of the Contract and shall remove it on completion of the Contract.

(v) Site instruction book and Site diary

The Contractor shall keep a triplicate book for site instructions on the Site at all times and provide a Site diary completion by the Contractor and the Community Liaison Officer (CLO).

### **C3.4.2.3 Site usage**

The Contractor's employees will not be allowed to stay on site except for the duration of a working day. The only person to be allowed on site for the duration of the contract will be the site guards(s). Access to the site will be in a controlled manner. People visiting the site will have to sign in and out on a daily basis.

### **C3.4.2.4 Features requiring special attention**

(a) Site maintenance

During progress of the work and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

(b) Opening up and closing down of designated borrow pits

Measurement and payment for opening up and closing down designated borrow pits including removing and stockpiling overburden and restoring the Site, shall be made under item 8.3.4 of SABS 1200 D. This item applies to all borrow material required under this Contract.

The requirements of sub-clause 5.2.2.2 of SABS 1200D regarding the opening up, maintenance and closing down of borrow pits shall be adhered to.

(c) Monthly payment certificates

The statement to be submitted by the Contractor in terms of Clause 6.10 of the General Conditions of Contract, and Clause 54 of the Special Terms & Conditions, shall be prepared by the Contractor at his own cost, strictly in accordance with a payment certificate the format of which to be approved by the Engineer before commencement of the works. Payment certificate to be submitted in digital electronic computer format. The Contractor shall, together with a copy of the digital electronic computer file of the statement, submit two (2) A4 size paper copies of the statement.

For the purposes of the Engineer's payment certificate, the Contractor shall be responsible, at his own cost, for making adjustment to his statement as may be required by the Engineer for the purposes of accurately reflecting the actual quantities and amounts which the Engineer deems to be due and payable to the Contractor in the payment certificate.

The Contractor shall, at his own cost, make the said adjustments to the statement and return it to the Engineer within three (3) normal working days from the date on which the Engineer communicated to the Contractor the adjustments required. The Contractor shall submit to the Engineer three (3) sets of A4 size paper copies of such adjusted statement, together with a copy of the electronic digital computer file thereof.

Any delay by the Contractor in making the said adjustments and submitting to the Engineer the requisite copies of the adjusted statement for the purposes of the Engineer's payment certificate will be added to the times allowed to the Engineer in terms of Sub-clause 49.4 of the Conditions of Contract to submit the signed payment certificate to the Department and the Contractor. Any such delay will also be added to the period in which the Department is required to make payment to the Contractor.



(d) Workmanship and quality control

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality control system and provide suitably qualified and experienced engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the Works at all times.

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates tendered for the related items of work. Unless separate provision is made in the BOQ for this items.

The Contractor's attention is drawn to the provisions of the various Standardized Specifications regarding the minimum frequency of testing required. The Contractor shall, at his own discretion, increase this frequency where necessary to ensure adequate control.

On completion and submission of every part of the work to the Engineer for examination and measurement, the Contractor shall furnish the Engineer with the result of the relevant tests, measurements and levels to demonstrate the achievement of compliance with the Specifications.

**C3.4.2.5 Extension of time due to abnormal rainfall**

a). Extension of time (See also STC 43.1)

Extension of time in respect of delays resulting from wet climatic conditions on the Site will only be considered in respect of abnormally wet climatic conditions and shall be determined for each calendar month or part thereof, in accordance with the formula given below:

$$V = (Nw - Nn) + (Rw - Rn) / X$$

The symbols shall have the following meanings:

V = Potential extension of time in calendar days for the calendar month under consideration:

If V is negative and its absolute value exceeds Nn, then V shall be taken as equal to minus Nn.

If the value of V for any month exceeds the number of days in the particular month, V will be the number of days in the month.

Nw = Actual number of days in the calendar month under consideration on which a rainfall of Y mm or more was recorded on the Site

Nn = Average number of days in the calendar month under consideration on which a rainfall of Y mm or more was recorded for the calendar month

Rw = Actual rainfall in mm recorded on the Site in an approved rain gauge for the calendar month under consideration

Rn = Average rainfall in mm for the calendar month, derived from existing records of rainfall in the region on the Site

The factor (Nw-Nn) shall be deemed to be a fair allowance for variations from the average number of days during which the rainfall did not exceed Y mm

The factor (Rw - Rn) / X shall be deemed to be a fair allowance for variations from the average number of days during which the rainfall did not exceed Y mm but wet conditions prevented or disrupted work

.



**b) Rain gauge (See also STC 43.1)**

The Contractor shall, at his own cost, provide and erect on the Site at a location approved by the Engineer, an approved rain gauge, which shall be fenced off in a manner which will prevent any undue interference by workman and other. The Contractor shall, at his own cost, arrange for the reading of the rain gauge on a daily basis for the duration of the Contract. The gauge readings, as well as the date and time at which the reading taken shall be recorded in a separate record book provided by the Contractor for this purpose.

All entries in the rainfall record books shall be signed by the person taking the reading and the gauge shall be properly emptied immediately after each reading has been taken. If required by the Engineer, the Engineer shall be entitled to witness the reading of gauge.

**c) Delay claims**

The Contractor's claims in terms of Sub-clause 42.2 of the Conditions of Contract for extension of time in respect of delays resulting from wet climatic conditions on the Site during each month, shall be submitted in writing to the Engineer monthly; provided the availability of the rainfall figures as measure in the rain gauge.

(i) the period allowed to the Contractor in terms of Clause 48 of the Conditions of Contract in which to submit his claim for each month shall be reduced to seven (7) days, calculated from the last date of the month to which the claim applies; and

(ii) the 28-day period allowed to the Engineer in terms of Sub-clause 42.2 of the Conditions of Contract in which to give his ruling on the claim, shall be reduced to fourteen 14 days. The Contractor's monthly claim shall be accompanied by a copy of the signed daily rainfall for the applicable month.

**d) Calculation of the extension**

The extent of any extension of time which may be granted to the Contractor in respect of wet climatic conditions (whether normal or abnormal) shall be determined as the algebraic sum of the "V" values;

(i) rainfall occurring within the period of the Contractor's Christmas shut- down period (referred to in Sub-clause 1.6 of the Conditions of Contract) shall not be taken into account in the calculation of the monthly "V" values;

(ii) rainfall occurring during any period during which the Contractor was delayed due to reasons other than wet climatic conditions on the Site, and for which delay an extension of time is granted by the Engineer, shall not be taken into account in the calculation of the monthly "V" values;

(iii) if the algebraic sum of the "V" values for each month is negative, the time for completion will not be reduced on account of subnormal rainfall, and

(iv) where rainfall is recorded only for part of a month, the "V" value shall be calculated for that part of the month using pro rata values for  $N_n$  and  $R_n$ .

**e) Revision of completion date**

The Engineer shall, simultaneous with granting any extension of time in terms of this clause, revise the Due Completion Date of the Contract to reflect an extension of time having been granted in respect of wet climatic conditions.

**f) Extension for repairs due to rain**

Any extension of time in respect of wet climatic conditions granted in terms of this clause shall not be deemed to take into account delays experienced by the Contractor in repairing or reinstating damage to or physical loss of the Works arising from the occurrence of abnormal climatic



conditions. Extension of time in respect of any such repairs or reinstatement regarding damage shall be the subject of a separate application for extension of time in accordance with the provisions of Clause 42 and Clause 48 of the Conditions of Contract.

### **C3.4.3 PLANT AND MATERIALS**

#### **C3.4.3.1 Materials, samples and shop drawings**

##### **(a) Samples**

Materials or work which does not conform to the approved samples submitted in terms of Sub-clause 23.4 of the General Conditions of Contract will be rejected. The Engineer reserves the right to submit samples to tests to ensure that the material represented by the sample meets the specification requirements.

The costs of any such tests conducted by or on behalf of the Engineer, the results of which indicate that the samples provided by the Contractor do not conform to the requirements of the Contract, shall, in accordance with the provisions of Sub-clause 23.7 of the General Conditions of Contract, be for the Contractor's account.

### **C.3.4.4 CONSTRUCTION EQUIPMENT**

#### **C3.4.4.1 Requirements for equipment**

Equipment must be such that the work can be executed in an efficient manner. This means, for example, in the case of the leveling of the platforms for the nurseries the use of an excavator or a dozer rather than of a TLB.

### **C3.4.5 EXISTING SERVICES.**

There are no known services indicated on the drawings. The onus rests on the Contractor to locate the existing services before any construction commences.

#### **C3.4.5.2 Treatment of existing services**

Provision is made for repair of existing services that require to be relocated or removed from the site. This should only be done on the instruction of the Engineer. See PS A 5.4.3.

#### **C3.4.5.3 Damage to services**

Damage that occurs to unknown services during construction will be paid for by the Contractor.

#### **C3.4.5.4 Reinstatement of services and structures damaged during construction**

The Contractor shall inform the Engineer immediately when a services or structure is damaged. The extent of the damage and a proposal how to reinstate the services or structure shall be submitted to the Engineer on a sketch with dimensions and time frames.

The Contractor shall not be allowed to reinstate any service or structure unless indicated so by the Engineer.

## **C3.5 MANAGEMENT**

### **C3.5.1 MANAGEMENT OF THE WORKS**

#### **C3.5.1.3 Methods and Procedures**





(a) Maintenance of access and roads

The operation of construction vehicles on existing roads that have been completed to the level wearing course, shall be limited to the contractor's vehicles only. Hauling is strictly forbidden on wearing course that has been completed as described above. The Contractor shall make use of all temporary haul road; or where not practically possible, program his work in such a manner that the haulage materials shall be restricted to that required for the particular section. No additional payment; shall be made for the use of temporary haul roads and all relevant costs shall be deemed covered by the appropriate rates.

No additional payment will be made for the construction of temporary access roads to the construction site, borrow areas or the spoil sites.

Should the Contractor make use of existing roads for haulage, he shall be held responsible to clear the road or infield access roads of any spillage caused by his activities within one (1) day after such spillage occurred. No additional payment will be made for the cleaning of the spillage.

(b) Interference with Cedara Farming staff and operations

The Contractor shall ensure that none of his staff interfere in any way with any Cedara staff members or their functions, or with the operations of the existing research operations in any way.

Any person ignoring this shall be removed permanently from site at the expense of the contractor.

(c) Giving notice of work to be covered up (See also STC clause 45.1 & 2)

The Contractor shall give the Engineer at least 24 hours' notice prior to a request for examination of materials or work to be covered up. This request must be made in the request book on site. Should such a request be made and upon inspection the Engineer found that the works or materials are not yet ready for inspection, the Contractor shall be required to make another appointment.

### **C3.5.1.5 Environmental Management Plan (EMP)**

(a) Demarcation of the site

For the purpose of the EMP, the site shall be demarcated into two distinct areas, viz.;

- (i) The construction camp comprising all buildings, offices, vehicle wash areas, fuel and material storage area, batching areas and other infrastructure that is required for the running of the job.
- (ii) The working area in which construction activities are permitted to take place. No infrastructure, permanent lay down or storage areas shall be established in this working area unless specified in the project specification or prior approval is obtained from the Engineer.

(b) Construction camp

The Contractor shall provide the Engineer with a plan showing the positions of all buildings, yards, batching areas and other infrastructure for approval by the Engineer at least two weeks prior to the commencement date.

(c) Fencing of site

The Contractor shall erect and maintain such a fence (demarcating the boundary of the working area, construction camp and access roads) to the satisfaction of the Engineer.

This fence shall be erected before the commencement of any other work on site. The fence shall be removed after completion of the project and the site reinstated to its original state.



(d) Waste Material

Waste material shall be disposed of in accordance with the national, regional and local by-laws regulations. The construction and other waste to be regularly removed and disposed of at an approved site.

(e) Watchmen

The Contractor shall have a watchman present on site all times during non-working hours and on holidays to ensure the safety of plant and materials on site.

(f) Ablution facilities

The exact location of toilets shall be approved by the Engineer. The Contractor shall provide the toilets and maintain and service it on a daily basis. The toilets shall be kept clean. Regular inspections shall be conducted by the Engineer. Burial of waste on site is strictly forbidden. Leaking or broken toilets shall be removed and replaced immediately by the Contractor.

(g) Solid waste

"Solid waste" refers to construction debris, chemical waste, tins, cans, paper, wrappers, excess concrete, waste timber, etc.

The Contractor shall establish a waste control and removal system. He shall submit a method statement to the Engineer for approval prior to commencement. Appropriate solid waste containers shall be provided for the storage of waste. The containers shall be water proof. The waste shall be removed on a regular basis to prevent the accumulation of waste on site and disposed of at an approved waste site.

(h) Fuel storage area

Fuel shall be stored on site in a depot at a location as agreed with the Engineer. The Contractor shall ensure that liquid fuels are stored in tanks with lids. The tanks shall be placed on a sloped smooth concrete surface with an oil trap on the lower end to collect any spillage. Fuel shall be kept under lock at all times

(i) Equipment maintenance and storage

All equipment and vehicles shall be kept in good working order and serviced regularly. Leaking equipment shall be repaired immediately or removed from site. Where possible, maintenance and service shall take place only in the workshop. Permission must be obtained from the Engineer if the aforementioned cannot be adhered to.

The Contractor shall demarcate an area in which the equipment and vehicles may be stored. The location shall be approved by the Engineer.

(j) Materials handling, use and storage

The Contractor is responsible to ensure that all material suppliers are aware of the EMP's restrictions and conditions. The Contractor shall be held responsible should deliveries not comply with EMP requirements.

The Contractor shall comply with all relevant national, regional and local legislation with regard to the transport, use and disposal of hazardous material.

The Contractor shall furnish to the Engineer a list of all hazardous materials to be used on site, together with the handling, storage and disposal procedures of the materials. This information shall be available to all personnel on site.

The location of the hazardous material store shall be within the demarcated construction camp area. The location shall be approved by the Engineer.





**(k) Care of surrounding areas**

The Contractor shall ensure that no contamination or damage to the surrounding areas or watercourse shall occur as a result of any of his activities during construction.

**C3.5.1.6 Planning and programming**

Immediately after handing over the site, the Engineer and the Contractor will discuss the order of procedure and methods in which the Contractor shall carry out the works. The order of the work shall be such that there are no unnecessarily delays of the works.

The programme to be furnished by the Contractor to the Engineer for approval shall be in the form of a Gantt chart. The critical path shall be indicated in red.

**C3.5.1.7 Format of communications**

All communication regarding the Contract shall be channeled through the Engineer or his representative. Formal contractual communication shall be in writing.

Instructions will only be given by the Engineer or his representative. The Contractor shall not take any instructions from the Department, the Municipality or Departmental officials other than the engineer or his representative.

**C3.5.1.8 Planning and programming**

A project progress meeting shall be held monthly on site for the duration of the project on dates to be agreed upon. The Contractor shall be responsible for the venue for the meeting. He will ensure that the CLO (Community Liaison Officer) attend all such meetings.

**C3.5.1.9 Site Diary**

Daily records of plant, personnel, materials, etc., shall be recorded daily by the Contractor and noted in the site diary which will be supplied by the Contractor before the commencement date of the project.

**C3.5.1.10 Site Instructions**

Only the Engineer has the mandate to issue site instructions to the Contractor. This will be done in writing in the site instruction book or per facsimile, or per letter or per minutes of the site meeting or by SMS.

The Contractor shall furnish an A4 site instruction book in triplicate before the commencement date of the Contract.

**C3.6 HEALTH AND SAFETY**

**C3.6.1 HEALTH AND SAFETY REQUIREMENTS AND PROCEDURES**

Before commencement of work, the Contractor shall present to the Engineer his Health and Safety Plan for approval. He shall also appoint a qualified health and Safety Officer in writing and give a copy of the letter of appointment to the Engineer.

**(a) Construction Regulations, 2014**

The Contractor shall be required to comply with the Occupational Health and Safety Act (85/1993): Construction Regulations, 2014, as published in the Government Gazette of 7 February 2014, or later amendments thereto. Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.



Payment items are included in the Schedule of Quantities to cover the Contractor's cost for compliance with the OHS Act and the abovementioned regulations. Refer to STC clause 48.1

The contractor will be required to sign and submit a Health and Safety Declaration stating compliance with the regulations.

### **C3.6.2 MEDICAL FACILITIES AND SAFETY EQUIPMENT**

The Contractor shall provide a First Aid cabinet fully equipped and maintained with the minimum contents as listed in Regulation 3 of the General Safety Regulations of the Occupational Health and Safety Act (Act 85 of 1993), to deal with accidents and ailments which are likely to occur during the construction period.

The Contractor shall provide personal safety equipment and facilities as required by Regulation 2 of the General Safety Regulations of the Occupational Health and Safety Act (Act 85 of 1993). The Contractor shall designate his Safety Officer and Qualified First Aider. The Contractor shall give copies of the minutes of the site safety meetings to the Engineer.

### **C3.6.3 PROTECTION OF THE PUBLIC**

The Contractor shall ensure that all personnel entering the construction site is fully informed about the danger on the site. The Contractor shall ensure that non-construction personnel are protected within the guidelines of the OH&S Regulations.

### **C3.6.4 BARRICADES AND LIGHTING**

All excavations and openings in the proposed site into which or through which a person may fall, shall be securely barricaded in accordance with the requirements of the applicable OH&S Regulations.

### **C3.6.5 TRAFFIC AND PEOPLE CONTROL**

The Safety Officer shall take full responsibility for the traffic and people control in and around the site. The personnel of the research station shall be fully informed of the construction.

### **C3.6.6 AIDS AWARENESS**

All construction personnel shall be given an Aids and COVID 19 awareness briefing by the Safety Officer.

**D1 | PROJECT PARTICULAR SPECIFICATIONS (PPS) | SECTION A | NURSERIES****PPS1. SCOPE**

This section specifies the general requirements for the construction of the shade cloth nurseries and ancillary works.

**PPS 2. GENERAL**

Building work shall be carried out in accordance with the National Building regulations and Building standards Act, 1977.

References to specifications and codes of practice of the South African Bureau Standards shall be taken to be references to the SABS 1200 series documents, unless specific reference is made to an updated, "sansified" version of such specifications and codes. Where possible the SANS/SABS mark shall appear on all articles, materials or items where it is required to comply with such SANS/SABS specification.

**PPS 2.1. SITE LEVELLING**

Site leveling to be done and accurate levels to be achieved and verified by the Engineer. The specified platform slopes are critical in the construction of drainage canals.

- Surveys (Stakeouts, Quality Control & Verification) during site levelling is compulsory. Cost of the survey is included as provisional sum.
- All embankment slopes for cut and fill work above, below and on the sides of the nursery platforms to be 1 : 2 (Vertical: Horizontal) Minimum.
- Compaction of leveled area to be MODAASHTO 90%. All unused soil to be spread out and flattened.

**PPS 3. MATERIALS AND CONSTRUCTION****PPS 3.1. POLES**

Poles -CCA treated hardwood round poles. All poles for the nursery structure, racks and fencing shall comply with the requirements of SABS 457 and the project specifications.

**3.1.1 ANCHORS AND POLE BASES**

- Pole bases: Required concrete mix should be 20MPa/19mm. Dimensions pole bases: 400 x 400 x 600 mm. Poles foot to be free draining and no concrete to be placed below pole foot.
- Pole anchor could be a piece of Y profile fencing standard 400mm long. Cut 1850mm long standard in 4 pieces or a 1.4m long standard in 3 equal pieces. Standard anchor to be placed in concrete for all but 50-100mm under a slight angle into the concrete (app 30 degrees off the vertical) with anchor bottom pointing towards the pole. Holes in standard to be pointing towards nursery to enable installation of the strainer.

**3.1.2 EXTERNAL STRUCTURE**

- All poles for the nursery structure to be CCA treated hardwood round poles, to SANS 457, size 3300 x 100-125mm (for 2.7m high centre line), 3000 x 100-125 mm (for 2<sup>nd</sup> and 4<sup>th</sup> middle lines – 2.4m high) and 2700 x 100-125 for outside lines – (2.1m high).
- 2.2mm high tensile fully galvanized wire for shade cloth support to run from pole to pole following the roof perimeter (stapled onto pole top) and across (tied onto 10mm threaded hook bolt or eye bolt and strained). See Drawing 2 Detail. Use with 32mm staples.
- 2.2mm Veld 1000 wire, wound around post top and fixed with staples, tensioned by ratchet type strainer attached to anchor standard, to be used for cloth hold back along the sides.
- Entry gate to be HDG 900 x 1800mm, round or square tubing 40 x 2.0mm minimum. Frame to be closed with weldmesh 50 x 50 x 2.0mm. Three (3) extra 3300 x 100-125mm posts with



cross pole (900 x 100-125mm) are required for the gate frame. The space above gate to be closed with shade cloth.

### 3.1.3 TRAY RACKS FOR 4 NURSERIES

- Only for vegetable seedling nurseries.
- 8 tray support racks to be constructed per nursery, dimensions 21000 x 2400 x 700mm.
- Poles to be:
  - 3000 x 100-125mm (bracing poles)
  - 2400 x 100-125mm (cross bars)
  - 1200 x 100-125mm (posts)
- Use 2.0mm tensioning wires 200mm apart (16 lines) for nursery tray support. One end of the wires will have eye-eye turn buckle tensioners. Fix the other end with staples hammered in under an angle of 45 degrees with the wire.
- The last and second last racks at the end of each tray support/table are connected with each other with 3m long poles wire bound of the rack posts (see drawing 3) to counteract straining forces. The posts for those racks (6 on each end, 12 per table, 96 in total) will have a 20 MPa/19mm concrete footing, dimensions 500 x 500 x 500mm. Other post holes will have a compacted refill of soil crete. Mix (volume): 10 soil :1 cement
- Use 200 cavities/cells polystyrene seed trays and fill with Seedling Mix.

### PPS 3.2. SHADE CLOTH NET

Shade cloth net to be supplied according to the bill of quantities. 20% density green color shade net (hail net) for four Nurseries and 40% density green shade cloth net for one Nursery structures.

Shade cloth net to be fastened unto the steel cross wires running over the pole lines in longitudinal direction by a continuous twine in order to prevent billowing during strong winds. See Drawing 2 (RDN/2020/23/RDN)

### PPS 3.3. WATER RETICULATION WORKS AND IRRIGATION

#### 3.3.1 PUMP STATION.

##### 3.3.1.1 PUMP HOUSE

Pump house to be constructed next to the water source which is 1.8Kms away from the nursery site. The exact location to be indicated during site hand over. The pump house to be constructed according to the supplied drawings and bill of quantities. Summary of the required pump house specification is as follows:

- Dimension: 3.2m X 3.2m X 2.8m high;
- Foundation: 600mm X 300mm concrete foundation with three brick courses above the concrete foundation
- Walls: To be constructed using M140 blocks with ventilation openings in all sides as per the drawings.
- Floor: 100mm thick concrete slab with ref:193 reinforcement
- Ancore block 1000mm X 1000mm X 700mm with M16 bolts to anchore pump and engine.
- Roofing: Corrugated iron roofing supported by Pine rafters and purlins
- Gate: Heavy duty burglar type entry gate (1.8m wide X 2m High)

##### 3.3.1.2 PUMP AND FITTINGS

Supply, deliver and install electrical pump set to pump water from the pumpstation to the nurseries. The works regarding the pumpstation include:

- Supply and install reputable centrifugal pump and motor to deliver 25m<sup>3</sup>/hr at 120m head.
- Nomimal suction port 65mm and delivery port 40mm.
- 22KWa motor to run the pump
- Supply and install suction and delivery pipe net works at the pump station.
- Supply and install water meter, pressure guage and other valves which are required at the pump station.
- Power supply to the pumpstation. There is an existing transformer, service provider to assess the existing power supply and make the necessary arrangement to power the pump station.



- Supply and install smaller pump which can deliver 4000L/hr at 1bar to be installed next to the reservoir.

### 3.3.2 200KL CORRUGATED IRON WATER RESERVOIR AND PVC COVER.

The following specifications for the construction of 200KL reservoir are minimum requirements. Recommendation from the specialist and or the supplier to be considered and discussed with the Engineer.

Foundation works for the reservoir to be as follows:

- Geotechnical investigation would be required to ascertain site suitability for the construction of the reservoir. Method and number of tests to be determined by a geotech specialist. Provisional sum is allocated for geotechnical investigations.
- The site platform for the new tank must be 2 meters larger than the tank diameter.
- Site Preparation: Leveled site capable of supporting a 100Kpa with sand bed.
- The tank site should be excavated into natural ground rather than fill material.
- Adequate drainage slope shall be provided to ensure that, excess water is diverted away from the tank site.
- If fill material is used to level a site, suitable retaining walls must be installed to maintain the integrity of the tank site.
- The site must be free of sticks, rocks, or other sharp objects. Vegetation or tree roots must be permanently removed from the tank.
- 200mm thick, 25Mpa reinforced concrete to be used as a base of the corrugated tank.

Roof and other accessories to be considered:

- Low-dome profile, corrugated Aluzinc with hot-dip galvanized, steel roof trusses.
- All trusses to be hot dip galvanized after fabrication.
- Clear span self-supporting roof with no center post.
- Access Hatch: Sliding, hinge-free mechanism to be installed as an access for inspection.
- Ladder: Removable aluminium ladder with rubberized soles to be provided which will be used for internal and external maintenance.
- Protective Coating: Zincalume (zinc Aluminium Alloy) AZ 10 heavy duty coating.

Pipe works at the reservoir to include:

- Inlet works (bends and other fittings).
- All fittings to be manufactured from mild steel hot dip galvanized so SANS 121:2011.
- Outlet works (Supply line to the Nurseries and out let for excess water)
- Valves. (Control Valve at the outlet and flow control ball valve at the inlet)
- Overflow flange and down pipe to be installed to allow drainage of excess water from the reservoir.
- Scour drain to be installed to allow for the easy removal of sludge that may accumulate on the reservoir floor.

***The reservoir to be installed according to the supplier's recommendation.***

### 3.3.3 MIXING TANKS

Supply and install fertilizer mixing tanks, which includes but not limited to:

- Two x 1000L tanks to be supplied and installed with all the required fittings and according to the supplied drawings.
- The mixing tanks to have readable levels on the side.
- The mixing tanks should be transparent thus, water levels should be readable from out side.
- Other equipments like stirrers and valves which are required to make the fertigation tanks functional to be included.
- The tanks should be placed on a 3m X 2m X 0.8m Tank stand. Tank stand to be constructed out of durable brick walls and 200mm concrete slab topping as per the supplied drawing.



***Installation of the mixing tanks is a specialist work. A proposal schematic drawing on how the mixing tanks works would be required from the specialist. The proposal need to be approved before purchasing or installing the tanks.***

### 3.3.4 PIPE LINES

Irrigation Pipes include:

- Main line (90mm Ø uPVC pipe between the pump house/dam and the water reservoir.
- 63mm Ø HDPE pipe between the reservoir and the Nurseries.
- 40mm Ø HDPE pipes with in the Nurseries.

The unplasticised polyvinyl chloride (uPVC) piping system shall conform to SABS 966-1976 or ISO 4422. mPVC piping or similar will not be accepted. All uPVC fittings except for saddles shall be either injection moulded plastic (FIP or similar) or cast iron fittings capable of withstanding working pressures of at least 1200 kPa. All uPVC bends shall be long radius bends. If working pressure exceeds 1200 kPa then fittings shall be rated to at least 1.75 times the working pressure.

The black polyethylene piping (HDPE) systems shall conform to SABS 533 or ISO 4427 standard. All saddles for HDPE piping shall be polypropylene or injection moulded plastic (FIP or similar) and shall be complete with stainless steel bolts. All hose clamps and screws shall be stainless steel.

### 3.3.5 IRRIGATION SYSTEM

#### 1) SPRINKLERS

Microsprayer Irrigation system with in the nurseries is a specialist work. All irrigation equipments (Pumps, Fertigation tanks, Pipe lines, Filiters, Microsprayers) to be supplied from a reputable supplier and to be installed according to the supplier's recommendations.

- **For Vegetable Nurseries micro sprinklers** that operate at 1 – 2 bar with a throw of app 1.5 meters (wetting diameter 3.0m). Sprinklers to be spaced at 1.8m.
- In the case of fruit trees nursery where seedlings are planted in pots, drip irrigation is recommended with two emitters per pot, to deliver at least 4L/hr.

***Engineering certificate from either an agricultural Engineer or SABI registered irrigation designer would be required.***

### PPS3.4. DRAINAGE SYSTEM FOR IRRIGATION WASTE WATER

#### 3.4.1. DRAINAGE CANALS

Excess irrigation water to be channeled and collected in a treatment pond using concrete canals. Drainage concrete canals to be constructed according the supplied drawings by the Civil Contractor.

- Surveys (Stakeouts, Quality Control & Verification) during canal construction. Cost of survey is included as provisional sum.
- Four concrete drainage lines inside the nurseries (200mm wide X 100mm deep, 25Mpa paraboulic cannels).
- Main channel collects from all the nurseries and conveys the run off water to the treatment pond (300mm wide X 150mm deep, 25Mpa Parabolic canal).
- Site levelling and achieving the required slope (0.5 to 1%)
- Nursery plat forms to be compacted to 95% MODAASHTO and compaction needs to be verified before excavation for the canals.

#### 3.4.2. WASTE WATER TREATMENT POND

Service provider to advise on the specification of the irrigation waste water treatment pond. Equipment in the treatment pond includes but is not limited to:



- Two Reservoirs.
- Flocculation and chlorination equipment.
- Pump and pipe lines
- Plastic or shade cloth net cover for the reservoir

***A proposal with a schematic drawing on the design and operation of the waste treatment pond works would be required from the specialist. The proposal need to be approved before purchasing or installing the tanks.***

#### **PPS 3.5. PATHWAYS AND CONCRETE CURBS/LIPS**

Pathways between the racks and around the edges/ boundary of the nursery from inside to be constructed using the following specs.

- 1.4m wide path ways to be excavated 100mm deep.
- Pathways to be compacted to 95% MODAASHTO before applying crushed stones.
- 13mm crushed stone, 100mm thick layer to be applied in the path ways.

**200mm x 100mm 25Mpa concrete kerbs/lips to be constructed between the pathways and drainage canals. Refer to drawing no: DRA/TKO/2020/14**



**D2 | PROJECT PARTICULAR SPECIFICATIONS (PPS) | SECTION B | MAIN BUILDING**

*Although only items of the relevant SABS 1200 series have been captured here that are of particular relevance to this project, the entire set of Standard Specifications listed under C3.4.1.1 will apply.*

**EARTHWORKS (EW)****PPS EW1****SITE CLEARANCE**

1. This section applies to the entire site, including the areas earmarked for the construction of the nurseries.
2. Applicable standard: SANS 2001 - Construction Works Part BS1: Site Clearance. SANS 2001 standard specifications are deemed to satisfy the provisions of SANS 10400 (The application of the National Building Regulations).
3. Areas to be cleared and grubbed. Both borrow areas and the portions of the site on which excavations are to be carried out and the shed constructed, shall be cleared or grubbed, or both, the Contractor shall excavate the top 150mm of topsoil including all of the smaller vegetation (grass and shrubs, bushes) and stockpile it. The contractor shall not commence with clearing and grubbing until the Employer's Agent has designated, in writing and in detail, the exact areas to be stripped of topsoil and the time at which the work to be started.
4. Clearing. Clearing shall consist of:
  - The removal of all trees, rubbish, fences, and all other material that may interfere with the construction of the work.
  - The disposal of all material resulting from clearing.
  - The removal of rocks and boulders of size up to 0.15m<sup>3</sup> that are lying on the surface to be cleared or exposed during the clearing operations.
  - Where fences have to be taken down, sorting, coiling, and stacking of the material.
  - The removal and stacking of other reusable materials as scheduled.

The moving of a certain amount soil or gravel may be inherent in or unavoidable during the process of clearing. No extra payment will be made for the removal such soil or gravel.

7. Re-clearing of vegetation. If during the contract period vegetation should again grow on any portion of the site, borrow areas, or the areas that have been cleared in accordance with the specification, the Employer's Agent may, if considers it necessary, order that such area be re-cleared. Such re-clearing shall include the removal and disposal of grass, shrubs, and other vegetation, as in the first clearing operation.
8. Conservation of topsoil. The terms of Sub-clause 5.2.2 of SANS 1200DA: 1988 shall apply.

**PPS EW2****MEASUREMENT AND PAYMENT: SITE CLEARANCE****2.1 | Basic principles**

1. The items scheduled for clearance will be classified according to the nature of the materials involved and the methods of their disposal.
2. Only those areas designated to be cleared will be measured for payment.
3. The removal of topsoil from the specified area will be measured as excavation and no payment will be made for it under clearing and grubbing.



**PPS 2.2 Scheduled items**

Clear and grub.....m<sup>2</sup>

The area designated by the Engineer and cleared and grubbed will be measured to the nearest 1m<sup>2</sup>. The rate shall cover the cost of removing boulders of size up to 0.15m<sup>3</sup>, grubbing of trees and tree stumps, cutting of trunks and branches exceeding 0.5m in girth into transportable lengths, backfilling of cavities, removing, transporting, and disposing of material thus cleared, grubbed and cut. Boulders over 0.15m<sup>3</sup> will be dealt with as excavation in terms of the items scheduled for bulk excavations.

**PPS EW3****MEASUREMENT AND PAYMENT: EXCAVATION****3.1 | Basic principles**

1. The basic principle for measurement and payment for all earthworks is that the rates tendered for excavation shall cover the cost of excavating and re-use of the material in backfilling and required slopes for the floor and furrow, and the cost of disposal of surplus and unsuitable material within the free haul distance of 500m.
2. Separate additional payment will be made for filling excess excavation, forming banks or terraces, disposing of surplus material, or any other contingent work, only where specifically prescribed and scheduled.
3. Excavations which are required to be backfilled will be measured as if taken out with vertical sides regardless of whether they have been taken out with sloping sides. They will be measured from the net plan of the finished concrete footing except that, in the case of conical or other such structures, the volume will be measured from the finished outline of the concrete as shown on the drawings.
4. Where extra excavation for outside formwork or working space is specified or ordered prior to the start of bulk excavation for a structure, such excavation will be measured as part of the bulk excavation.
5. The permissible degree of accuracy for all excavations shall be of accuracy III (Table 6).

**Table 6: Permissible Deviations (PD) for Excavations – Degree of Accuracy Class III**

Position on plan   PD in plan of any point measured from the nearest grid line.	± 50mm
Dimensions on plan   PD from the design dimensions	± 75mm
Footing level   PD in level of surface of excavation trimmed to receive concrete.	± 75mm
Level   PD from designated level with reference to the nearest transferred bench mark of any floor slab	± 20mm

6. After the topsoil has been removed, excavation shall be carried out first to any general levels to which the ground has to be reduced and after that to the depths indicated on the drawings or to such greater depths as may be ordered or approved to ensure satisfactory foundation levels.
7. The excavated surfaces shall be trimmed to function as the formwork for the floor slabs and the column foundations to the dimensions as indicated on the drawing.
8. Immediately before any permanent construction is commenced, the bottom of each excavation shall be cleaned of all loose material and soft material shall be rammed to the level as indicated on the drawings.
9. Should the Contractor excavate to dimensions in excess of those stipulated or permitted, he shall fill in the excess at his own expense in the manner specified or approved by the Engineer.
10. Topsoil shall be stockpiled temporarily and returned to be spread over the surrounding site.



11. The Contractor properly deals with and disposes of water to ensure that the works are kept sufficiently dry for their proper execution. His responsibility will be held to include the provision of adequate protection against flooding and damage by storm water, flow from springs, and seepage, and to include provision for the repair, at his expense, any of the damage to the works that may arise as a result of the inadequacy of the protection provided by him. Foundation and floor excavations shall be kept free from water at all times until they have been inspected and approved and the concrete have been cast.

### 3.2 | Setting out of the works (SABS 1200AH (1986) - (5.2))

1. The methods of setting out employed by the Contractor shall be such that they ensure positive control of the line and the level of all construction, and shall have been approved.
2. Pegs that have been placed by the Engineer and that are likely to be disturbed during construction shall be referenced by the Contractor and shall be carefully protected.
3. From the information given on the drawings, the Contractor shall calculate the position or level, or both, of all intermediate points required by him for the proper control of the Works.
4. Bench marks will be established to the same datum as that of the reduced levels shown on the drawings.
5. As these bench marks may be disturbed during the execution of the work, all setting-out pegs and marks shall be referred to at least two bench marks. Any discrepancy discovered between bench marks shall be referred immediately to the Engineer.

### 3.3 | Computation of quantities

1. Earthworks will be measured by volume once only, in excavation.
2. Measurements will be to finished shapes, sections and profiles as shown on the drawings or ordered, and no excavation outside the specified lines and levels will be included in the measurements unless such extra work has been done on the written instructions of the Engineer.
3. The volumes of material handled will be computed from plan dimensions and the total depth excavations. Volumes removed incidentally will be disregarded in excavation quantities but the volumes (computed from areas and depths) moved in excavation of stated depth of topsoil will be added to the scheduled "Remove topsoil" volume.

#### PPS EW 3.3 Scheduled items

Remove Topsoil and stockpile.....m<sup>3</sup>

The rate shall cover the cost of removing the topsoil to a depth of 150mm, together with such vegetation and small roots occur within the specified depth, and of stockpiling it on designated sites.

Excavate in all soft and intermediate materials (including site levelling) and use for floor slope preparation and backfill and dispose of excess as ordered..... m<sup>3</sup>

Separate items will be scheduled for each type of excavation and for each type or manner of disposal of excavated material. The rate shall cover the cost of excavation, basic selection, loading, transportation within the free haul distance of 500m, offloading, spreading or backfilling, watering, compacting, final grading, complying with the requirements for tolerances, and disposal of soil, all in accordance with the requirements given on the drawings.

Extra over for

> Hard rock excavation..... m<sup>3</sup>

The rate shall cover the additional cost of the operations enumerated in "Excavate in all materials and use for floor slope preparation and backfill and dispose of excess as ordered" above for any portion of the excavation that is classified as hard rock, boulder class A or boulder Class B, as applicable (Figure 1).

The unit of measuring the excavation will be in cubic meter when completed.  
The rate tendered shall cover the cost for all excavations, handling and transporting of all materials, as specified on the drawings to include labour and hiring of plant.

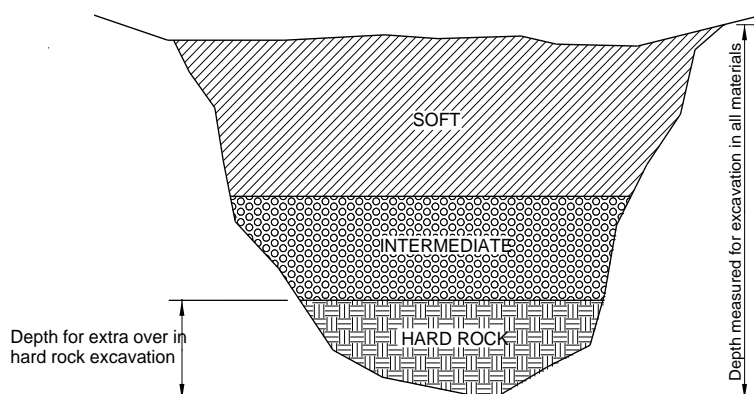


Figure 1: Classes of Excavation: Measurement and Payment

#### PPS EW4

#### SUBGRADE FILLING AND COMPACTION

##### PPS EW4.1 | Methods & standards

1. Filling under solid floor and over site is to be excavated with approved dry earth, free from clay and spread evenly in layers not more than 200mm thick, well compacted. In the case of expected above normal wetness, a layer of 150mm of G5 aggregate may be placed between the compacted in situ soil and the G7 layer. The top 150mm will be imported G7 graded aggregate.
2. The subgrade shall be compacted to **95% MOD AASHTO** density. A minimum of six positions shall be pointed out by the Engineer. The first passed test shall be paid from the provisional sum in the bill of quantities. Should the test fail, the contractor shall be liable for the re-compaction and the subsequent tests of the re-compacted materials until it meet the required compaction strength.
3. When in the opinion of the Engineer, the density of the ground under surface is not suitable, the surface shall be scarified to a depth of 150mm with a mechanical ripper or other approved equipment, watered and re-compacted.

##### PPS EW4.2 | Compaction testing (SABS 1200AH (1986) - (7.2))

1. The Contractor shall carry out, at his own cost, such tests as he considers necessary to satisfy himself that his work is sound.
2. The Engineer may order such additional tests as he considers necessary to prove compliance with the specification. The cost of such additional tests shall be borne:
  - a) by the Employer if the results of the additional tests indicate that the Works or the part of it that was subjected to the tests comply with the applicable requirements, and
  - b) by the Contractor if the results indicate that the Works or the said part of it do not so comply.

##### PPS EW4.2 Scheduled items

**Filling and compaction** ..... m<sup>3</sup>  
Filling and compaction shall be measured in cubic meter. The rate shall cover importing of material where required, watering, compacting, ripping where needed, and supplying of labour.



## CONCRETE, FORM WORK AND REINFORCEMENT

**PPS C1****MATERIALS**

1. CEMENT (only 32.5N or 42.5N Portland Cement may be used).
2. Cementitious binders shall be common cements that comply with SANS 50197-1.
3. Bags shall be clearly marked with the cement type. Bulk content delivery notes shall comply with SANS 50197-1.
4. Cement shall be stored in weatherproof conditions and in such a manner that the oldest cement is used first and, where stored in bulk, the cement drawn for use is measured by mass and not by volume.

Note 1: Cement shall be as far as is practicable, be stored in a dry, weather-proof, enclosed shed or building with a dry floor. Where it is necessary to store cement in the open, bags should be stacked on a wooden platform set on supports so that it is at least 100mm above the ground and covered with tarpaulin or plastic sheeting in a manner which ensures that the water runs off without wetting the bags.

Note 2: Bags should be stacked to a height that does not exceed 12 bags and arranged so that consignments can be used in the order of delivery. Cement which is stored in bags can lose about 30% of its potential strength after about four to six weeks, hence the need to rotate stacks in the order of first in, first out. If "old" cement is used, the mix should be richer (i.e. have a higher cement content). Cement which has lumps in it which cannot be easily crumbled to powder with the fingers should not be used.

**PPS C2.2 AGGREGATES**

1. SAND (FINE AGGREGATE):  
The fine aggregate shall comply with the requirements of SABS Specification 1083. Other aggregates may be approved if they have a satisfactory history and/or test results.  
*Aggregate for concrete shall be stored separately to prevent contamination.*
2. STONE (COARSE AGGREGATE):  
The coarse aggregate shall comply with the requirements of SABS Specification 1083. The coarse aggregate shall have a nominal size of 13mm or 19mm as specified in the scope of work.  
*Aggregate for concrete shall be stored separately to prevent contamination.*

**PPS C2.3 CONCRETE**

1. The strength given in the below shall be the minimum required at 28 days, unless otherwise specified.
2. Maximum concrete slumps acceptable for different types of construction concrete are as follows:

(a) Vibrated reinforced concrete	50 mm
(b) Unvibrated reinforced concrete	75 mm
(c) Mass concrete	75 mm
3. When so required by the Engineer, and whilst concreting is in progress, the consistency of the mixture shall be ascertained by means of the slump test as later described herein.

**PPS C2****CONCRETE STRENGTH**

1. The Contractor shall be responsible for the design of strength concrete and for the measurement of the constituent materials to produce concrete that complies with the specified requirements.
2. The relevant Engineer will decide the class and grade designation of the concrete required for each part of the work and determines suitable limitations on the constituent materials and mix proportions in accordance with the said requirements.

(a) Trial mixes:

The Contractor must ensure that samples of the constituent materials of the concrete, together with evidence that they comply with the provisions, are supplied for approval in good time and provide the Engineer with—

- i) a statement from an approved independent laboratory of the results of tests, or
  - ii) an authoritative and acceptable report, or record of the previous use of, and experience with, the material concerned.
3. The cement, types of aggregate and their origins may not be changed throughout the duration of the contract without giving prior notification to the Engineer who shall verify that the above requirements are complied with and that the important qualities of the concrete will not be impaired.

(b) Durability:

For each grade of concrete, the Engineer will, notwithstanding strength considerations, specify the cement/water ratio appropriate to the exposure conditions indicated in Table 5, SABS Specification 1200G, Sub clause 5.5.1.5.

(c) Consistency:

Unless otherwise indicated by the general workability of the concrete, method of transportation, conditions of placement or otherwise specified by the Engineer, the suggested slump values, for different mixes of concrete shall be as specified in Clause 3.4.

(d) Workability:

Ensure that the concrete is of such workability that it can be readily compacted into the corners of the formwork and around reinforcement without segregation of the materials and without excessive "bleeding" of free water at the surface.

**PPS C3****SLUMP TEST**

1. The apparatus and the method of determination of the slump of freshly mixed concrete shall comply with SABS STM 862.

(a) Apparatus

- (i) A mould in the form of a frustum of a cone and having the following nominal internal dimensions:
  - Bottom diameter: 200 mm
  - Top diameter: 100 mm
  - Height: 300 mm

The mould shall be of a metal (other than brass or aluminium) of side thickness at least 1,6 mm and shall have a smooth internal surface. The mould shall have suitable base plate and handles to facilitate lifting it from the test specimen in a vertical direction.

- (ii) The tamping bar shall have a nominal diameter of 16 mm, a length of 600 mm and with sharp corner rounded off at one end.

(b) Procedure



The test shall be carried out in an area that is free from vibration and shocks. Ensure that the internal surfaces of the mould are free from set concrete and are clean and dry. Place the mould with the bottom on a smooth, horizontal, rigid, non-absorbent surface and hold the mold firmly in place while it is being filled as follows:

- (i) Fill the mould in four layers, each thickness approximately one-quarter of the height of the mould. Tamp each layer with 25 strokes uniformly spaced over the cross-section of the mould. Tamp the bottom layer throughout its depth and ensure that when tamping the second and subsequent layers the strokes penetrate into the underlying layer.
  - (ii) After the top layer has been tamped, strike off the concrete level so that the mould is exactly filled. Clean off any concrete that may have leaked out between the mould and the supporting baseplate surface. Remove the mould from the concrete immediately by slowly and carefully raising it in a vertical direction. This will allow the concrete to subside.
2. Immediately measure the slump, to the nearest 5 mm, by determining the difference between the height of the mould and the height of the specimen. If a slump specimen collapses or shears off laterally regard the test as invalid, discard the result and repeat the test.

**PPS C4****CONCRETE QUALITY**

1. Should the engineer dispute concrete quality, the contractor shall at his own cost, prove to the satisfaction of the Engineer that the estimated actual strength of cores taken from the structure (by an approved independent testing laboratory and determined in accordance with SABS STM 865) is not less than the specified strength. If the concrete fails to meet the strength criteria stipulated, the Engineer may at his sole discretion and in addition to the options listed in SABS Specification 1200G-
  - (a) accept the concrete subject to approved remedial measures being undertaken by the Contractor at his own cost; or
  - (b) permit the concrete to remain, subject to reduced payment for lower strength concrete.
2. Frequency of sampling (SANS 2001-CC1 (2007)- 5.1.3)
  - 2.1. Subject to the requirements of 5.1.3.3, while concrete of a particular grade and in sufficient quantity is being placed under the same conditions, sets of samples of concrete (each sample being sufficient for three cubes, beams, cylinders or prisms, as relevant) shall be taken for each testing age.
  - 2.2. Unless otherwise specified in the specification data, at least one set of samples of concrete shall be taken from each day's casting or from at least every 50 m<sup>3</sup> of concrete of each grade placed, whichever represents the smallest quantity.
  - 2.3. Only one sample (set of 2 cubes for 7 and 28 days strength determination) of concrete shall be drawn from any one batch of concrete and no sample of concrete shall be taken of any grade until at least three batches of such grade have been mixed and discharged.
  - 2.4. Testing to be included under Provisional Sums in P&G's (A.3.11)

**PPS C5****PLACEMENT OF CONCRETE**

1. It is essential that the foreman who has charge of the construction of all concrete work, whether reinforced or not, shall be skilled in this class of work, and shall personally superintend the whole construction, paying special regard to—
  - (a) the quality, testing and mixing of the materials.



- (b) the laying of the material in place and the thorough compaction of the concrete to ensure solidity and freedom from voids;
  - (c) the construction and removal of formwork; and
  - (d) the sizes and positions of the reinforcement.
3. Particular care shall be taken to work concrete against formwork and around reinforcement. Internal vibrators may be used with the approval of the Engineer but external vibrators which act only on the formwork will not be permitted.
  4. Concrete to be reinforced shall be deposited in such quantities as will permit of it being properly compacted around the reinforcement.
  5. The placing of concrete shall be completed within half-an-hour after mixing or within half-an-hour after agitating and within 2,5 hours after mixing in the case of ready mixed concrete. ***On no account shall concrete be incorporated into the work after it has attained its initial set.***
  6. Care shall be taken to prevent, as far as possible, the formation of laitance or scum. Laitance is to be understood to mean the scum of strength-less and inert material which forms on the surface of concrete.
  7. Concrete must not be dropped into position from a height greater than 2,5 m unless prior approval is obtained from the Engineer.
  8. If an inclined chute is used for transporting concrete, it shall be of such slope as will ensure a continuous flow of concrete without the use of an excessive quantity of water and without segregation of the aggregates. The chute must be flushed out and properly cleaned before and after each working period. All waste from flushing shall be discharged outside the formwork.
  9. In beams, each portion of a successive layer shall be placed as soon as the concrete below has been properly worked around rods and against formwork. Concreting shall be carried forward in irregular steps, that is to say, one layer shall not be completed over the whole section before the succeeding layer is commenced. Concreting of slabs and beams shall, as far as possible, be carried forward in one operation. When concreting has to be interrupted the concrete shall be left with a level, rough top surface with ends vertical. The concrete shall not be merely sloped down.
  10. On resuming concreting, the old surface shall be roughened and all laitance thoroughly and carefully removed before any new concrete is deposited. This must be carried out by brushing the surface of the concrete while it is still green. Great care must be taken to avoid any weakness at the junction of old and new concrete, and the old surface shall be coated with a thin layer of cement and sand mortar, in the same proportions as that of the adjoining concrete.
  11. While the concrete is setting it shall not be disturbed or shaken by traffic, either on the concrete itself or upon adjoining formwork.
  12. No holes in concrete elements shall be patched or filled in without inspection, instruction and approval of the Engineer.
  13. No concreting shall be carried out when the air temperature is below 4 °C when it is rising and 8°C when it is falling.
  14. Before concreting is commenced the Contractor shall give the Engineer 24 hours' notice of his intention to do so. On sites further than 200 km from the Engineer, 48 hours' notice must be given.
  15. Concrete surface beds, excluding heavy industrial floors etc. shall be Class C concrete and shall be laid in suitable size panels not exceeding 20 m<sup>2</sup> in area and with the length of any panel not exceeding 4,5 m.
  16. Where concrete beams are supported on concrete columns, the columns are to be concreted up to the underside of such concrete beams and then concreted up to the top of the beams, integral with the beams.





17. Any finish applied to the surface of concrete floors, is to be understood as being additional to the thickness of the concrete described or shown on the drawings.

**PPS C6****CURING OF CONCRETE**

1. After the concrete has been placed, all exposed surfaces shall be kept continuously damp for at least 10 days by methods as may be approved by the Engineer, such as covering with approved building paper, or by means of wet canvas, wet sacks, wet sand, by continuous hosing or ponding with water.

**PPS C7****BUILDING ON CONCRETE FOOTINGS AND BEAMS**

1. No brickwork, stone walling or other structure shall be built on concrete footings until at least three days after placement of the concrete in the case of mass concrete footings and after seven days in the case of reinforced concrete footings or as may otherwise be directed by the Engineer.
2. No brickwork, stone walling or other structure shall be built on reinforced concrete beams or similar members until the formwork and all props or supports have been removed.

**PPS C8****SLIP JOINTS BETWEEN CONCRETE AND BRICKWORK**

1. Slip joints shall be provided between brickwork and concrete slabs and beams by levelling up and troweling smooth the bearing surfaces of brickwork with 3:1 cement mortar and covering the bearings before the concrete is cast, with two layers of one side smooth tempered hardboard, with the smooth sides in contact.
2. The ends and sides of beams and edges of concrete slabs shall be separated from the brickwork with 13 mm thick bitumen impregnated softboard or expanded polyethylene strips placed vertically against the brickwork before the concrete is cast.
3. Similar slip joints shall be provided between brickwork and concrete lintels cast in situ, but without soft board or expanded polyethylene strips at ends.

**PPS C9****MOVEMENT JOINTS**

1. All movement joints are to be filled in with approved bitumen impregnated softboard or expanded polyethylene strip unless otherwise specified or detailed on drawings. Form similar movement joints where pathways adjoin buildings externally. Descriptions (prices) of movement joints shall be deemed to include formwork.

**PPS C10****PRE-STRESSED CONCRETE LINTELS**

1. The concrete lintels must comply with the requirements of SANS 1504: 1990.
2. Minimum compressive strength: 35 MPa.
3. The lintels should always be bedded on mortar.
4. Brickforce to be used between **all** courses of brickwork above lintels longer than 2.50m. For lintels shorter than 2.50m brickforce shall be used every second course.
5. Lintels to be laid with the **hollow** side up, and never upside down, with the height always being 70/75mm .





6. Longer lengths should always be supported in at least 3 places and should be transported and stored on their side until used to prevent cracking or breaking.
7. The installation guidelines for pre-stressed concrete lintels are as per Table 7 below. For required sizes and number of lintels required for this project, see Section MS 1.10.

Table 7: Installation guidelines for concrete lintels			
LINTEL LENGTH (M) >	< 1.5m	1.5 - 2.5m	> 2.5m
Bearing on each side, minimum*	150mm	250mm	350mm
Brick courses above lintel, minimum	4	4	5
Support/props every x metres	1.0m	1.5m	1.5m
Days support required*	7	7	7
*(Ref: NHBRC Part 3, Sec 3 Feb 1999 Rev No.1)			

**PPS C11****FORMWORK**

1. Formwork shall include all shuttering, casing and centering of weaved material required for the laying and forming of concrete floors, slabs, beams, lintels, walls, steps, columns, piers, pilasters and any other concrete work requiring moulds or forms and shall embrace all cleats, battens, fillets, wedges, struts, trestles, braces, props, shores and other requirements of weaved material for keeping all in correct position. All materials used for formwork must be suitable and substantial and all joints must be tight enough to prevent leakage of liquid matrix.
2. All formwork must be designed by the Contractor and if requested to do so, he must submit fully detailed and dimensioned working drawings to the Engineer for checking purposes.
3. Acceptance of the proposals shall not relieve the Contractor of his responsibility for the safety and stability thereof nor for any loss or damage arising out of defective design, materials and/or workmanship.
4. The formwork must be so constructed that its partial removal can be carried out to the satisfaction of the Engineer and in such stages as are required by the working conditions. As far as possible, wedges and clamps must be used in preference to nails. All formwork in its various sections for floors, beams, etc. must be so arranged that the whole may be raised or lowered either independently or together with other sections by means of wedges or other approved methods.
5. Immediately before concreting is begun, the formwork in contact with the concrete must be thoroughly cleaned, wetted and kept damp whilst the concrete is being placed. Great care must be taken to keep the formwork wedged up to its correct height and this must be checked by taking levels immediately before concreting is commenced and immediately after it has been completed.
6. The minimum periods that the formwork to the various parts of the structure is to remain in position after concreting shall be 7 days. When determining the stripping time for formwork the weather shall be considered to be "normal" when the temperature is above 18 °C and "cold" when the temperature is between 5° and 10 °C, these being the average daily temperatures of the atmosphere adjacent to the concrete. When the average daily temperature lies between the above values for "normal" and "cold" weather the minimum period for stripping of formwork shall be determined by the Engineer.
7. Notwithstanding the above minimum periods, formwork may be struck immediately the concrete in the various parts of the structure has attained the crushing strengths required by the Engineer. The crushing strengths must be determined by proper tests, which shall be carried out by the Contractor.
8. No formwork of any nature whoever shall be struck, either after the elapse of the minimum periods stated in the above table or on the attainment of the required crushing strengths of the concrete, without the prior consent of the Engineer. Such consent will not absolve the Contractor of his responsibility for the safety of the structure.



9. In structures having either in whole or in part, two or more reinforced concrete floors, props shall be provided under the soffits of any beam or slab of any floor which is being used to support the formwork and wet concrete of the floor above, all to the approval of the Engineer. The props shall not be removed until the formwork supporting the concrete of the floor above has been struck.
10. On no account shall steel formwork be oiled where concrete is to receive plaster.
11. Formwork is measured to the net surfaces of concrete to be supported, except at intersections of beams with beams, columns, walls, etc. and tops of columns with slabs, beams, etc. where no deductions have been made and descriptions (prices) shall be deemed to include use and waste, except where the formwork is of a permanent nature or is to be left in, fitting together to all required shapes, all cutting, intersections, cambering where required, holes for rods, bolts, pipes and the like, propping, maintaining, keeping damp whilst the concrete is being deposited and removing. Formwork "left in" and permanent formwork shall be deemed to include leaving in formwork, props, etc.
12. Descriptions (prices) of formwork to soffits shall be deemed to include propping not exceeding 3,5 m high unless otherwise described. Descriptions (prices) of formwork to walls and columns shall be deemed to be not exceeding 3,5 m high above bearing level unless otherwise described. Descriptions (prices) of formwork to soffits of solid slabs shall be deemed to be to slabs not exceeding 250 mm thick unless otherwise described.

**PPS C12****SMOOTH FORMWORK**

1. Smooth formwork shall be any material approved by the Engineer which is to be used to leave concrete surfaces smooth when removed and where no other finish is to be applied.
2. Descriptions (prices) shall be deemed to include for rubbing off all projections at seams etc. after removal of the formwork, making good any defects with 2:1 cement mortar and leaving a smooth surface with all arises slightly rounded, all to the satisfaction of the Engineer.

**PPS C13****REINFORCING RODS**

1. Mild steel shall comply with the requirements of SABS Specification 920, Type A or B.
2. High tensile steel shall comply with the requirements of SABS Specification 920, Type C or D.
3. Pre manufactured reinforcing sheet mesh shall comply with the relevant SABS codes, and shall be of the reference code as specified in the drawings.

**PPS C14****CONCRETE REINFORCEMENT**

1. Applicable Specifications: SANS 282: 2011-Bending Dimensions and scheduling of steel reinforcement for concrete. SANS 10144: 1995 Code of Practice for Detailing of Steel Reinforcement for concrete.
2. Rod reinforcement: Bending and hooking of rods shall be done in accordance with SABS Specification 82. Rods shall be bent cold in an effective bending machine, or properly designed rod-bender using a steady pressure and not by hammering.
3. Diameters, lengths and positions of rods as shown on the drawings must be strictly adhered to. Joints in rods in beams, stairs, etc. will be permitted only where shown on drawings.
4. Before being placed in position, the rods shall be thoroughly cleaned of all grease, dirt, bituminous material, scale and loose rust.
5. All distribution rods shall be straight and shall extend at least 150 mm into beams or other support.



6. Unless otherwise shown on the drawings, all joints in reinforcing rods shall be lapped 50 times the diameter of the rod. The laps shall be securely tied with 1,25 mm diameter annealed mild steel binding wire.
  7. Reinforcement for piles, column footings, columns and walls shall be tied at every intersection, or as directed or shown on drawings, with similar binding wire.
  8. Reinforcement in beams shall be tied at alternate intersections in a diamond pattern, unless circumstances demand every intersection.
  9. Great care must be taken to retain the reinforcement in its correct position during the entire period of concreting. Blocks of fine concrete, size approximately 40 x 40 mm, or plastic spacers, shall be provided on the formwork to soffits of beams to ensure that the rods are retained in position and then the correct concrete covering to the main reinforcing rods is provided. The blocks shall be of thickness required and shall be placed under the main reinforcing rods at approximately 600 mm centres.
  10. Reinforcement in the top of slabs and the like shall be retained in position by means of cradles (stools), formed of steel reinforcing rod as follows:
    - > R10 for height range 100-300 mm and maximum width of 300 mm.
    - > R12 for height range 310-500 mm and maximum width of 450 mm.
  11. Recommended spacing of supports for horizontal bars in slabs:
    - > Not further than 600 mm apart (cradles  $\pm 1000$  mm c/c in both directions) for bar diameters up to 12 mm.
    - > Not further than 1 000 mm apart (cradles  $\pm 1\ 500$  mm c/c in both directions) for bar diameters of 16 mm and over.
  12. Stools are to be placed on the bottom layer of reinforcement, securely retained in position and with correct concrete cover as specified. Cradles are to be securely wired to the slab reinforcement with binding wire. Beam rods in different layers shall be separated by means of steel spacer bars of suitable diameters and lengths.
  13. Double mats in concrete walls shall be kept in their respective positions by means of suitable steel clips. Recommended spacing of supports for vertical bars in walls:
    - 1 000 mm centres in both directions for bars up to 12 mm diameter,
    - 1 500 mm centres in both directions for bars of 16 mm diameter and over.
- Supports can be spaced more closely by the design Engineer, depending upon the circumstances.
14. All stirrups shall be properly fastened to the rods so as to retain their relative positions during the entire period of concreting.
  15. Welding of main rods will not be permitted unless approval has been given by the Engineer. Spot welding in lieu of wiring may be used to secure rods and stirrups in position.
  16. The concrete covering the main reinforcement, unless otherwise specified, shall not be less 50mm.
  17. Depending on the condition of exposure and fire resistance requirements, concrete cover can be varied by the design engineer but in no case shall the concrete cover be less than the diameter of the rod to be covered.
  18. The cover shall be measured from the face of the concrete to the outside of main reinforcement nearest the face of the concrete, and shall exclude plaster and similar finishing materials.
  19. Top reinforcement in cantilever slabs to be kept in position with a first row of stools or chairs 300 mm from the beam or support, and thereafter at a maximum of 40 bar diameters under each bar.

20. The cover blocks, spacers, bars and stools or chairs are to be placed and/or wired in position by the steel fixer.
21. Welded steel fabric shall comply with the relevant requirements of SABS 1024.
22. Steel shall be stacked off the ground as to prevent distortion, and shall be protected from aggressive environments and contamination.
23. Foundation specifications  
Strip footing to be Class C concrete and surface finishes as per drawing (min U2 finish): **20MPa/19mm**, 1 : 2½ : 3½ mix, slump to SABS 1200GA (5.4.1.2). All foundations are to be properly cured for a minimum period of seven days by keeping moist and covered over this time or by applying a concrete curing compound (applied as per manufacturer's specifications). Permissible deviations: SABS 1200 GA (6.4) Degree of accuracy III for concrete.

Strip footing to be reinforced with 6 x Y12 rods throughout all foundations tied to base reinforcing and suitably tied together with stirrups (R6 @ 600mm CTC with a minimum cover of 40mm) to bending code 60 with shape code dimensions of:

A = 150mm and B = 600mm (External walls)  
A = 150mm and B = 500mm (Internal walls)

See figure 2.

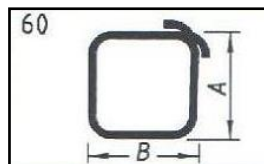


Figure 2 – Bending schedule for strip foundation reinforcement

24. Slab reinforcing  
Ref 193 fabric mesh is required for the apron and throughout the main building, except for in the storage/tray filling area, where Ref 395 is required. It must be sized and placed so it doesn't go across the joints and is to be inspected before concrete is placed.

#### PPS C15

#### DAMP-PROOF MEMBRANE

1. The damp-proof membrane under floor shall, unless otherwise specified, be of polyethylene sheeting complying with SABS Specification 952 0,375 mm thick (375 microns) and manufactured in widths of 1000 mm and greater, all laid in the widest practical widths to minimise joints, turned up and dressed to load bearing walls and, if applicable, lapped with the damp-proof course in the walls. All joints shall be sealed with pressure sensitive tape applied over the leading edge of the joint. NB: All cutting of plastic membranes shall be carried out using sharp instruments.

#### PPS C17

#### MEASUREMENT AND PAYMENT

tem

Unit

**PPS C17.1 Mass concrete foundations (20MPa) .....m<sup>3</sup>**

The unit of measurement shall be in cubic meter. The tender rate shall include full compensation for the design of concrete mixes, testing of concrete and materials, supply, delivery, handling and storage of all materials, mixing, placement, shaping, floating, curing, and striking, of all components.

**PPS C17.2 Mass concrete floors, apron and ramp (25MPa) ..... m<sup>3</sup>**

The unit of measurement shall be in cubic meter. The tender rate shall include full compensation for the design of concrete mixes, testing of concrete and materials, supply, delivery, handling and storage of all materials, mixing, placement, shaping, floating, curing, and striking, of all components.

**PPS C17.3 Pre-stressed concrete lintels .....No.**

The unit of measurement shall be in number of various sizes as specified in drawings and bill of quantities.



The tender rate shall cover the full cost of supply, delivery storage and placing of lintels according to drawings and specifications.

**PPS C17.4 Reinforced concrete slab (25MPa) ..... m<sup>3</sup>**

The unit of measurement shall be in cubic meter. The tender rate shall include full compensation for the design of concrete mixes, testing of concrete and materials, supply, delivery, handling and storage of all materials, mixing, placement, working and packing around reinforcement, shaping, floating, curing, and striking, of all components.

**PPS C17.5 Steel reinforcement ..... Sum**

The unit of measurement will be a total sum. The tender rate shall include the supply, delivery and storage of all material. The rate shall include cutting, bending, waste, binding, and binding materials, and placing of all reinforcing elements as specified in drawings and specifications.

**PPS C17.6 Damp proof membrane - floors .....m<sup>2</sup>**

The unit of measurement will be in square meter. The tender rate shall include the supply, delivery and storage of all material. The rate shall include cutting, placing of all damp proof sheeting, sealing of joints and compensation for wastage as specified in drawings and specifications.

**PPS C17.7 Damp proof sheeting – walls ..... m**

The unit of measurement will be in running meter to the specified width. The tender rate shall include the supply, delivery and storage of all material. The rate shall include cutting, placing of all damp proof sheeting, sealing of joints and compensation for wastage as specified in drawings and specifications.

**PPS C17.8 Welded Mesh .....m<sup>2</sup>**

The type will be stated. The unit rate for welded mesh shall cover the supply and cutting, placing of mesh and all cost of all wasted due to laps

**PPS C17.9 Concrete cube testing .....No. of sets tested**

The unit of measurement will be the number of sets tested. The tender rate shall include the cube preparation, transport costs and lab fees, as well as the test report..

**PPS C17.10 Formwork .....m<sup>2</sup>**

The unit of measurement will be in square meter. The tender rate shall include the supply, delivery and storage of all material. The rate shall include cutting, placing and supporting of all formwork.

## MASONRY WORKS (MS)

<b>PPS MS1</b>	<b>BRICK AND BLOCK WORK</b>
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<b>PPS MS1.1</b>	<b>CEMENT</b>
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Cement shall be as described in PPS C1.

<b>PPS MS1.2</b>	<b>SAND</b>
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Sand shall comply with the requirements of SABS Specification 1090, unless specialist advice is obtained. A sample of 25 kg must be delivered to the Departmental Laboratory for testing purposes.

**PPS MS1.3****BURNT CLAY BRICKS**

1. Burnt clay bricks shall comply with the requirements of SABS Specification 227, and shall be equal in all respects to the selected samples. Clay bricks for foundations shall be of the NFX-14MPa type extra hard burnt, or 14 MPa cement bricks. Bricks above foundation level to be of the NFP (plaster) type.
2. Where bricks with holes are used, the holes in such bricks must only be filled in solid with mortar where specifically specified.
3. All bricks that do not carry the SABS-mark, must be approved by the Departmental or sent to an approved laboratory at the cost of the contractor.

**PPS MS1.4****CEMENT MORTAR**

1. Cement mortar shall be composed of 5 parts (by volume) of sand and 1 part (by volume) of cement. The material shall be mixed dry until of uniform colour and then water added and the mixture turned over until the ingredients are thoroughly incorporated. Cement mortar shall be produced in such quantities as can be used before commencing to set as no cement mortar that has once commenced to set shall be used in any way.
2. Care shall be taken in mixing cement mortar to remove from the mixing machine or platform any old mortar that has already set as such mortar may not be incorporated into a new batch.

**PPS MS1.5****VENTILATION BRICKS**

Standard **burnt clay** vermin proof ventilation airbricks (figure 3) shall be used and must comply with relevant SANS specifications. Dimensions: 222mm x 150 x 30-40mmmm.

*Figure 3. Example of a burnt clay ventilation brick*

**PPS MS1.6****BRICKWORK**

1. Exterior walls to be double skinned, with brickwork laid in stretcher bond.
2. A facebrick class FBX will be used for the outside skin of the exterior wall, whilst NFS bricks will be used for the inner skin.
3. All FBX bricks to be red clay (Firelight Travertine/Firelight satin), except for three courses (10<sup>th</sup>, 25<sup>th</sup> and 35<sup>th</sup> measured from finished floor level), which will be off white/yellowish (Maize travertine).
4. Brickwork shall be built level and plumb with mortar as specified. The bricks shall be laid on a solid bed of mortar and all joints thoroughly grouted up solid throughout the whole width of each course. The brickwork shall be carried up in a uniform manner, no one portion being raised more than 1,2 m above another at any one time.
5. Clay bricks shall be well saturated with water, in the stack or dump, approximately 2 hours before being used. The tops of walls left unfinished shall be well wetted before work recommences. NB: Cement or concrete bricks shall not be wetted.
6. All rough and fair cutting, cutting of splays, skewbacks, chamfers, etc. shall be properly performed. Form or leave all necessary openings for pipes etc. and make good after pipes



etc. are fixed in position.

7. Brick pillars to be built around the columns of the steel portal. See Drawing 17 – STO/RDN/2020/060.

**PPS MS1.7****BUILDING IN**

1. Ends of timbers, holdfasts, cramps, gratings, air bricks, dowels, etc. shall be built-in in cement mortar.
2. Door and window frames, lift door frames and the like shall be set up in position for building in and securely strutted to prevent distortion whilst the brickwork, lintels, etc. are being built.
3. Pressed steel door frames and lift door frames shall be grouted in solid at back with cement mortar as the work proceeds.
4. Wood slips, fixing bricks, hoop iron roof ties, etc. shall be built in as the work proceeds.

**PPS MS1.8****BRICK REINFORCING**

1. Brick work reinforcement ("brickforce") is to of approved SA manufactured welded high-tensile steel wire reinforcing fabric of 150mm x 2.8mm, (100mm x 2.8mm for M150 blockwork) cut to length and lapped full width at corners and passing.
2. The rate shall include the installation of brick force in the rate of brick and block work:
  - At **every** brick course the first 3 courses above lintels  $\geq 2.5\text{m}$ , otherwise every second course;
  - At **every second** course above lintels  $\geq 2.5\text{m}$  from course 4 upwards;
  - At **every second** course in the foundation wall;
  - At **every third** course in the exterior wall between the foundation and the lintel.
  - At **every second** course of blockwork.

**PPS MS1.9****BEARING PLATES ON WALLS**

1. Bearing plates shall be bedded in mortar similar to that used in masonry work, and shall be set level.

**PPS MS1.10****LINTELS**

1. The dimensions of the lintels to be used for this project are as per Table 8. For general specifications see Section PPS C11.

*Table 8: Type and number of required pre-stressed concrete lintels for this project.*

	Location	Number of lintels	Size (mm)	Length (m)	Bearing
1	G1 type windows	6 x 2	105 x 70/75	900mm	200mm
2	D7 , G7, 5HCH windows, French door,	10 x 2	105 x 70/75	1500mm	240/160/150mm
3	6HCH pivot windows, C4 window	3 x 2	105 x 70/75	1800mm	277/145mm
4	D22F window	2 x 2	105 x 70/75	2400mm	200mm
5	Roller shutter door (2.50m)	1 x 2	105 x 70/75	3000mm	250mm



*Table 8: Type and number of required pre-stressed concrete lintels for this project (ctd)*

	Location	Number of lintels	Size (mm)	Length (m)	Bearing
6	Roller shutter door (3.00m)	1 x 2	105 x 70/75	3900mm	450mm
7	Single leaf standard doors	2 x 2	140 x 70/75	1200mm	194mm
8	Sliding windows, disabled toilet	6 x 2	140 x 70/75	1500mm	250mm
9	Strip curtain doors of germination room	2 x 2	140 x 70/75	2100mm	300mm

**PPS MS2****DAMP-PROOF COURSE**

1. The horizontal and vertical damp-proof course shall be of black polyethylene sheeting complying with SABS Specification 952 Type B having embossed surfaces, 0,38 mm thick (375 microns) and manufactured in widths of less than 1000 mm.
2. The damp-proof course shall be the full thickness of walls above foundations, plus the width of floor plates where these occur, and shall be laid without longitudinal joints. At end joints, angles and intermediate junctions the sheeting shall be lapped for 150 mm.
3. Where so required all laps in the damp-proof course shall be sealed over the whole area of laps as recommended by the Manufacturer. Care shall be taken not to tear or otherwise damage the sheeting. Similar damp-proof course, 120 mm wide x 250 mm long, shall be laid on sleeper piers under the floor bearers.
4. Similar damp-proof course, but in unbroken lengths, shall be laid behind all window sills, sealed with an approved bituminous solution to the back of the sills and taken down within the thickness of the wall and under the first full course of external brickwork.

**PPS MS3****PLASTERING**

1. Cement plaster for 1 coat work on brickwork shall be composed of 4 parts of sand to 1 part of cement for internal work and 5 parts of sand to 1 part of cement for external work, all measured by volume, and mixed as described for cement mortar.
2. Plaster on walls shall be not less than 12 mm or more than 20 mm in thickness and plaster on concrete ceilings and beams shall not be less than 9 mm or more than 16 mm in thickness.
3. Walls shall be well wetted before plastering is commenced.
4. The surfaces of plastered walls internally shall be steel troweled to a smooth, even and true finish. All external plaster shall be finished to a true and even surface with a wood float. All plaster surfaces shall be free from blemish.
5. Plaster shall be returned into reveals and soffits of openings and all angles shall be true and straight with salient angles slightly rounded.
6. The rendering coat of plaster in two coat work shall be approved by the Engineer before the setting coat is applied and notice shall be given to the Engineer when the plaster is ready for inspection.

All cracks, blisters and other defects shall be cut out, made good and the whole left perfect at completion.



**PPS MS4****MEASUREMENT AND PAYMENT**

Item	Unit
<b>PPS MS4.1 Foundation walls (Brick work)</b> ..... m <sup>2</sup> The unit of measurement shall be in square meter in cement mortar as described, including brickforce work. The tender rate shall include full compensation for the supply of labour, bricks, placing, cutting, wastage, reinforcing, bracing and protection of work during construction.	m <sup>2</sup>
<b>PPS MS4.2 Outer and inner walls (Burnt Clay Bricks)</b> .....m <sup>2</sup> The unit of measurement shall be in square meter in cement mortar as described, including brick force work. The tender rate shall include full compensation for the supply of labour, bricks, placing, cutting wastage, reinforcing, bracing and protection of work during construction.	m <sup>2</sup>
<b>PPS MS4.3 Internal walls (M150 cement blocks)</b> .....m <sup>2</sup> The unit of measurement shall be in square meter in cement mortar as described, including brick force work. The tender rate shall include full compensation for the supply of labour, bricks, placing, cutting wastage, reinforcing, bracing and protection of work during construction.	m <sup>2</sup>
<b>PPS MS4.4 Ventilation bricks</b> .....No. The unit of measurement shall be in number in cement mortar as described, including brick force work. The tender rate shall include full compensation for the supply of labour, materials, placing, reinforcing, bracing and protection of work during construction.	No.
<b>PPS MS4.5 Plaster work</b> .....m <sup>2</sup> The unit of measurement shall be in square meter for all plaster work. The tender rate shall include full compensation for the supply of labour, materials, placing, and wastage, finishing, and clearing of wastage.	m <sup>2</sup>
<b>PPS MS4.6 Formwork (smooth finish)</b> ..... m <sup>2</sup> The surfaces to be so formed will be identified in the schedule. The rate shall cover the cost of all parts of formwork in contact with the concrete, and the necessary bearers, struts and other supports, plus the labour and plant necessary to erect and strike such formwork.	m <sup>2</sup>

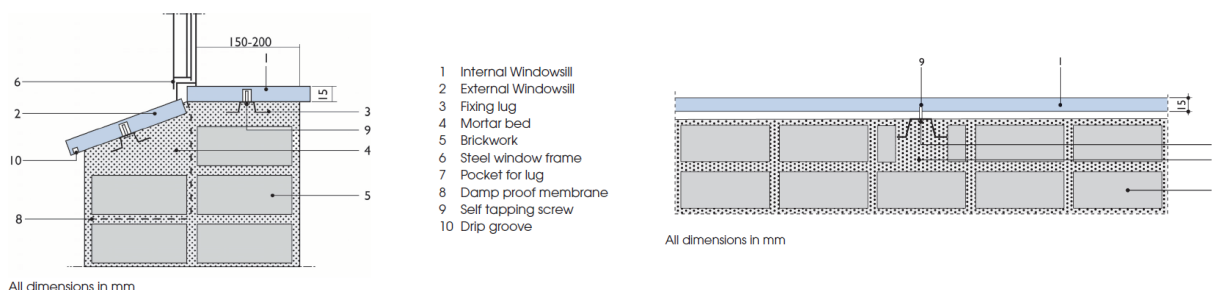
**WINDOWS / DOORS / FITTINGS (F)****PPS F1****STEEL WINDOWS**

1. Steel windows shall be in accordance with SABS 727 and additions.
2. Windows and components, shall, before leaving the Manufacturer's works, be cleaned by acid pickling, rinsing and drying, all as laid down in SABS Code of Practice 064, or by other approved means, to remove all scale, rust, grease, oil and foreign matter and then primed with red oxide zinc chromate primer complying with the requirements of SABS Specification 909, applied by dipping or by means of a spray gun.
3. All external windows shall be hot dip galvanized and of the cottage type. Five aluminium sliding windows to be installed in interior walling.
4. Windows shall be fitted with solid, heavy duty brass handles, stays, catches and other fittings having a polished finish and those to all other windows tumbled finish. The fittings shall be fixed in such a way as to be removable after windows have been glazed. After the windows have been built in, but before being glazed, they shall be overhauled, adjusted as necessary and left in good order.

## 5. WINDOW SILLS

All windows in the exterior brick wall, except for those placed in the ablution rooms, to have exterior and inside sills made of 15mm thick fibre cement. Natural grey sills in single lengths bedded in class I mortar. 250 micron DPC to be placed under the window frame and sill as per the Drawing of Figure 4.

Figure 4: Cross section of exterior double brick wall with window sills



*A) Section showing positions of sills*

*B) Section through sill showing pocket for fixing lug*

## 6. GLAZING

Glass to be installed as per *SANS 2001-CG1:2007 - Installation of glazing in window and door frames*  
Panels shall be floated glass of "GG" quality and have a thickness of **4mm**.

Excerpts of SANS 2001-CG1:2007 with clauses that are of particular reference to this project:

## 4.2 Preparation

- 4.2.1 Before commencing glazing operations, it shall be confirmed that:
- a) the fixing of the frame has been completed,
  - b) protective coatings or tapes have been removed from the frames,
  - c) rebates are free from obstructions and debris,
  - d) all surfaces which are to come into contact with the bedding material have been primed or sealed.
- 4.2.2 The surfaces, which will come into contact with glazing materials, shall be cleaned and dried. All contaminants and any protective tape shall be removed.
- 4.2.3 All metal frames shall, before glazing, be painted with an anti-corrosive primer.
- 4.2.5 Glass sheets shall be checked for edge clearances which shall be not less than
- a) 3 mm for glass of length or width up to 2 m, and
  - b) 5 mm for glass of length or width over 2 m.

#### 4.4 Glazing with putty

- 4.4.1 Sufficient bedding putty shall be applied to the rebate to ensure that when the glazing material is pressed into position, the putty is squeezed out around the entire perimeter of the glazing rebate.
- 4.4.2 The glass shall be so positioned that an even bearing is obtained and edge clearances are equal all the way round the pane. The pane shall thereafter be pressed and bedded into the bedding putty until it is at least 3 mm from the back surface of the rebate.
- 4.4.4 The front putty shall thereafter be applied and finished off to a splayed finish. The back putty shall be trimmed and finished off to a smooth finish.
- 4.4.5 Upon completion, the putty shall be brushed lightly with a small brush to seal the edges against the glass and the surround.

## PPS F2

## PRESSED STEEL DOOR FRAMES

1. Pressed steel door frames shall be of an approved South African manufacturer, constituting of mild steel cold-rolled sheet 1,63mm thick for single and double rebated frames. Rebate sizes suitable for standard 42mm thick timber doors.
2. Members to be accurately bent to profile, and corners mitred and welded and reinforced. 1.63mm thick adjustable 228mm long corrugated lugs with end split and bent for building in are to be supplied with



- every frame, three at each side.
3. The frames must be grease, scale and rust free, and painted with one coat of zinc-chromate primer, in the factory.

**PPS F3****HARD WOOD DOORS**

1. Panelled Meranti doors (813 x 2032 x 42mm thick) will be of a solid timber construction. Doors to be fitted with a SABS approved locking mechanism, pre-approved by the engineer. No two locks will have inter-changeable keys, and all are to have duplicate keys.

**PPS F4****STEEL ROLLER SHUTTER DOOR**

1. For diagram showing roller shutter door feature, see Figure 5.
2. Two **heavy duty steel roller doors** for the opening consisting of curtain, vertical guides and overhead mechanism (3.00m x 2.50m-chain operated) and 2.50m x 2.2m-push up type) to be fitted flat against surface of opening and. The Roller shutter door shall be constructed of galvanized steel components.
3. Slats must be cold rolled interlocking Z275 galvanised mild steel sections of specified profile and in continuous lengths without joints, forming a weather proof curtain capable of withstanding a wind loading of 70 kPa.
4. The mass of interlocking slats (excluding T-bar) must be 11,5 kg/m<sup>2</sup>.
5. Bottom Rail (T-Bar) Assembly (11). The bottom edge of the curtain to be reinforced with a double steel angle to form an inverted T-section to be riveted to or welded unto the bottom slat. T-bars to be constructed of aluminum extrusion reinforced by 2" x 1-1/2" galvanized steel angle, and to have a replaceable vinyl or rubber strip weather seal. Slide bolts (for Padlocks) to be installed on either side of the T-Bar.
6. Lifting handles must be provided on the T-bar of hand operated (push-up type) doors on the side from where it is to be operated: two of 40 x 40 x 3 mm mild steel angle, for doors of 1500 - 5500 mm width);
7. Curtain guides must be 12 gauge/ 2.6mm minimum thickness cold rolled mild steel channel with minimum depth of 50 mm for the 2.50m door and 70 mm for the 3.00m door.
8. Provide guides with the necessary bellmouths, 25 x 3 mm flat mild steel T-bar stoppers, and 50 x 5 mm mild steel fixing lugs with 11 mm diameter holes for fixing bolts.
9. End plates must be 4 mm minimum thick mild steel plate, fastened to supporting wall angles with not less than two 10 mm diameter bolts.
10. Outer and inner tubes of barrels or shafts must be complete with springs, anchors, barrel end castings, ball bearings, stub axles and rings.
11. Torsion spring must be hard drawn spring steel wire to DIN 17223/1984 or BS 5216/1980. Adjust spring so that door, when stationary, does not move more than 200 mm up or down.
12. Canopy covers to be hot dip galvanized (class Z275) and must be 1.2 mm thick.
13. Flexible PVC wear strips to be attached to the curtain to reduce friction and ensure a quiet and smooth operation. Alternatively polypropylene or malleable iron end locks to be fitted on every alternate slat on either side of the Roller Shutter Curtain.
14. Chain-operation must be by endless hand chain that will not foul the opening of the doorway, and hangs to within 1 m of the floor. Provide a chain lock on one of the guides.

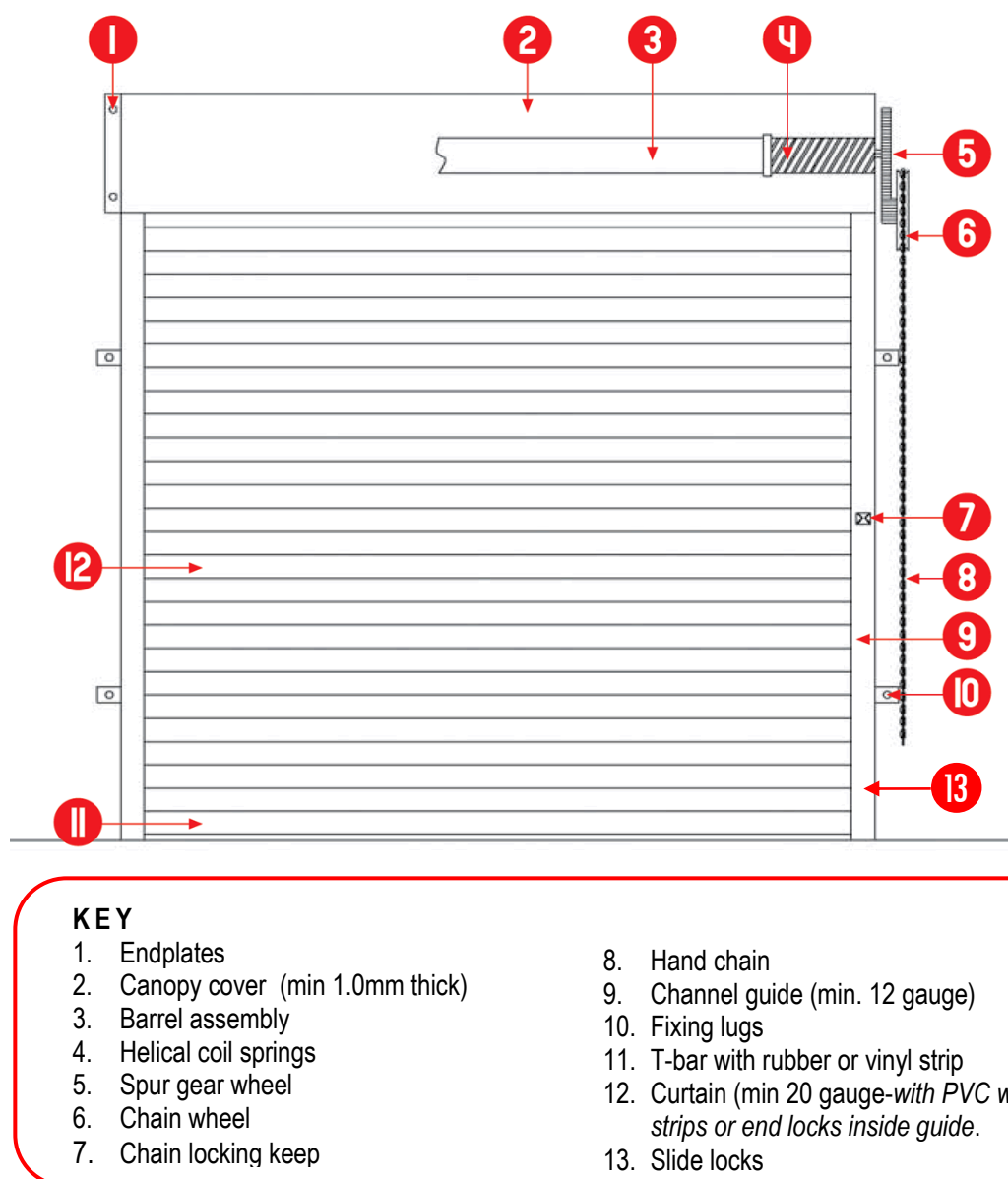


Fig 5: Diagram showing the minimum list of features the roller shutter door must be equipped with.

#### PPS F5

#### ALUMINIUM WINDOWS

1. Glazed aluminium alloy windows and sliding doors for external use must comply with SABS 1651 and be of type and dimension, handing, finish, type and quality of glass, colour of gaskets and weather-strips, material and finish of hardware, insect screens, whether weather-strips are to be renewable, additional security devices and performance class as specified.
2. Aluminium framed windows and doors must be manufactured according to the minimum requirements of the Association of Architectural Aluminium Manufacturers of South Africa (AAAMSA).
3. Frame parts must be joined by mechanical means or by welding. Joints may have flush, stepped or lapped surfaces. Mitred joints may only be flush. All joints must be sealed. Contact between incompatible materials is not allowed.
4. Accessories must be removable without having to remove the frames from the structure. Sliding members must be fitted so that no metal to metal sliding contact occurs.



5. Sealants must be compatible with aluminium, and fitted so that the performance of the sliding or swinging parts is not impaired by their deterioration.
6. Glazing beads, gaskets and glazing compounds must be compatible with the aluminium, its finish and with the glass. No putty is permitted.
7. Windows to be fitted at the last possible stage in the building process to prevent damage and staining of the aluminium frames.
8. Frames to be protected against impact or scratching by wrapping with paper or plastic or covering with a light tack tape, and leave these wrappings in place until all rough trades are finished.
9. Fixings to be aluminium or 304 grade stainless steel.
10. Five aluminium windows to be installed in the Office (3x), Kitchen (1x) and Meeting Room (1x).
11. Aluminium windows to be supplied complete with glazing.

**PPS F6****WATER TANK, TANK BASE AND PIPING**

1. The SABS approved 5000-5300 liter polythene water tank shall be manufactured from LLDPE, UV stabilized raw materials, and comply with F&DA regulation 177.1520 for food contact application, and carry a minimum five (5) year manufacturer's guarantee. The tank must be supplied with at least a 40mm inlet connector at the top, a 40mm outlet connector at the bottom, and a 450mm lid. The tank must be connected to roof gutters, securely mounted on the stand.
2. The tank base shall be constructed as per specifications on the drawing. All specifications applicable under concrete work, and masonry work will apply.
3. All water installations must be neat and watertight without any leakages and be tested. The stand must be constructed to the specification on the plan (plan 4 of 5) to a height of at least 0.6m high (including the concrete slab). The water tank must be securely tied down and mounted on the stand and must have a 25mm tap.

**PPS F7****MEASUREMENT AND PAYMENT**

Item	Unit
<b>PPS F7.1 Steel pressed windows</b> .....	No.
The unit of measuring the windows will be in number, measured as fitted and glazed. The tendered rate will be in full compensation for material and transport fitment, glazing and labour.	
<b>PPS F7.2 Steel &amp; hardwood door frames</b> .....	No.
The unit of measuring the door frames will be in number, measured as fitted. The tendered rate will be in full compensation for material and transport fitment, and labour.	
<b>PPS F7.3 Hardwood doors/Pine ledged &amp; braced batten doors</b> .....	No.
The unit of measuring the doors will be in number, measured as fitted. The tendered rate will be in full compensation for material and transport fitment, and labour, including fittings and locking mechanisms.	
<b>PPS F7.4 Industrial Heavy duty roll-up doors</b> .....	No.
The unit of measuring the doors will be in number, measured as fitted. The tendered rate will be in full compensation for material and transport fitment, and labour, including fittings and locking mechanisms.	
<b>PPS F7.5 Aluminium Windows</b> .....	No.
The unit of measuring the windows will be in number, measured as fitted and glazed. The tendered rate will be in full compensation for material and transport fitment, glazing and labour.	



<b>PPS F7.6</b>	<b>5000-liter water tank and fittings</b> .....	No.
The unit of measuring the tank will be in number, measured as fitted. The tendered rate will be in full compensation for material and transport fitment, and labour, including fittings and plumbing work.		
<b>PPS F7.7</b>	<b>Water tank base</b> .....	No.
The unit of measuring the tank base will be in number, measured constructed. The tendered rate will be in full compensation for material and transport construction, and labour according to drawings and specifications.		

## PAINTING (P)

<b>PPS P1</b>	<b>PAINTING - GENERAL</b>
---------------	---------------------------

1. All surfaces to be painted will be filled in where necessary with an appropriate filler, brushed down, sanded and washed where necessary to ensure clean, dust, stain and oil free surfaces. All surfaces to be sufficiently dry, and inspected by the engineer before painting may commence.
2. Where special brands of paint are to be used, the manufacturer's prescriptions regarding priming, cleaning and applying will be followed. Where ever possible paint to be used must be from South African manufacturer.
3. All colours and tints and type of paint used, are to be selected and/or approved by the engineer, before painting commence.
4. The Contractor shall provide all necessary dust sheets, covers, etc. and shall exercise all necessary care to prevent marking surfaces, walls, floors, glass, electrical fittings, etc. and shall keep all parts of the works perfectly clean and free at all times from spotting, accumulation of rubbish, debris or dirt arising from the operations. Any surface disfigured or otherwise damaged shall be completely renovated or replaced as necessary by the Contractor at his own expense to the Engineer's approval.

<b>PPS P2</b>	<b>ON PLASTERED WALLS</b>
---------------	---------------------------

1. Plastered wall, after prepared to the satisfaction of the engineer, must first be painted with one coat of plaster primer (bonding liquid), and one coat of universal undercoat in accordance with SABS 681, and two finishing coats of Plascon Wall and All with Teflon, or similar approved paint. The same procedure to be followed both on internal and external walls.

<b>PPS P3</b>	<b>ON METAL SURFACES</b>
---------------	--------------------------

1. Door frames only (windows are hot dip galvanized) : prepare as described, tough up where necessary with one coat of red oxide steel primer, one coat of universal undercoat in accordance to SABS 681, and two finishing coats of Plascon Polyurethane enamel or similar approved paint.

<b>PPS P4</b>	<b>ON WOODEN SURFACES</b>
---------------	---------------------------

1. Prepare as previously described and apply with three coats of Dulux clear exterior Light Oak varnish (first coat 25% diluted, second coat 10% diluted), or similar approved product.

**PPS P5****APPLICABLE SABS CODES**

1. The following SABS codes apply in terms of painting and varnishing:

- (i) High gloss enamel paint: SABS Specification 630.
- (ii) Oil gloss: SABS Specification 631.
- (iii) Flat and eggshell: SABS Specification 515.
- (iv) Emulsion paint (interior): SABS Specification 633, Grade I.
- (v) Emulsion paint (exterior): SABS Specification 634 Synthetic Polymer Base Type, but pure aery lie resin base for fibre cement surfaces.
- (vi) Aluminium paint: SABS Specification 682, Grade II.
- (vii) Roof paint: Alkaline type SABS Specification 683, Type B.
- (viii) Structural steel paint: SABS Specification 684, Type B.
- (ix) Textured wall coatings, emulsion base, for interior and exterior use: SABS Specification 1227.

**PPS P6****MEASUREMENT AND PAYMENT**

Item	Unit
<b>PPS P6.1 Walls: Plaster primer</b> .....m <sup>2</sup> The unit of measurement shall be in square meter of paint on plastered surfaces for both internal and external walls. The tendered rate shall include full compensation for all materials, transport and labour as per specification.	
<b>PPS P6.2 Walls: Universal undercoat</b> .....m <sup>2</sup> The unit of measurement shall be in square meter of paint on plastered surfaces for both internal and external walls. The tendered rate shall include full compensation for all materials, transport and labour as per specification.	
<b>PPS P6.3 Walls: 2 finishing coats</b> .....m <sup>2</sup> The unit of measurement shall be in square meter of paint on plastered surfaces for both internal and external walls. The tendered rate shall include full compensation for all materials, transport and labour as per specification.	
<b>PPS P6.4 Windows and door frames</b> .....No. The unit of measurement shall be in number of windows and door metal frames for all paintwork. as described under PPS P3. The tendered rate shall include full compensation for all materials, transport and labour as per specification.	
<b>PPS P6.5 Doors</b> .....No. The unit of measurement shall be in number of doors for all paintwork as described under PPS P4. The tendered rate shall include full compensation for all materials, transport and labour as per specification.	

**ROOFING (R)****PPS R1****ROOFSHEETS & CLADDING**

1. SABS 1200 HB applies.

**PPS R2****FASCIA BOARDS**

1. Fiber-cement fascia boards all around roof of 225 x 10 mm in dimension, to be securely fitted.



**PPS R3****BARGE CAPS/ BOARDS**

1. Supply, delivery and installation of chromadek barge caps on required portions of the roof, 150-200mm To be securely fitted with pop rivets.

**PPS R4****VENTILATION**

1. Four metal turbine type ventilators with 300mm throat diameter to be installed in the steel roof sheets as per Drawing 4: Main Building – Top View. (STO/RDN/2020/047)

**PPS R7****SEAMLESS ALUMINIUM GUTTERS AND DOWN PIPES**

1. 150mm Industrial box gutters and 105x75mm OGEE down pipes connected to the water tanks (See Figure 6). Gutters, down-pipes, bends, fittings and must be seamless aluminum according to SANS standards. All gutters are to be made on site, to exacted height from roof to the ground level. Pipes and gutters sloped evenly, well secured to wall and roof. All gutters and down pipes should be Chromadek coated in off-white colour / lite cream or as otherwise approved by the Engineer.

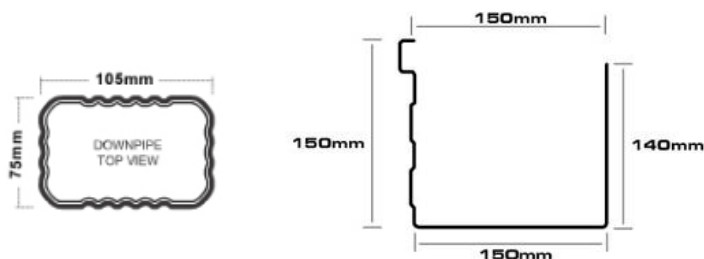


Figure 6: Cross sections of 150mm seamless aluminium industrial box gutter and OGEE downpipe.

**PPS R 8****ROOF SHEETING**

1. IBR profile Chromadek or Clean Colorbond sheeting shall be allowed. Minimum sheet thickness of 0,53mm.
2. Since Cedara is more than 20km inland from the sea, Chromadek standard (Z200) shall be allowed. Alternatively, Clean Colorbond Zinalume AZ 150 with 150g/m<sup>2</sup> coating may be used.
3. Colours to be used for the roof sheets:  
Clean Colorbond: African Cream AZ150. Chromadek: Aloe green/Sandstone beige.
4. IBR profile polycarbonate roofsheets to be installed in the roof as per Drawing 4 (STO/RDN/2020/047) in the storage/tray filling area, dispatch area and above the passage at the back entry. Type and grade: Opal (white), 1.00mm/1.25mm.

**PPS R 9****ROOF INSULATION**

1. Alucushion Bubble foil insulation (or equivalent) on PVC- coated straining wire (2.5mm min, wires 300mm apart) is required underneath the steel roof sheets *only* throughout the structure. To be well secured and fixed to the structure. To be installed leaving at least 50 mm distance between the foil and the bottom of the roofsheet.

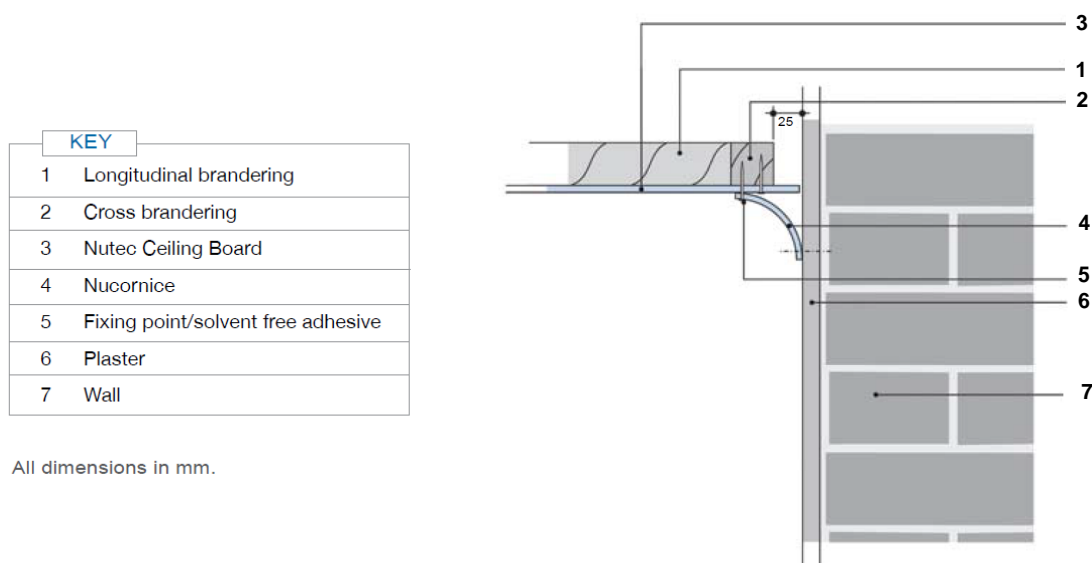


## PPS R 10

## CEILINGS

1. Nutec fibre cement ceiling (6mm) to be installed in the kitchen, office, meeting room, ablution rooms and passage against 38 x 38mm brandering at 500mm centres with 32mm x 2.5mm serrated ceiling nails.
2. Edge brandering to be 25mm away from the wall.
3. Brandering to be nailed onto truss beam (150mm x 50mm), which are placed at 900mm centres.
4. The nails should be placed at 150 mm centres and not closer than 12 mm from any edge of the board.
5. Beams to secured in truss hangers, which are fixed onto the walls.
6. Use joining strips in between nutec sheets. (H-profile P.V.C. jointing strip – white)
7. Ceiling to be finished off with polystyrene plain (Doric style) cornices. See Figure 7.
8. After installation the ceiling is to be painted white with acrylic PVA (two coats, first one 10 diluted).

Figure 7 Detail of the installation of cornices to the ceiling



All dimensions in mm.

## PPS R11

## MEASUREMENT AND PAYMENT

Item Unit

PPS R 11.1 Roof structure complete .....Sum

The unit of measurement shall be in lump sum, for the complete installed roof *structure*. The tendered rate shall include the design of the structure, all materials (including trusses, purlins, hurricane clips) labour, transport, inspection and certification fees as specified.

PPS R 11.2 Roofcover .....Sum

The unit of measurement shall be in lump sum, for the complete roof *cover*. The tendered rate shall include all materials (including Chromadek/Zincalume/Colorbond and polycarbonate roof sheets, roof cap, and sheeting fasteners) as well as installation, labour, transport, inspection and certification fees as specified.

PPS R 11.3 Seamless Aluminium Gutters .....Sum

The unit of measurement shall be in lump sum, gutters. The tendered rate shall include full compensation for all materials, transport and labour as per specification.

PPS R 11.4 Down pipes ..... Sum

The unit of measurement shall be in lump sum, down pipes. The tendered rate shall include full compensation for all materials, transport and labour as per specification.



**PPS R 11.5 Fascia boards and barge boards** ..... Sum  
The unit of measurement shall be in lump sum, for fascia boards and barge boards. The tendered rate shall include full compensation for all materials, transport and labour as per specification.

**PPS R11.6 Alufoil insulation** ..... Sum  
The unit of measurement shall be in lump sum, for the installed insulation. The tendered rate shall include full compensation for all materials, transport and labour as per specification.

**PPS R 11.7 Turbine ventilators** ..... Sum  
The unit of measurement shall be in lump sum, for the two ventilators. The tendered rate shall include full compensation for all materials, transport and labour as per specification.

**PPS R 11.8 Ceiling**.....m<sup>2</sup>  
The unit of measurement shall be the amount of m<sup>2</sup> fully installed. The tendered rate shall include full compensation for all materials, transport and labour as per specification.

## FENCING (F)

*2.3m high security fencing to be installed around the premises of the project. The total length of the boundary fence is 974m.*

### PPS SF1

### EXCAVATIONS FOR THE FENCE POSTS

1. Excavations as per PPS EW2.
2. Dimensions of the excavations for the posts and stays are as follows:
  - Gate & corner & intermediate posts 400 x 400 x 600mm
  - Stays: 600 (L) x 400 (w) x 400 (d)mm

### PPS SF2

### CORNER, GATE & INTERMEDIATE POSTS, STAYS & STANDARDS

1. Corner & gate posts shall be 3.00m x 100mm OD x 3,1mm fully galvanized with caps and base plates. (SANS 675), Base plates shall be 250mm x 250mm x 5mm each base plate shall have a central hole of 10mm, caps shall be 1.6mm thick and large enough to cover the top of tubular post.
2. Intermediate posts. These shall be 3.00m x 80mm OD x 2,5mm fully galvanized with caps of 1,6mm thick, large enough to cover the top of tubular post and base plate shall be 230mm x 230mm x 5mm with a central hole of diameter of 10mm. Pole spacing: 15m
3. Fencing standards. To be 3.0m long and spaced at 3m centres
4. Stays shall be 2,4m x 48mm OD x 2,5mm fully galvanized with bolt to bolt to the corner and gate posts with base plates of 230mm x 230mm x 5mm. Bolts, nuts and washers shall comply with the relevant requirement of SABS 135 and washers shall comply with the requirements of CKS 264. The normal diameter of the bolts shall be M10 in the case of strain eye bolts, M12 in the case of stays bolts and straining posts, M16 in the case of hinge bolts for gates, the length of a bolt shall be appropriate to its application.



5. Standards shall be Y-section iron standards with a total length of 3050mm that is a total mass of 5.5 kg for a 2.40m length standard. The standards shall be provided notches and hoes 50mm apart. Standards shall be according to ISCOR specifications SPE 261.

**PPS SF3****STEEL WIRES AND MESH**1. Steel wire and mesh

Plain wire: The wire shall be class A, galvanized and comply with the requirements of SABS 675 and shall be of type specified below:

- > Straining wire shall be 4.0 mm diameter fully galvanized zinc-coated mild-steel wire.
- > Binding wire shall be 1.6 mm diameter mild-steel fully galvanized zinc-coated wire for tying fencing wire to standard.
- > Welded mesh: shall be 1.83m high and lightly galvanised. Dimensions: 100mm x 50mm x 2.0mm and come on 30m rolls and comply with the requirements of SABS 675.

2. Razor wire flat wrap coils

Shall be flat wrap tape wire coils of 500mm to be stretched to 15 m length when installed. Erected as per engineer's instruction.

- 1) 500mm diameter flat razor wire coils to be installed above the 1.8m high fully galvanized high weldmesh (100 x 50 x 2.0mm);
- 2) Straining: The weldmesh section & flat razor wire to be strained. If the fence is pulled down, it must recover to it's original position.
- 2) Deviation: 10% maximum deviation (0.5m) from the specified spacings will be allowed.
- 3) Concrete: All posts and gate post anchoring stays to be concreted using 20Mpa concrete footings.

**PPS SF4****MAIN GATE**

1. The double framed gate shall be manufactured of mild-steel tubing having continuously welded seams and fully galvanized.
2. The frames shall be of tubing of minimum bore of 42 mm and wall thickness of 2.5 mm in the case of main frame members, and bore of 32mm and wall thickness of 2.0 mm in the case of bracing members and fully galvanized.
3. The gate should be manufactured so that it matches the perimeter fencing as per engineer's instruction and be complete in every respect, including hinges, washers, bolts and locking chains attached to the gate. See Drawings 13 B & C.

**PPS SF5****CONCRETE FOOTING FOR CORNER, GATE AND INTERMEDIATE POSTS**

1. Concrete mix to be 20MPa/13mm. Baseplates and tubing to have a minimum of 50mm cover on all sides.

**PPS SF6****MEASUREMENT AND PAYMENT**

Item

Unit

**PPS SF6.1 Labour and supervision for the erection of the security fencing** .....m.  
The unit of measurement shall pro rata the running meter of fence completed.

**PPS SF6.2 Security fencing** .....m.

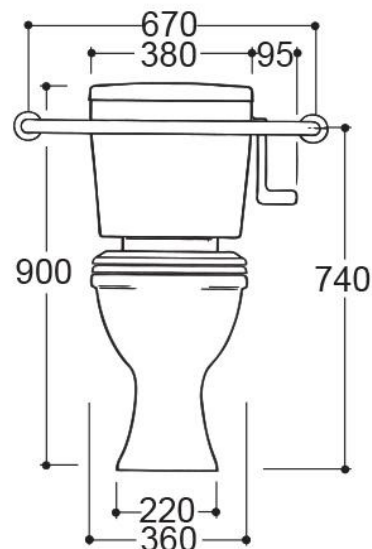
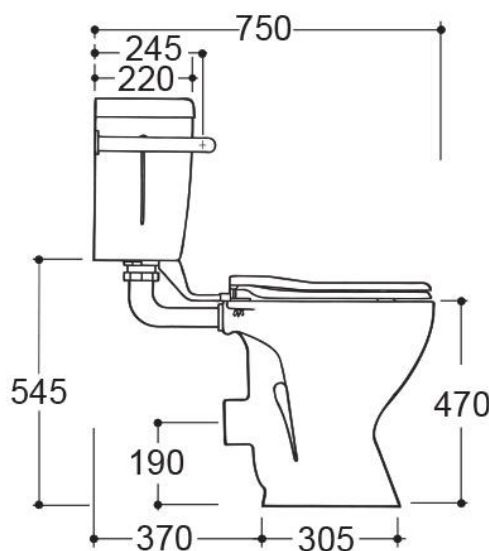
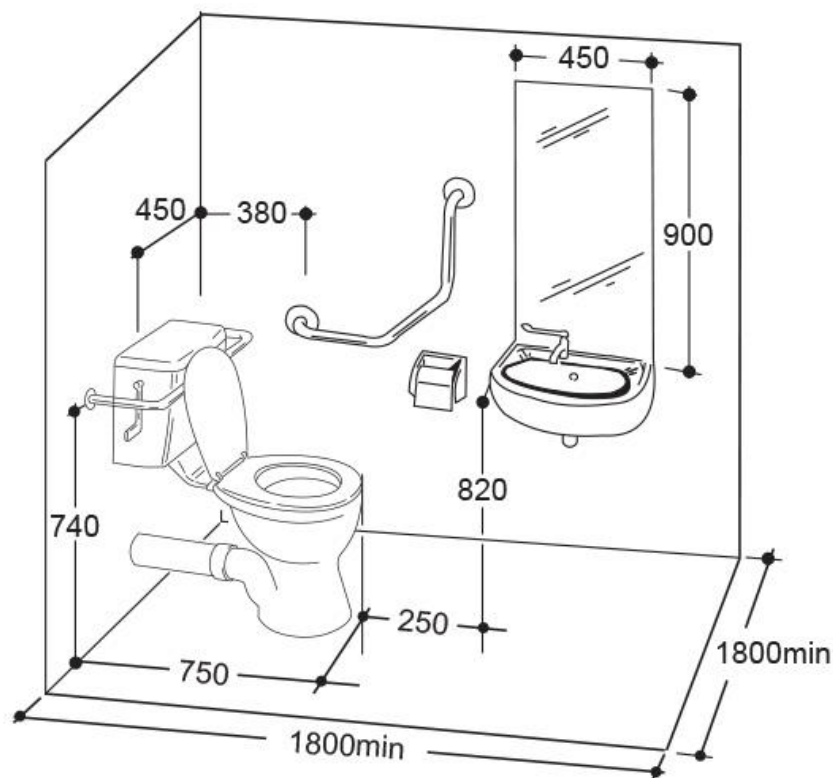


The unit of measurement shall be in running meter completed fence. The tendered rate shall include all materials, posts, concrete, anchor wire, barbed wire, binding wire, weld mesh, flat wrap coils, labour, wastage as per running meter of fence, as specified in the drawings and specifications. It shall *exclude* the supply and installation of the main gate.

**PPS SF6.3 Main and pedestrian gate.....Lump sum**

The unit of measurement shall be the completion of the installation of the gate and include manufacturing, supply and installation of the two gate frames, as per the drawings and PPS.

### PARAPLEGIC TOILET INSTALLATIONS FOR THIS PROJECT



**LIST OF ANNEXURES**

<b>ANNEXURE</b>	<b>DESCRIPTION</b>	<b>PAGE</b>
A	BILL OF QUANTITIES (SECTION 1)– P&G'S	77- 82
A	BILL OF QUANTITIES – SECTION 2 – NURSERIES	84 - 93
A	BILL OF QUANTITIES – SECTION 3 – COMBINED SERVICES MAIN BUILDING	95 - 133
A1	SUMMARY OF SECTION	134 - 135
A2	SUMMARY OF SCHEDULES	136
B	CONTRACTOR'S OCCUPATIONAL HEALTH AND SAFETY DECLARATION	137 - 138
C1	ADDITIONAL INFORMATION – A   EXPERIENCE	139
C2	ADDITIONAL INFORMATION – B   SPECIALIST SKILLS	140
C3	ADDITIONAL INFORMATION – B   SUBCONTRACTED WORKS	141
D	PRELIMINARY CONSTRUCTION PROGRAMME	142 - 143
E	SITE MAPS	144 - 145
F	DRAWING LIST	146



# **BILL OF QUANTITIES FOR THE CONSTRUCTION OF FIVE SHADECLOTH SEEDLING NURSERIES, A COMBINED SERVICES MAIN BUILDING AND ANCILLARY WORKS**

1. The Bill of Quantities, apart from the Summary and Schedules, consist of 3 sections:
  - **Section 1:**  
Preliminary & General pertaining to ALL Works.
  - **Section 2:**  
Pricing schedule/BoQ for the shadecloth seedling nursery, including the nursery structure proper, racks, irrigation, drainage and treatment pit.
  - **Section 3:**  
Pricing schedule/ BoQ for the Combined Services Main Building

## **Notes**

1. The Contractor is advised to examine the general and detailed drawings carefully in order to ascertain the character of the Works and the manner in which they are to be carried out.



## **Section 1**

# **Preliminary & General pertaining to ALL Works.**

### **NOTES**

1. When completing the Preliminary and General section of the BoQ the Contractor is to provide a breakdown to the amounts inserted in the Preliminary and General section for those cost items for which only headings are provided and which require specificity, as listed below:

A.1.1	A.1.2.6	A.1.2.8	A.2.1	A.2.8	A.2.9	A.2.10	A.2.11
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2. In case any items of the BoQ have been priced in such a manner that they lack realism, they will be balanced against other items.
3. Payment of time related P&G's will be pro rata the progress made and not necessarily as per the time elapsed since commencement of the works.



## ANNEXURE A

## BOQ SECTION 1 - PRELIMINARY &amp; GENERAL | PAGE 1

**SECTION 1 : PRELIMINARY AND GENERAL (ALL WORKS)**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	1200A	<i>BILL NO. 1 - PRELIMINARIES</i>				
<b>A .1</b>	<b>8.3</b>	<b>FIXED-CHARGE ITEMS</b>				
		Contractual Requirements The sum shall cover the Contractor's initial costs of providing sureties, insurance of the Works and plant, third party or public liability insurance and unemployment insurance	Sum	1	R	R
A.1.1	8.3.1					
A.1.2	8.3.2	Establishment of Facilities on the Site :				
		Facilities for Contractor The sum for this item in 8.3.2.1 and 8.3.2.2 shall cover the cost of providing, establishing and commissioning on the Site these facilities adequately equipped to allow the work to commence and to proceed to completion as required in terms of the contract.				
	8.3.2.2					
A.1.2.1		a) Offices and storage sheds	Sum	1	R	R
A.1.2.2		e) Ablution and latrine facilities	Sum	1	R	R
A.1.2.3		f) Plants, tools and equipment Designated tools & equipment or tools & equipment for designated operations or plant for use during stated period. Applicable only to specifically identified tools and equipment.	Sum	1	R	R
A.1.2.4		g) Water supplies, electric power and communications	Sum	1	R	R
A.1.2.5		h) Dealing with water on works. The Contractor shall properly deal with and dispose of water to ensure that the Works are kept sufficiently dry for their proper execution. For this purpose he shall provide, operate and maintain in sufficient quantity such pumping equipment, well points, pipes and other equipment as may be necessary, and he shall also provide any sumps, furrows, coffer-dams and other temporary works as may be necessary to minimize damage, inconvenience or interference.	Sum	1	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>						





## ANNEXURE A1

## BOQ SECTION 1 - PRELIMINARY &amp; GENERAL | PAGE 2

**SECTION 1 : PRELIMINARY AND GENERAL (ALL WORKS)**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>A.1</b>	<b>8.3</b>	<b>FIXED-CHARGE ITEMS (CTD)</b>				
A.1.2.6	8.3.3	Other fixed-charge obligations The sum shall cover the fixed costs of all other obligations that are required for the proper execution of the Works in accordance with the requirements of the specification and the conditions of contract, and that are not specifically covered in 8.3.1, 8.3.2 or 8.3.4., e.g. camp fencing.	Sum	1	R	R
A.1.2.7	8.3.4	Removal of Contractor's Site establishment on completion The sum shall cover the cost of the demolition on and the removal from the surface of the Site of all items established in terms of 8.3.2 and 8.3.3, and shall provide for the making good and the restoring of the Site to the satisfaction of the Engineer.	Sum	1	R	R
A.1.2.8	PAM 8.2.1	All costs and obligations to comply with the OHS Act Construction Regulations See Annexure B (Contractors Health and Safety Declaration) and STC Section 48 (OHS)	Sum	1	R	R
<b>A.2</b>	<b>8.4</b>	<b>TIME-RELATED ITEMS <sup>1</sup></b>				
A.2.1	8.4.1	<u>Contractual Requirements</u> The sum shall cover all the Contractor's time-related costs of providing surety, insurance of the Works and plant, third party or public liability insurance and unemployment	Sum	1	R	R
	8.4.2	<u>Operation and maintenance of facilities on site for the duration of Construction, except otherwise stated</u> The sums for the items in 8.4.2.1 and 8.4.2.2 shall cover the Contractor's costs for the periods stated for site rentals, repairs to and depreciation of buildings, furniture, tools and equipment, the storage and distribution of fuels and lubricants, water, electricity, communications, access and sanitation, and the wages of staff operating and maintaining these facilities in accordance with the contract.				
A.2.2	8.4.2.1	Facilities for Contractor for duration of construction, except where otherwise stated a) Offices and storage sheds	Sum	1	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	

<sup>1</sup> The "duration of construction" applicable to a time-related item shall be a period that commences on the date on which the scheduled activity starts, or 21 days after the date of the handing over of the Site, as applicable, and concludes on the date of completion of such activity or the date of the substantial completion certificate for the Works, as applicable.



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 3

## SECTION 1 : PRELIMINARY AND GENERAL (ALL WORKS)

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A.2	8.4	<b>TIME-RELATED ITEMS (CTD)</b> <u>Operate and maintain facilities on site (ctd)</u>				
	8.4.2.2	<i>Facilities for Contractor for duration of construction, except where otherwise stated</i>				
A.2.3		d) Survey assistants and materials	Sum	1	R	R
A.2.4		e) Ablution and latrine facilities	Sum	1	R	R
A.2.5		f) Tools and equipment	Sum	1	R	R
A.2.6		g) Water supplies, electric power and communications	Sum	1	R	R
A.2.7		h) Dealing with water on works. The Contractor shall properly deal with and dispose of water to ensure that the Works are kept sufficiently dry for their proper execution. For this purpose he shall provide, operate and maintain in sufficient quantity such pumping equipment, well points, pipes and other equipment as may be necessary, and he shall also provide any sumps, furrows, coffer-dams and other temporary works as may be necessary to minimize damage, inconvenience or interference.	Sum	1	R	R
A.2.8	8.4.3	<u>Supervision for the duration of the Construction</u> The sum shall cover the costs of on-site supervision and such local administration as the Contractor considers necessary for the proper completion of the Works, and shall cover the cost of the salaries, wages and allowances paid to the site agent, general foreman, section foremen (where applicable), site surveyors, timekeepers, assistants and other site supervisory staff, and of transport incurred in connection with such staff.	Sum	1	R	R
A.2.9	8.4.4	<u>Company and head office overhead costs for the duration of the project</u>	Sum	1	R	R
A.2.10	8.4.5	<u>Other time-related obligations</u> All other time-related costs that are not specifically covered in 8.4.1-8.4.4	Sum	1	R	R
A.2.11	PAM 8.2.2	Time related obligations to comply with the OHS Act Construction Regulations See Annexure B (Contractors Health and Safety Declaration) and STC Section 48 (Occupational health and safety). Including appointment of OHS officer	Sum	1	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 4

## SECTION 1 : PRELIMINARY AND GENERAL (ALL WORKS)

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A.3	8.5	<b>SUMS STATED PROVISIONALLY BY ENGINEER <sup>1</sup></b>				
	8.5	<u>a) For work to be done by Contractor and valued in terms of the "valuation of variations" clause in the contract conditions</u>				
A.3.1		Allow for provisional sum for repairs to damaged services which could have been reasonably foreseen and for the relocation of services	Prov. Sum	=====	=====	R 20,000.00
A.3.2		Overheads, charges and profit on item A.3.1. Percentage tendered (11% max.): >>.....%	Sum	%	R 20,000	R
	8.5	<u>b) For work to be done by Nominated Sub-Contractor</u>				
A.3.3		Provision for Community Liaison Officer (CLO)	Prov. Sum	=====	=====	R 40,000.00
A.3.4		Overheads, charges and profit on item A.3.3. Percentage tendered (11% max.): >>.....%	Sum	%	R 40,000	R
A.3.5		Entrepreneurial skills Training and Venue	Prov. Sum	=====	=====	R 30,000.00
A.3.6		Overheads, charges and profit on item A.3.5. Percentage tendered (11% max.): >>.....%	Sum	%	R 30,000	R
A.3.7		Geotechnical investigations	Prov. Sum	=====	=====	R 25 000.00
A.3.8		Overheads, charges and profit on item A.3.7. Percentage tendered (11% max.): >>.....%	Sum	%	R 25,000	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	

<sup>1</sup> Provisional amounts or parts thereof will only be paid out if actual approved expenditure has occurred



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 5

## SECTION 1 : PRELIMINARY AND GENERAL (ALL WORKS)

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A.3	8.5	<b>SUMS STATED PROVISIONALLY BY ENGINEER (CTD)</b>				
		<u>b) For work to be done by Nominated Sub-Contractor (ctd)</u>				
A.3.9		Density tests of all soil compactions on instruction by Engineer	Prov. Sum	=====	=====	R 12,000.00
A.3.10		Overheads, charges and profit on Item A.3.9. Percentage tendered (11% max) >>.....%	Sum	%	R 12,000.00	R
A.3.11		Test cubes for concrete compression tests Sets of 2 (7 day and 28 days) cubes Tests to be performed by SANAS accredited testing laboratory.	Prov. Sum	=====	=====	R 10,000.00
A.3.12		Overheads, charges & profit on Item A.3.11. Percentage tendered (11% max) >>.....%	Sum	%	R 10000.00	R
A.3.13		Final design and as-built installation of electrical reticulation for the entire complex By registered electrical Engineer with workshop drawings (electronic version and 2 hard copies (A1).	Prov. Sum	=====	=====	R 15,000.00
A.3.14		Overheads, charges & profit on item A.3.13 Percentage tendered (Max 11%) >>.....%	Sum	%	R 15000.00	R
A.3.15		Connection of site to the power grid Incl. all costs (connection, transformers, cabling, etc.	Prov. Sum	=====	=====	R 250,000.00
A.3.16		Overheads, charges & profit on item A.3.15 Percentage tendered (Max 11%) >>.....%	Sum	%	R 250 000	R
A.3.17	PPS 4.2	Surveys (Geographical, Stakeouts, Quality Control & Verification).	Prov. Sum	=====	=====	R 10,000.00
A.3.18		Overheads, charges & profit on item A.3.17, Percentage tendered (Max 11%) >>:.....%	Sum	%	R10 000.00	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	

<sup>1</sup> Provisional amounts or parts thereof will only be paid out if actual approved expenditure has occurred



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 6

## SECTION 1 : PRELIMINARY AND GENERAL (ALL WORKS)

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
A4	8.6	<b>DAYWORK</b>  <u>Plant &amp; Labour</u> The unit rates for labour and plant, or the percentage allowances for addition to the net cost of labour and materials shall cover overhead charges and profit, site supervision and site staff, insurances, holidays with pay, and use and maintenance of tools and equipment. The rates for plant hire shall, in addition, cover the cost of plant operators, consumable stores, fuel and maintenance. The rates or allowances shall also cover travelling allowances or travelling costs (transport of men by Contractor's transport or transport hired or paid for by the Contractor), lodging allowances and any other emoluments and allowances payable to the workmen.	Prov. Sum	=====	=====	R 50000.00
A.4.1		Semi-skilled Labour	Day	=====	R	Rates only
A.4.2		Skilled Labour	Day	=====	R	Rates only
A.4.3		Foreman	Day	=====	R	Rates only
		<u>Plant</u> All rates per day to be on a wet hire basis and to include diesel and transport to site				
A.4.4		<u>TLB</u>	Hour	=====	R	Rate only
A.4.5		Tipper truck 8 ton	Hour	=====	R	Rate only
A.4.6		Sheep pad roller	Hour	=====	R	Rate only
A.4.7		Excavator	Hour	=====	R	Rate only
A.4.8		Grader	Hour	=====	R	Rate only
A.4.9		Dozer	Hour	=====	R	Rate only
A.4.10		Bomag compactor roller (Ride on)	Hour	=====	R	Rate only
A.4.11		Vibrator plate	Hour	=====	R	Rate only
A.4.12		Whacker compactor	Hour	=====	R	Rate only
A.4.13		Overheads, charges & profit on items A.4.1 – A.4.12, Percentage tendered (Max 11%) >>:.....%	Sum	%	R 10 000.00	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	



## **Section 2**

**Pricing schedule/BoQ<sup>1</sup> for the shade cloth seedling nursery, including the nursery structure proper, racks, irrigation, drainage and water treatment pit**

<sup>1</sup> Although for some items brand/trade names and types have been provided, these serve as mere examples to illustrate the type of equipment or, material that is required. Contractors are free to supply items/materials from other manufacturers/ suppliers, provided that these comply with the specifications provided and are at least of equal quality.



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 7

## SECTION 2: SEEDLING NURSERY – EARTH WORKS

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>B.1</b>	<b>1200C</b>	<b>EARTH WORKS</b>				
		SITE CLEARANCE				
B.1.1	8.2	Clear and grub entire site	m <sup>2</sup>	12600	R	R
B.1.2	8.2.1	Clear and grub site drainage route (5m wide)	m	200	R	R
B.1.3	8.2.9	Transport debris and shrubs of materials cleared on the site to a dumping site identified by the Engineer (incl. haulage of up to 0.5km)	m <sup>3</sup> km	50	R	R
<b>B.2</b>		<b>EXCAVATIONS</b>				
B.2.1	8.2.10	Remove topsoil and stockpile	m <sup>3</sup>	1890	R	R
B.2.2	PPS EW 3	SITE LEVELLING Excavate in soft and intermediate soils < 2.0m. Construction of 2 platforms of 30 x 180m each for nurseries & Main Building. Use cut for backfill dispose of excess material. Volume cut/fill: 180 x 30m x 0.5m (av. cut)	m <sup>3</sup>	2700	R	R
B.2.3		Shaping of the nursery footprints to 1% longitudinal and cross slopes, plus compaction to 93% ModAASHtoo	m <sup>2</sup>	9000	R	R
B.3	PPS 3.4	EXCAVATION: DRAINAGE CANAL AND DRAINAGE POND				
B.3.1	PPS 3.4.1	Excavation for Drainage canal (400mm x 300mm) between the Nurseries and a collection treatment dam/reservoir	m <sup>3</sup>	60	R	R
B.3.2	PPS 3.4.2	Excavation for Drainage treatment pond (4m x 6m x 3m) in soft and intermediate soil	m <sup>3</sup>	72	R	R
B.3.3		Extra over for Hard Rock excavation	m <sup>3</sup>	=====		RATE ONLY
<b>Total Carried Forward To Summary &gt;&gt;</b>						<b>R</b>



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 8

## SECTION 2: SEEDLING NURSERY – EARTH WORKS (CTD)

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>B.4</b>		<b>EXCAVATION &amp; BACKFILL (POLES) (ctd)</b>				
	<b>SABS 1200C</b>	<b>EARTH WORKS</b>				
	8.3.3	POLES - Rates for excavation to include disposing of surplus material within 0.5km				
B.4.1		a) Foundation holes for poles 400 x 400 x 600mm (Structural poles)	No.	425	R	R
B.4.2		b) Anchor block holes 400 x 400 x 400mm (Anchor)	No.	220	R	R
B.4.3		c) Foundation holes for poles 400 x 400 x 500mm for Racks (end frames legs)	No.	384	R	R
B.4.4		d) Foundation holes for poles 250 x 250 x 500mm (intermediate legs)	No.	384	R	R
<b>B.5</b>	<b>SANS 1200DB</b>	<b>PIPE TRENCHES</b>				
B.5.1	8.1.2	Excavation in all materials for trenches, backfill, compact and dispose of surplus materials within 0.5 km for 160mm Ø & smaller PE pipes; trench widths of 600 mm (min) and trench depths of : 1m	m	2400	R	R
<b>B.6</b>	<b>SANS 1200LB</b>	<b>BEDDING</b>				
	<b>8.2</b>	<b>Provision of bedding material from trench excavations within the Nursery site</b>				
B.6.1	8.2.1 (b)	Selected fill material	m <sup>3</sup>	200	R	R
B.6.2	8.2.1 (a)	Selected Granular material	m <sup>3</sup>	100	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>						<b>R</b>





## ANNEXURE A

## BILL OF QUANTITIES | PAGE 9

## SECTION 2: SEEDLING NURSERY – IRRIGATION

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>C</b>	<b>SANS 1200L</b>	<b>HDPE IRRIGATION PIPES</b>				
C.1	3.7.1	Supply, lay, join & bed HDPE pipes. Pipes to comply with SABS 533 or ISO 4427 standard				
C.1.1	8.2.1	125mm Class 12 HDPE pipes	m	1000	R	R
C.1.2	8.2.1	125mm Class 6 HDPE pipes	m	900	R	R
C.1.3	8.2.1	63mm Class 6 HDPE pipes	m	400	R	R
C.1.4	8.2.1	40mm Class 6 HDPE pipes	m	100	R	R
C.1.5	8.2.1	20mm CI3 LDPE PIPES	m	1000	R	R
C.2		<b>HDPE PIPE FITTINGS</b>				
	8.2.2	Supply, lay join and fit HDPE pipe fittings Fittings to comply with SABS 533				
C.2.1		40mm Ø 90° elbows	No.	10	R	R
	8.2.2	125mm Ø 90° Elbows	No	4	R	R
C.2.2		125mm Ø compression couplers	No.	16	R	R
C.2.3		63 – 40mm Reducing Tee	No.	5	R	R
C.3	<b>8.3</b>	<b>CONTROL VALVES</b>	.		R	R
C.3.1		40mm control/butterfly valves	No.	5	R	R
C.3.2		20mm control/butterfly valves	No.	40	R	R
C.3.3		Supply and installation of 90mm gate valve at pump station and at the reservoir.	No.	2	R	R
C.3.4		Supply & installation of 90mm Non Return Valve at the Pump station	No.	1	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>						<b>R</b>



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 10

**SECTION 2: SEEDLING NURSERY – IRRIGATION (CTD)**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C.4	PPS 3.3	<b>SPRINKLERS AND SPRINKLER STANDS</b>				
C.4.1	PPS 3.3.3	360 degrees micro sprinklers incl. riser tubes, throw 2.5m, flow rate 25-70L/hour Minimum operating pressure 1 - 2 bar.	No.	480	R	R
C.4.2	PPS 3.3.3	Drip emitters to deliver 4L/hr for fruit trees including Spaghetti tubes	No.	480	R	R
C.4.3		Y10 rebar cut at 0,6m length to attach sprayers/sprinklers as sprinkler stands	No.	480	R	R
C.4.4		Brass tap mounted on nursery post	No.	20	R	R
D.1	PPS 3.3.5	<b>PUMP AND PUMP FITTINGS</b>				
D.1.1		Supply & install centrifugal electrical pump and motor to Pump 25m <sup>3</sup> /hr at 12 bar. <ul style="list-style-type: none"> <li>• Impeller Ø 297mm</li> <li>• NPSH = 2.15m</li> </ul> Suction Port: <ul style="list-style-type: none"> <li>• Nominal Size = 65mm</li> <li>• Nominal Pressure = 16bar</li> </ul> Discharge Port: <ul style="list-style-type: none"> <li>• Nominal Size = 40mm</li> <li>• Nominal Pressure = 16bar</li> </ul>	No.	1	R	R
D.1.2		Supply and installation of fittings: (Suction and Delivery pipe networks, valves, pressure gauge etc)	Sum	1	R	R
D.1.3		Electrical works at a pump House: connecting a pump with a 22.6 kW motor to an existing transformer 100m away from the pump house	Sum	1	R	R
D.1.4		Supply & install dual purpose electrical pump (Drawing 4A). Capacity 4000L/hour @ 1.5 bar.	No.	1	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>						<b>R</b>



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 11

**SECTION 2: SEEDLING NURSERY – IRRIGATION (CTD)**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
D.2	PPS 3.3.6	<b>PUMP HOUSE</b>				
		<b>PUMP HOUSE (3200 X 3200 X 2800)</b> Complete construction and finishing off is required, to include supply, delivery and construct, all minor items required, e.g mortar etc. To be included				
D.2.1		Excavation in all materials including rock and boulders	m <sup>3</sup>	5.5		R
D.2.3		Back fill and compaction	Sum	1		R
D.2.4		250 micron DPC under floor	m <sup>2</sup>	10.2		R
D.2.5		Cement	Bags	30		R
D.2.6		Sand	m <sup>3</sup>	3.5		R
D.2.7		Stone (19mm)	m <sup>3</sup>	3.1		R
D.2.8		Hollow SABS concrete blocks wall M14 (140mm wall)	No	440		R
D.2.9		Standard bricks for foundation wall 75H X 220L X 105W	No	330		R
D.2.10		6mm Steel reinforcement bars	m	70		R
D.2.11		Ref: 193 Steel Mesh	m <sup>2</sup>	16		R
D.2.12		Heavy duty Burglar type door and frame combination as per plan (1.8m Wide and 2m high)	No	1		R
D.2.13		0.5mm X 3.5m long full hard galvanised corrugated iron sheets including nails and washers	No	5		R
D.2.14		PURLIN 75 X 50mm SA pine grade 5	m	16		R
D.2.15		RAFTER: 50 x 114mm SA pine grade 5	m	16		R
D.2.16		WALL PLATE: 38 X 114mm SA pine grade 5	m	10		R
D.2.17		10 X 150mm Fascia board asbestos or PVC	m	16		R
D.2.18		Hoop iron strap 25 X 1mm pre-punched	No	8		R
D.2.19		2.3m long Lintel (35Mpa) 70/75mm High	No	2		R
<b>Total Carried Forward To Summary &gt;&gt;</b>						<b>R</b>



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 12

**SECTION 2: SEEDLING NURSERY –  
RESERVOIR, TREATMENT PIT & CONCRETE WORKS**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>D.3</b>	<b>PPS 3.3</b>	<b>WATER RESERVOIR</b>				
		Round zincalume steel panel water reservoir with concrete ring beam foundation and Cover. <i>See further specs in PPS 3.3</i>				
D.3.1	PPS 3.3.2	200kL water reservoir to be supplied and installed by a specialist contractor. Reservoir to include all required fittings, seals valves	Sum	1	R	R
<b>D.4</b>	<b>PPS 3.4</b>	<b>NURSERY DRAIN MANAGEMENT STRUCTURE (SPECIALIST WORK)</b>				
		Construction of nursery drain collection/treatment pit. The structure which includes flocculation and chlorination to be installed according to the specialist's recommendation				
D.4.1	PPS 3.4.2		Sum	1	R	R
<b>E.1</b>	<b>SANS 1200G</b>	<b>STRUCTURAL CONCRETE</b>				
E.1.1	8.1.1	Smooth vertical formwork	m <sup>2</sup>	225	R	R
<b>E.2</b>		<b>CONCRETE</b>				
		CONCRETE FOOTINGS FOR POLES BASES, RACKS AND ANCHOR BLOCKS				
		Class 20MPa/19mm concrete for 5 nurseries 225 footings per nursery (22.0m <sup>3</sup> ). <ul style="list-style-type: none"> <li>• 44 anchor blocks of 400 x 400 x 400mm</li> <li>• 96 rack legs of 500 x 500 x 500mm</li> <li>• 85 structural posts of 400 x 400 x 600mm</li> </ul>	m <sup>3</sup>	100.0	R	R
<b>E.3</b>		<b>CONCRETE FOR DRAINAGE CANALS &amp; CONCRETE COLLAR/LIP FOR PATHWAYS</b>				
E.3.1	8.1.3	Class 25MPa/19mm	m <sup>3</sup>	70	R	R
<b>E.4</b>		<b>CONCRETE FOR Reservoir Base, Ring beam and Drain collection Pond</b>				
E.4.1		Class 25MPa/19mm	m <sup>3</sup>	40	R	R
<b>E.5</b>		<b>REINFORCEMENT</b>				
E.5.1		Ref 617 Reinforcement for Reservoir Base.	m <sup>2</sup>	115	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>						<b>R</b>



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 13

**SECTION 2: SEEDLING NURSERY –  
POLES FOR NURSERY STRUCTURE AND RACKS, STEEL FASTENERS**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PPS 3.1	<b>Poles - CCA treated hardwood round poles, to SABS 457</b>				
<b>F.1</b>	<b>PPS 3.1.1</b>	<b>NURSERY POLES</b>				
F.1.1		3.3 m x 100-125 mm diameter vertical posts for structure (centre line) + 3 poles for gate frame.	No.	105	R	R
F.1.2		3.0 m x 100-125 mm diameter vertical posts for structure (middle lines)	No.	180	R	R
F.1.3		2.7 m x 100-125 mm diameter vertical posts for structure (outer lines)	No.	180	R	R
F.1.4		4 x Bracing poles above entry gate 2000/900/500/500 x 100-125mm	Sum	1	R	R
<b>F.2</b>	<b>PPS 3.1.2</b>	<b>RACKS</b>				
F.2.1		2.4 m x 125-150 mm diameter cross bars for wire support frame	No.	256	R	R
F.2.2		2.4 m x 100-125 mm diameter frame legs for racks (cut in 2 @ 1.2m length from one pole)	No.	384	R	R
F.2.3		3.0 m x 100-125 mm diameter horizontal bracing poles between last & second last frame	No.	192	R	R
<b>F.3</b>		<b>STEEL</b>				
	PPS 3.1.3	<b>Supply and install and fastening wires to anchors according to the drawings</b>				
F.3.1		M10 x 80 Eye bolts shield anchor - expanding rawl type – 44 anchors per nursery	No.	220	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>						<b>R</b>

## ANNEXURE A

## BILL OF QUANTITIES | PAGE 14



**SECTION 2: SEEDLING NURSERY –  
SHADECLOTH & STEEL WIRES FOR SHADE CLOTH SUPPORT, HOLDBACK & RACKS**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	PPS 3.1.3	<b>Supply and install and fastening wires to anchors according to the drawings (ctd)</b>				
F.3.2		Wire - 2.2mm high tensile galvanized steel wire for shade cloth support & holdback. 3170m in total. Rolls of 5kg/165m	No.	20	R	R
F.3.3		Wire - 2.2mm high tensile galvanized steel wire for rack support. 8064m in total. Rolls of 5kg/165m	No.	50	R	R
F.3.4		2.5mm binding wire for racks. Total length: 2500m. Rolls of 5kg/130m	No.	20	R	R
F.3.5		Wire strainer anchor: turnbuckle eye-eye type for hold back	No.	220	R	R
F.3.6		Wire tensioner - Guy wire turnbuckle tensioner / or hook bolt tensioner (for cross wires)	No.	220	R	R
F.3.7		Wire tensioners for racks (5 x 28 x 8). 15mm hinge bolt (galvanized)	No.	1120	R	R
F.3.8		Wire staples - 32mm	Kg	15	R	R
F.3.9		Hoop irons (galv.) 500mm x 30mm x 1.2mm (min) to fasten cross bars to rack legs.	No.	768	R	R
F.4	PPS 3.2	<b>SHADE CLOTH NET</b>				
		<i>Supply and install shade cloth according to the manufacturer's recommendations.</i>				
F.4.1		40% Green shade cloth net. For one nursery. 30m x 3.00m rolls.	No.	18	R	R
F.4.2		20% Green shade cloth net for Four Nurseries. 30m x 3.00m Rolls	No.	72	R	R
F.4.3		Shade cloth binding wire/twining	m	3000	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>						<b>R</b>


**SECTION 2: SEEDLING NURSERY – TANKS & TANKSTANDS, FENCING**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
<b>F.5</b>		<b>TANKS AND TANK STANDS</b>				
F.5.1		1000L Poly ethylene tanks with fittings	No.	2	R	R
F.5.2		Tank stand: 3m X 2m tank stand: 0,6m high Double brick wall with 200mm 25Mpa Concrete slab topping	No.	1	R	R
<b>F6</b>		<b>GRAVEL FOR NURSERY WALKWAYS</b>				
F.6.1		Supply and place a course of 100mm of 13mm gravel or boiler ash for path ways in between and around the racks.	m³	180	R	R
<b>F.7</b>		<b>SECURITY FENCING</b>				
F.7.1		RAZOR WIRE 500mm flat wrap coils of fully galvanized razor wire 15m length rolls	rolls	65	R	R
F.7.2		STRAINING WIRE 2mm Ø fully galv. straining wire 100m rolls.	Rolls.	59	R	R
F.7.3		WELDMESH 1.8M high weldmesh 100 x 50 x 2mm fully galvanized weldmesh 30m rolls	Rolls	37	R	R
F.7.4		STEEL FENCING STANDARDS Steel Fencing Standard 3.00m high	No	310	R	R
F.7.5		STEEL POSTS Fully galvanized steel-capped posts 3.00m x 100mm x 2.5mm	No.	74	R	R
F.7.6		STEEL SUPPORT STAYS 2.4m X 50mm X 2.5mm steel support stays for gate posts	No.	4	R	R
F.7.7		GATES				
F.7.7.1		Hot dip galvanised Pedestrian gate 900mm X 2300mm with weld mesh closures	No.	1	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>						<b>R</b>

**ANNEXURE A**
**BILL OF QUANTITIES | PAGE 16**


**SECTION 2: SEEDLING NURSERY – FENCING & CONSUMABLES**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
F.7.7.2		Hot dip Galvanized vehicle gate 3600mm x 2300mm with diagonal bracing and weld-mesh closures. Frame tubing 50 x 2.5mm, bracing tubing 40mm x 2.0. mm. Including hinge eye bolts and chains.	No	1	R	R
F.7.8		CONCRETE FOR POLE POSTS 25Mpa (600 x 400 x 400mm pole base) and (400 x 400 x 400mm stays anchors)	m <sup>3</sup>	7.0	R	R
F.7.9		MISCELLANEOUS OTHER FITTINGS FOR FIXING POLES AND GATE POSTS AND BINDING WIRES <ul style="list-style-type: none"> <li>Anchor rebars 250 x 10mm drilled into posts inside concrete bases (148x).</li> <li>2.5mm Binding wires.</li> <li>Etc.</li> </ul>	Prov. Sum	=====	=====	R 7000
F.7.10		Mark up % on proven costs (max 11%)	Sum	%	R 7000	R
<b>F.7.11</b>		<b>CONSUMABLES</b>				
F.7.11.1		Nursery trays - Polystyrene, 200 cell/cavities	No.	6720	R	R
F.7.11.2		Plastic Bag (20L) for Fruit Trees	No	500	R	R
F.7.11.3		Plastic Bag (10L) for Fruit Trees	No	1500	R	R
F.7.11.4		Growing medium for Vegetable Nurseries Hygromix	m <sup>3</sup>	40	R	R
F.7.11.5		Growing Medium for Fruit tree nurseries The medium should be a mixture of 1part sand, 1part peat and 1 part bark or vermiculite by volume	m <sup>3</sup>	23	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>						<b>R</b>





## **Section 3**

### **Pricing schedule/ BoQ for the Combined Services Main Building<sup>1</sup>**

<sup>1</sup> Although for some items brand/trade names and types have been provided, these serve as mere examples to illustrate the type of equipment or, material that is required. Contractors are free to supply items/materials from other manufacturers/ suppliers, provided that these comply with the specifications provided and are at least of equal quality.



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 17

## SECTION 3: MAIN BUILDING – BILL 2 | EARTHWORKS

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.2	PPS EW	BILL NO. 2 – EARTH WORKS				
		SITE CLEARANCE <i>This item is included in the BoQ for the nursery. See items B1.1 – B.1.2 – B.1.3</i>				
B.1.2		EXCAVATIONS				
	PPS EW 3	REMOVAL OF TOP SOIL <i>This item is included in the BoQ for the Nursery. See items B.2.1</i>				
	PPS EW 3	SITE LEVELING <i>This item is included in the BoQ for the Nursery. See item B.2.2</i>				
B.1.2.3	PPS EW 3	Excavate in all materials < 2m deep and use for backfill and dispose of excess materials Foundation Trenches including bases: 80m x 750mm (w) x 800mm (d) = 48.0m <sup>3</sup> 53m x 650mm (w) x 800mm (d) = 27.5m <sup>3</sup> 13m x 500mm (w) x 600mm (d) = 4.0m <sup>3</sup> 77m x 500mm (w) x 750mm (d) = 28.1m <sup>3</sup>	m <sup>3</sup>	107.6	R	R
B.1.2.3		EXTRA OVER FOR EXCAVATION IN HARD MATERIALS				
B.1.2.3.2	PPS EW 3	Hard excavation incl. rock <sup>1</sup>	m <sup>3</sup>	=====	R	Rate only
B.1.3		SUBGRADE FILLING AND COMPACTION				
B.1.3.1	PPS EW 4	Filling and compaction of approved excavated material to 90% Mod AASHTO <i>Backfilling around walls and for apron (47m<sup>3</sup>) French drain covering (Covering of soil on top of geotextile: 60 x 0.3 x 0.1 = 1.8m<sup>3</sup>)</i>	m <sup>3</sup>	49.0	R	R
B.1.3.2	PPS EW4	G7 filling (200mm thick) under surface beds and compacted to 95% Mod AASHTO Building: 320m <sup>2</sup> x 200mm = 64m <sup>3</sup> . Tank stands: 3.3 m <sup>3</sup> Bulking factor= 40%	m <sup>3</sup>	93.3	R	R
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 18

## SECTION 3: MAIN BUILDING – BILL 2 | EARTHWORKS

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.1.3		SUBGRADE FILLING & COMPACTION (ctd)				
B.1.3.3	PPS EW 4	G5 sub base under surface beds and compacted to 98% ModAashto 320m <sup>2</sup> x 200mm thick. Compacted volume: 64m <sup>3</sup> . Bulking factor (BF) dolomite = 50%	m <sup>3</sup>	96.0	R	R
		<i>Soil poisoning</i>				
B.1.3.4		SOIL POISONING Pre-construction soil poisoning with a termicide by a specialist Pest Control Operator (PCO) registered in terms of section 10 of Act 47 of 1947, as amended in July 1983, in the categories (IV) (Structural pest control) and/or VI (Wood control). Including certificate. SANS 10124:2006	m <sup>2</sup>	360	R	R
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 19

## SECTION 3: MAIN BUILDING – BILL 3 | CONCRETE, FORM WORK &amp; REINFORCEMENT

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.2	PPS C	BILL NO. 3 - CONCRETE, FORM WORK & REINFORCEMENT				
B.2.1		UNREINFORCED CONCRETE CAST AGAINST EXCAVATED COMPACTED SOIL				
		Concrete class 15 MPa/19mm				
B.2.1.1		Manually mixed: Blinding under footing and bases. 5% of total concrete volume	m <sup>3</sup>	2.0	R	R
B.2.2		REINFORCED CONCRETE				
		Concrete Class 20MPa/19mm				
B.2.2.1	PPS C 17.1	Ready Mix: to strip footings 750 x 250mm	m <sup>3</sup>	15.0	R	R
B.2.2.2		Ready Mix: to strip footings 650 x 250mm	m <sup>3</sup>	8.6	R	R
B.2.2.3		Ready Mix: to strip footings 500 x 200mm	m <sup>3</sup>	8.8	R	R
		Concrete Class 25MPa/19mm				
B.2.2.4		Ready mix: column bases	m <sup>3</sup>	8.3	R	R
B.2.2.5	PPS C 17.2	Mass concrete – Surface beds laid on damp proofing (Floors). 125mm thick Verandah floor: 16.0 m <sup>3</sup>   Storage area: 8.8m <sup>3</sup> Meeting room: 4.2 m <sup>3</sup>   Office & Kitchen: 3.3 m <sup>3</sup> Male ablutions 2.5 m <sup>3</sup>   Female ablutions: 2.5 m <sup>3</sup> Passage: 2.1 m <sup>3</sup>   Disabled toilet 0.4 m <sup>3</sup> Exit stoep 1.5 m <sup>3</sup>   Apron: 7.0 m <sup>3</sup> (100mm). Ramp: 0.3m <sup>3</sup>   Septic tank found. slab: 1.3m <sup>3</sup>	m <sup>3</sup>	50.2	R	R
B.2.2.6		Class U2 wood float finish to surface beds, slabs, etc. Excluding apron.	m <sup>2</sup>	300	R	R
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 20

## SECTION 3: MAIN BUILDING – BILL 3 | CONCRETE, FORM WORK &amp; REINFORCEMENT

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.2.4		FORMWORK (PPS C12 & C13)				
B.2.4.1	PPS C17.10	<i>Class F1 formwork</i> For apron edge. Height of formwork: 200mm	m <sup>2</sup>	14	R	R
B.2.4.2	PPS C17.10	<i>Class F2 formwork</i> For porch floor edges. Height 300mm.	m	46	R	R
B.2.5		MOVEMENT JOINTS, ETC				
B.2.5.1	PPS C10	<i>Contraction joints (cut)</i> –(red dashed lines). Storage area, Passage, Germination room, meeting room	m	40	R	R
B.2.5.2	PPS C10	<i>Expansion joints with 12mm bitumen impregnated soft board-</i> for apron and pulling area and exit stoep.	m	83	R	R
B.2.5.3	PPS C9	<i>Slip/Isolation joints with 12mm bitumen impregnated soft board-</i> All flooring-wall interfaces	m	354	R	R
B.2.6		STEEL REINFORCEMENT				
		<i>Mild/high tensile steel reinforcement to structural concrete work</i>				
B.2.6.1		Rebar: Y12 rods for strip foundation. Shape code 60. See PPS C15 (25) Red: 6*Y12 (A=150mm, B=600mm) Found length: 80m. Blue: 4*Y12 (A=150mm, B=500mm) Found length: 60m. 5% extra for end to end laps (50D=60mm) and waste. Rods of 6.00m length	No.	123	R	R
B.2.6.2		R6 rebar for strip foundation stirrups @ 600mm CTC. Shape code 60. See PPS C15 (25) Red: 133 stirrups @ 2.00m length = 266m Blue: 100 stirrups @ 1.50m length = 150m 5% extra for end to end laps (50D=60mm) and waste. Rods of 6.00m length	No.	73	R	R
B.2.6.3		Column anchor bolts with ties Tied in with strip foundation reinforcement. 18 column bases. See B.2.2.4 for concrete requirements	Sum	1	R	R
Total Carried Forward To Summary Page>>					R	

## ANNEXURE A

## BILL OF QUANTITIES | PAGE 21


**SECTION 3: MAIN BUILDING – BILL 3 | CONCRETE, FORM WORK & REINFORCEMENT**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.2.6		STEEL REINFORCEMENT (CTD)				
		<i>Fabric reinforcement in concrete surface beds</i>				
B.2.6.4		Fabric reinforcement Ref 193 In apron and all interior areas, except Storage area/tray filling area	m <sup>2</sup>	380	R	R
B.2.6.5		Fabric reinforcement Ref 395 In Storage area/tray filling area (68m <sup>2</sup> )	m <sup>2</sup>	80	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 22

## SECTION 3: MAIN BUILDING – BILL 4 | MASONRY

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.3		BILL NO. 4 - MASONRY				
B.3.1		BRICK WORK Approximate BoQ for all bricklaying work and plastering Bags of NPC cement: 161 Building sand: 19m <sup>3</sup> Plaster sand: 6m <sup>3</sup> . No. of NFX bricks: 13400. No. of FBS bricks: 13500. No. FBX bricks: 13500. Brick force rolls of 20m: 100mms: 20 rolls. 150mm: rolls: 96 rolls				
		Brickwork of NFX bricks (14 MPa) in foundations. One brick width (220mm), 600mm high (7 courses). In Class II mortar.				
B.3.1.1	PPS MS 4.1	Foundations: Full Brick (220mm) wall ( = 2 skins), 600mm high (7 courses) Red foundations: 73m x 0.6 x 2 = 43.8m <sup>2</sup> Blue: 60 x 0.6 x 2 = 36m <sup>2</sup> App. no. of bricks incl. 5% breakage: 9702	m <sup>2</sup>	79.8	R	R
B.3.1.2	PPS MS 4.1	Foundations: Full Brick wall ( = 2 skins) 400mm high (5 courses) Green foundations: 13m x 0.4 x 2 = 5.2m <sup>2</sup> Yellow foundations: 77m x 0.4 x 2 = 30.8m <sup>2</sup> App. no. of bricks incl. 5% breakage: 4158 bricks	m <sup>2</sup>	36.0	R	R
		Brickwork in NFS bricks for inside skin of exterior wall In Class II mortar. Incl. beamfilling				
B.3.1.3	PPS MS 4.2	Half brick wall. 73m long. Including beam-filling. App. 13500 bricks.	m <sup>2</sup>	234.0	R	R
B.3.2		FACE BRICKWORK				
		Face brickwork (Class FBX) in Firelight Travertine/ Firelight Satin face bricks (red). For outer skin of external wall. In class II mortar. Half brick wall. In stretcher bond.				
B.3.2.1	PPS MS 4.2	Half brick wall. 73m long App. 12600 bricks. Including beamfilling.	m <sup>2</sup>	218.0	R	R
		Face brickwork (Class FBX) in Maize Travertine (yellowish). For outer skin of external wall. In class II mortar. Half brick wall. Three courses at 10 <sup>th</sup> , 20 <sup>th</sup> and 35 <sup>th</sup> course. In stretcher bond.				
B.3.2.2	PPS MS 4.2	Half brick wall (single skin) 73m long. App. 934 bricks	m <sup>2</sup>	16.0	R	R
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 23

## SECTION 3: MAIN BUILDING – BILL 4 | MASONRY

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.3.3		BRICKWORK SUNDRIES				
	PPS C 17.3	<i>Pre-stressed concrete lintels</i> See PPS: C11 Minimum strength: 35 MPa				
B.3.3.1		0.9m x 105mm x 70/75mm lintels Above G1 windows (6x) in toilets. 2 lintels per window.	No.	12	R	R
B.3.3.2		1.2m x 105mm x 70/75mm lintels Above 6 HCH school type pivot windows (4x). Two lintels per door/window.	No.	8	R	R
B.3.3.3		1.5m x 105mm x 70/75mm lintels D7 windows (1x), G7 windows (6x), 5HCH windows (2x), Two lintels/window	No.	18	R	R
B.3.3.4		1.8m x 105mm x 70/75mm lintels Double leaf ADA door 1200mm wide (1x). Two lintels	No.	2	R	R
B.3.3.5		2.1m x 105mm x 70/75mm lintels Above C4 windows (1x)	No.	2	R	R
B.3.3.6		2.4m x 105mm x 70/75mm lintel. Above D22F (2x). Two lintels per window.	No.	4	R	R
B.3.3.7		3.0m x 105mm x 70/75mm lintels Above 2.50m wide roller shutter door. Two lintels/door.	No.	2	R	R
B.3.3.8		3.6m x 105mm x 70/75mm lintels Above 3.00m wide roller shutter door. Two lintels/door	No.	2	R	R
B.3.3.9		1.2m x 140/145mm x 70/75mm lintels Above single leaf standard doors (4x).One lintel/door	No.	4	R	R
B.3.3.10		1.5m x 140/145mm x 70/75mm lintels Above Aluminium sliding windows (5x), Disabled toilet door (1x). One lintel per door/window	No.	6	R	R
B.3.3.11		2.1m x 140/145mm x 70/75mm lintels Above Strip curtain door (2x). One lintel/door	No.	2	R	R
		<i>High tensile galvanised Brick reinforcement</i>				
B.3.3.12		150mm x 2.8mm brickforce For foundations. Rolls of 20m	No.	29	R	R
B.3.3.13		150mm x 2.8mm brick force For external brick wall. Rolls of 20mm	No.	67	R	R
B.3.3.14		100mm x 2.8mm brickforce for M150 blocks Rolls of 20m.	No.	20	R	R
B.3.3.15		75mm x 2.8mm of brickforce for M 100 blocks. Rolls of 20m.	No.	5	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	





## ANNEXURE A

## BILL OF QUANTITIES | PAGE 24

## SECTION 3: MAIN BUILDING – BILL 4 | MASONRY

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.3.4		CEMENT BLOCKS				
		<i>Blockwork for internal walls</i>				
3.4.1	PPS MS4.3	M150 blocks for with Class II mortar App. 1975 M150 blocks, 17 bags of cement & 3m <sup>3</sup> of building sand. Incl. breakage and waste.	m <sup>2</sup>	143	R	R
3.4.2	PPS MS4.3	M100 blocks w/ Class II mortar for ablutions App. 475 M100 blocks, 17 bags of cement & 3m <sup>3</sup> of building sand. Including breakage and waste.	m <sup>2</sup>	36	R	R
B.3.5		NUTEC FIBRE CEMENT WINDOW SILLS See PPS F1				
		<i>Natural grey sills in single lengths bedded in Class I mortar</i>				
B.3.5.1		Nutec sills 15 x 150mm wide sills set flat and slightly projecting.	m	50	R	R
B.3.6		VENTILATION BRICKS. See PPS MS1.5				
		<i>Burnt clay ventilation bricks above each window on inside AND outside of wall</i>				
B.3.6.1	PPS MS 4.4	Clay vermin proof ventilation airbricks. Dimensions: 222mm x 150mm x 30-40mm	No.	62	R	R
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 25

**SECTION 3: MAIN BUILDING – BILL 5 | WATERPROOFING**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.4		<i>BILL NO. 5 - WATER PROOFING</i>				
B.4.1		DAMP PROOFING OF WALL & FLOORS				
B.4.1.1		375 MICRON "Brick grip" DPC embossed black polyethylene sheeting under walls, sills 225mm wide (Under full brick exterior wall)	m	80	R	R
B.4.1.2		375 MICRON "Brick grip" DPC embossed black polyethylene sheeting under walls, sills 150mm wide (under M150 blocks)	m	40	R	R
B.4.3		375 MICRON "Brick grip" DPC embossed black polyethylene sheeting under walls, sills 100mm wide (under M100 blocks)	m	15	R	R
B.4.4		250 MICRON "USB Green" polyethylene waterproofing plastic under surface beds	m <sup>2</sup>	350	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 26

**SECTION 3: MAIN BUILDING – BILL 6 | ROOF COVERINGS**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B6		<i>BILL NO. 6 - ROOF COVERINGS</i>				
B.6.1		PROFILED METAL ROOF SHEETING AND ACCESSORIES				
B.6.1.1	PPS R 11.2	Roof sheets: IBR - 0.53mm Colorbond AZ150– Colonial Green. Cover width 762mm, sheet width 850mm	m <sup>2</sup>	331	R	R
B.6.1.2		Barge caps on header wall roof edges. Colourbond Colonial green. Pop riveted onto roof sheets 150-200mm	m	35	R	R
B.6.1.3		Roll top ridge capping 300mm Colorbond 0.53mm	m <sup>2</sup>	25	R	R
B.6.2		PROFILED POLYCARBONATE ROOF SHEETING AND ACCESSORIES				
B.6.2.1	PPS R 11.2	Roof sheets: Polycarbonate IBR 1.5mm. Translucent. Colour: White Diffuser	m <sup>2</sup>	13	R	R
B.6.3		ROOF VENTILATORS				
		<i>Wind driven convection driven roof ventilators</i>				
B.6.3.1		Convection turbine type roof ventilators 350mm throat diameter anodised aluminium turbine (Windmaster or equivalent)	No.	4	R	R
B.6.4		ROOF & WALL INSULATION				
		<i>"Sisalation 420" heavy industrial grade aluminium foil based</i>				
B.6.4.1		Sisalation insulation laid taut over purlins. Under Colorbond roofsheets only. Use tensioned steel wiring to support.	m <sup>2</sup>	331	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 27

**SECTION 3: MAIN BUILDING – BILL 7 | CARPENTRY & JOINERY**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.7		<i>BILL NO. 7 – CARPENTRY &amp; JOINERY</i>				
B.7.1		SKIRTINGS				
		<i>Hard wood skirtings to be glued with skirting adhesive to the wall and then nailed with masonry nails</i>				
B.7.1.1	PPS F7.3	Wrought Meranti skirting 19-mm x 76mm Bull nosed (rounded) on top and ploughed at back. For Meeting room, Office, Kitchen.	m	58	R	R
B7.2		DOOR FRAMES				
		<i>Wrought Meranti, without cill</i>				
B.7.2.1	PPS F7.2	Ex 75 x 114mm single rebated door frame to suite standard 813 x 2032 x 42mm doors	No.	4	R	R
B.7.2.2	PPS F7.2	Ex 75 x 114mm single rebated door frame to suite 966 x 2032 x 42mm doors	No.	2	R	R
		<i>Steel doorframes</i>				
B.7.2.3	PPS F7.2	1200mm rebated door frame To suite double leaf meranti 600 x 2032 x 42mm passage door	No.	1	R	R
B.7.2.4	PPS F7.2	1180mm rebated doorframe To suite double leaf French cottage door for office	No.	1	R	R
B.7.3		FLUSH DOORS				
		<i>Solid core flush panel meranti door with hardwood edge strips</i>				
B.7.3.1	PPS F7.3	Heavy duty solid hardwood fire retardant door 900mm x 2032mm x 44mm for back exit	No.	1	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 28

## SECTION 3: MAIN BUILDING – BILL 7 | CARPENTRY &amp; JOINERY

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.7.4		FRAMED DOORS, ETC				
		<i>Wrought meranti framed, ledged and braced batten doors</i>				
B.7.4.1	PPS F7.3	FLB: 44mm thick door, size 813 x 2032mm For ablution rooms, office, and meeting room.	No.	4	R	R
B.7.4.3	PPS F7.3	FLB: 44mm thick door, size 600 x 2032mm For double leaf passage door	No.	2	R	R
		<i>Fire door Class A (60 minutes) Composition and installation as per SANS 1253:2016 Safety Standards</i>				
B.7.4.1		Class A single leaf steel fire door Allandel or equivalent. Dimensions: <b>913</b> x 2032mm. Thickness: 44mm MDF or Masonite finish. Hard wood or steel edging. Left hand type.	No.	1	R	R
B.7.5		JOINERY WORK				
		<i>Slatted benches in ablution rooms</i>				
B.7.5.1		50 x 30mm Meranti slats with three rounded corners and screwed.	m	37	R	R
		<i>Angle iron seat supports (welded)</i>				
B.7.5.2		50x5xmm HDG angle iron bench supports Welded to triangle 400 x 400 x 300mm and mounted onto wall. 1.00m length of angle iron per support	No.	12	R	R
		<i>Fixings</i>				
B.7.5.3		M8 x 100mm Galvanised expansion bolts, including forming. Two per bench support	No.	24	R	R
B.7.5.4		M6 x 50mm hex. Galv. bolt w/ washer & nut. To fasten bench slats onto angle iron support	No.	60	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 29

## SECTION 3: MAIN BUILDING – BILL 7 | CARPENTRY &amp; JOINERY

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.7.6		WORKTOPS				
		<p><i>Worktops of 32 mm thick V313 High moisture resistant particle board. Particle board (counter and desks) to rest on angle iron frames that are bolted onto the wall (at the back) and are resting on angle iron legs (In front).</i></p> <p><i>Provisional specifications:</i></p> <p>Office: Serving counter 600mm wide Pieces of 2600mm, 900mm, 600mm (flap) Installed at 1.10m height Closure of front of serving counter with meranti tongue in groove slats mounted on meranti frame work Angle iron framework onto which the particle board will be bolted 50 x 50 x 3mm.</p> <p>Office: desks 600mm wide 2500mm - 2500mm - 2300mm – 1720 – 1050mm Installed at 700mm height. Angle iron framework onto which the particle board will be bolted 50 x 50 x 3mm.</p> <p>Kitchen: Counter 1400mm x 600mm Angle iron framework onto which the particle board will be bolted 50 x 50 x 3mm</p>	Sum	1	R	R
B.7.6.1						
B.7.7		TABLES				
		<p><i>Rectangular training tables</i></p> <p>16-20mm thick double sided melamine table top (oak) on steel frame. Frame – 32-40mm round or square tube, 1.6mm (min) wall thickness. With screw type adjustable ferrules. Length: 1350-1500mm. Width: 675-750mm. Height: 700-750mm</p>	No.	10		
B.7.7.1						
		CHAIRS				
		<p><i>Leaf stacker chairs</i></p> <p>Non-fabric hard plastic fixed Leaf stacker chairs with sturdy back cover and chrome orcoated steel frame base. Max weight 125kg. Contractor to submit proposed model for approval before purchase</p>	No,	25		
B.7.7.2						
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 30

## SECTION 3: MAIN BUILDING – BILL 7 | CARPENTRY &amp; JOINERY

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.7.8		<p>CUPBOARDS</p> <p><b>Chipboard</b>  <u>Doors and carcasses</u> shall be constructed of 18mm melamine faced High Moisture Resistant Medium Density Fibreboard (MDF).  <u>Shelves</u> shall be constructed of 18mm melamine faced V313 HMR.  All exposed edges to be arrised during construction.  All cupboards to have 6mm "Masonite" backing  <u>Drawers</u> 18mm V313 HMR particle board front with arrised edges, 12mm.</p> <p><b>Ironmongery</b>  <u>Doors</u> to be hung onto cupboard with one pair flat spring loaded.  <u>Drawers</u> to be fitted with and including one pair of "Hillaldam" sliding mechanism  Unless otherwise described all steel components to be finished in NA (Natural Anodised)</p> <p><i>Floor cupboards</i></p>				
B.7.8.1		<p>Kitchen: Sink unit 1500mm x 900mm (h) x 500-600 mm (d) with 1 shelf.  To fit drop-in double sink item B.17.2.6.</p>	No.	1	R	R
B.7.8.2		<p>Kitchen:  Floor unit 1350mm x 900 (h) x 600 (d).  With two drawers</p> <p><i>Hanging cupboards</i></p>	No.	1	R	R
B.7.8.3		<p>Hanging cupboard 1500 x 600(h) x 350 (w)  Four doors. Hung at 1400mm height.  One in Kitchen and two in Office</p>	No.	3	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 31

## SECTION 3: MAIN BUILDING – BILL 8 | CEILINGS &amp; PARTITIONS

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.8		<b>BILL NO. 8 – CEILINGS &amp; PARTITIONS</b>				
B.8.1		<b>BRANDERED CEILINGS See PPS 10.</b>  <i>&gt;Nutek fibre cement ceiling boards (900mm x 6mm) to be fixed against 38 x 38mm brandering at 450mm centres with 32mm x 2.5mm serrated ceiling nails.  &gt;Brandering to be nailed onto truss beams (150mm x 50mm), which are at 900mm centres..&gt;Beams to be secured in truss hangers, which are fixed onto the walls. &gt;Use H-joining strips in between nutek sheets.  &gt;Ceiling to be finished off with plain Doric plasterboard cornices.</i>				
B.8.1.1		<b>Brandered Ceilings</b> In Kitchen, Office, Meeting room, Germination room, ablution rooms, disabled toilet and passage	m <sup>2</sup>	142	R	R
B.8.2		<b>CORNICES</b>  <i>Polystyrene cornices</i>				
B.8.2.1		<b>75mm polystyrene cornices</b> In Kitchen, Office, Meeting room, Germination room, ablution rooms, disabled toilet and passage	m	177	R	R
B.8.3		<b>PARTITIONS</b>  <i>Complete cubicles for 2 toilets for male and female ablutions, anchored to the floor with steel anchor legs, and installed with overhead aluminium or SS brace</i>				
B.8.3.1		Double cubicle of 16mm thick melamime MDF board division panel, 2 doors & 3 front panels. Total cubicle height: 2.00m > Partitions: 1600(l) x 1850 (h) mm. > 2 door panels: 600mm-700mm (l) x 1850mm (h). > Front panels (pilasters): 150-200mm(l) x 1980mm(h). Partition walls 100-150mm above floor. Doors with satin finished hinges, indicator bolt and keep, and hat and coat hook with rubber buffer serving as door stop. The pilaster frame to have rubber buffers. Partitions, doors and pilasters framed in aluminium/stainless steel- lipped channel and mitred at corners.	No.	2	R	R
B.8.3.2		<b>Wall mounted urinal partition</b> 1000-1200mm high, 475-600mm wide. With stainless steel mounting fixings. Made of 10mm (min) tempered safety glass, solid plastic or powder coated steel. Rounded or rectangular with filleted edges. Franke Xinox or equivalent. To be placed in between wash basins and urinal	No.	1	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>					<b>R</b>	





## ANNEXURE A

## BILL OF QUANTITIES | PAGE 32

**SECTION 3: MAIN BUILDING – BILL 8 | CEILINGS & PARTITIONS**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		SHOWER DOORS				
B.14.7.1		Top and bottom guided front access pivot shower door. Dimensions: 600 – 800 mm (l) x 1850-2000mm (h) With aluminium or chrome or white frame. Frosted or clear 5mm (min) thick security glass door. To include door stopper to prevent door opening against wall. Example: Leroy Merlin corner entry pivot square El Blanco white. Extendable 70-85mm. Ref: SKU 81415533.	No.	4	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 33

## SECTION 3: MAIN BUILDING – BILL 9 | IRONMONGERY

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.9		<i>BILL NO. 9 - IRONMONGERY</i>				
B.9.1		ACCESSORIES				
		<i>Fixing all ironmongery to timber unless otherwise noted. Union/Yale/Buchel/Solid.</i>				
B.9.1.1		Butt Hinge 100 x 75 x 2.7mm, with 4 Ball Bearings Finish: brass plated. Three per door. Passage doors included.	No.	21	R	R
B.9.1.2		Stainless steel (304) ball bearing butt hinges 100 x 75 x 3mm for Server Room & Exit porch. 4/door.	No.	8	R	R
B.9.1.3		Satin chrome cast zinc door stops For all 9 doors.	No.	9	R	R
B.9.1.4		Pad lockable stainless steel drop bolt 152mm. For passage doors.	No.	4	R	R
B.9.1.5		Aluminium screw on kick plates 750-800mm x 200mm (Two per door)	No.	14	R	R
B.9.1.6		Aluminium screw on kick plates 600mm x 200mm (For double leaf passage door. 2/leaf	No.	4	R	R
B.9.1.7		Aluminium corner protectors 1000mm x 75mm x 75mm. For Germination room door openings, Germination room corner and office corner	No.	10	R	R
B.9.2		LOCKS				
B.9.2.1		Assa Abloy Stainless steel tubular furniture with 152 x 152mm plate with cylinder lock hole for porch door and server room door	No.	2	R	R
B.9.2.2		"Union" 2x18SC Euro profile double cylinder	No.	2	R	R
B.9.2.3		"Union" L-2215-78SS/SL profile cylinder lock case	No.	2	R	R
B.9.2.4		Union 3 lever mortice lockset. For ablution rooms, meeting room, office and disabled toilet. Chrome plated zinc handles. Chrome plated cast zinc back plate. Stainless steel mortice forend. To fit left or right hinged doors.	No.	6	R	R
B.9.2.5		Union Dove aluminium pull handle 152 x 76 mm. For passage doors	No.	4	R	R
B.9.2.6		Union stainless steel push plates. For Disabled toilet (1x) and Passage doors (2x) 300 x 100mm	No.	3	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 34

## SECTION 3: MAIN BUILDING – BILL 9 | IRONMONGERY

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.9.3		DOOR CLOSERS				
B.9.3.1		Door closer able to operate 950mm/60kg (EN3 category) doors. Opening up to 180 degrees. With hold open option. Yale, Dorma or Union. For back entry.	No.	1	R	R
B.9.3.2		Door closer able to operate 850mm/40kg (EN2 category) doors. Opening up to 180 degrees. With hold open option. Yale, Dorma or Union. For back Ablution Rooms	No.	2	R	R
B.9.3.3		Door closer for fire door (EN1154 fire rated) For doors up to 80kg. QS 680 or eq.. For Server room.	No.	1	R	R
B.9.4		BATHROOM FITTINGS				
B.9.4.1		Stainless steel (min. 1.2mm) wall-mountable soap dispenser, 0.7-1.0L, satin finish, with inspection window, with pull lever.	No.	5	R	R
B.9.4.2		Stainless steel wall mountable manual paper towel dispenser for rolled handtowels. With cutting mechanism. Must be able to hold rolls of 200mm. For Ablution rooms, disabled toilet, storage area and office.	No.	5	R	R
B.9.4.3		Touch free electronic stainless steel warm air hand dryer For wall mounting. Infrared sensor activity for non-touch operation, adjustable sensor distances, automatic power shut-off. Blower output: minimum 75m³/h. Air velocity: 75m/s min. Max. 1500W.	No.	3	R	R
B.9.4.4		Single stainless steel towel rail 600-700mm For Kitchen and ablution room	No.	3	R	R
B.14.8		BATH ROOM ACCESSORIES				
B.14.8.2		Slimline foot operated sanitary bins 12 – 15L Polypropylene, 140-160mm wide.	No.	2	R	R
B.9.5		GRAB RAILS				
B.9.5.1		Stainless steel straight grab bar 600 x 32/35mm. For disabled toilet.	No.	2	R	R
B.9.5.2		Stainless steel 32mm Ø dog leg grab rail with centre flange. For disabled toilet.	No.	1	R	R
B.9.5.3		Cistern back rail (32mm/SS). For disabled toilet.	No.	1	R	R
B.9.5.4		Drop down support rail 650 x 160 x 25mm Brushed stainless steel. With mounting bracket. Example: Vaal grab rail 8943Z. For disabled toilet.	No.	1	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 35

## SECTION 3: MAIN BUILDING – BILL 9 | IRONMONGERY

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.9.6		SIGNAGE				
B.9.6.1		Stainless steel/Black Engraved Plate “Male” indicator. 152 x 152mm	No.	1	R	R
B.9.6.2		Stainless steel/Black Engraved Plate “Female” indicator. 152 x 152mm	No.	1	R	R
B.9.6.3		Stainless steel/Black Engraved Plate “Paraplegic toilet”. 152 x 152mm	No.	1	R	R
B.9.7		SHELVING				
B.9.7.1		Five tier steel standalone shelving with MDF shelf tops – Grey. Wildberry or equivalent Dimensions: 900-1000 mm (l) x 2000-2150mm (h) – 400-500mm (deep)	No.	15	R	R
B.9.8		DOOR FRAMES				
B.9.8.1		Steel Built-in single rebate left hand doorframe For fire door <b>813</b> mm x 2032mm x 44mm Pre-galvanised steel at least 1.6mm thick Installed in <b>M150 block</b> wall plastered on both sides. With 5 (min) mild steel weld-fixed side mild steel lugs 340 x 30 x 1.6mm (min), and 3-4 lugs to the head Rebate at least 48mm deep x 30mm wide	No.	1	R	R
B.9.8.2		Steel Built-in single rebate left hand doorframe For fire door <b>913</b> mm x 2032mm x 44mm Pre-galvanised steel at least 1.6mm thick Installed in <b>full brick</b> wall plastered on one side (230mm). With 5 (min) mild steel weld-fixed side mild steel lugs 340 x 30 x 1.6mm (min), and 3-4 lugs to the head. Rebate at least 48mm deep x 30mm wide	No.	1	R	R
B.9.8.3		Steel single rebate doorframe for DA type double leaf French door. 1181 x 2032mm. For full brick wall one side plastered (230mm) . With 2 x 4 weld-fixed lugs of 250/350mm x 30mm x 1.6mm on sides and 3 on top. For right hand and left hand leaf.	No.	1	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 36

## SECTION 3: MAIN BUILDING – BILL 10 | STRUCTURAL STEEL WORK

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.10	PPS P	BILL NO.10 – STRUCTURAL STEELWORK				
	PPS R11.1	Roof structure complete, designed, fitted and certified. Length of the structure: 24.0m Width main section of building: 10.0m Total width including extensions: 17.5m Column height: 3.00m. Bay length: 6.00m. All steel to be grade 350 WA to SABS 1431				
B.10.1		STEEL PORTAL FRAME				
		Steel I or H-profile columns & rafters				
B.10.1.1		5 portals, grey zinc phosphate primer finish. As per provisional design supplied. Including cleats, anchor bolts & other fittings	Sum	1	R	R
		Steel bracing				
B.10.1.2		Steel cross bracing between rafter beams and columns of first and second portals. As per steel supplier's recommendation.	Sum	1	R	R
B.10.1.3		Inter purlin bracing perpendicular to purlins Anti-sag rods (16mm), flange tubing or angle iron bracing, as per steel supplier's recommendation	Sum	1	R	R
B.10.2		HOT DIP GALVANISED C-CHANNEL PURLINS				
B.10.2.1		Hot dip galvanised purlins 125 x 75 x 20 x 2.0mm at no more than 1.60m centres. As per steel supplier's recommendation. Include all fittings	Sum	1	R	R
B.10.3		OTHER COSTS ITEMS				
B.10.3.1		Compilation and submission of final design with Engineering certificate.	Sum	1	R	R
B.10.3.2		Transport of material to site	Sum	1	R	R
B.10.3.3		Erection costs	Sum	1	R	R
Total Carried Forward To Summary Page >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 37

## SECTION 3: MAIN BUILDING – BILL 11 | METAL WORK

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.11		<i>BILL NO. 11 – METAL WORK</i>				
B.11.1		HOT DIP GALVANISED SUNDRIES				
		<i>Mild steel angle iron</i>				
B.11.1.1		30 x 30 x 3.0mm angle section 860mm long To be welded against round tubing and in between vertical leaf members. Two per leaf.	No.	4	R	R
B.11.1.2		30 x 30 x 3.0mm angle section 1160mm long To be welded against round tubing and in between vertical leaf members. Two per leaf.	No.	4	R	R
		<i>Galvanised steel capped round tubing</i>				
B.11.1.3		Steel galv. round tubing 3.00m x 100mm x 4.0mm. With steel cap. For gate and fencing posts.	No.	10	R	R
		Steel galv. round tubing 3.00m x 100mm x 4.0mm. With steel cap. For gate and fencing posts.	No.	10	R	R
		<i>Binding wire (galvanised)</i>				
B.11.1.4		Binding wire (4.0mm) to support diamond mesh fencing and to hold down tanks. Five lines at floor level – 500mm – 1000mm – 1500mm and 2000mm height = 130m Hold down wire for water tanks (twisted) 12 x 5m = 60m	m	190	R	R
B.11.2		HOT DIP GALVANISED WELDED GATES				
		<i>Double leaf security gates for Pulling &amp; Dispatch porch area</i>				
B.11.2.1		Double leaf security gate 900 x 2200 x 40 x 2.8mm. Square tubing frame with 15mm x 2.5mm round tubing at 75mm centres	No.	1	R	R
B.11.2.2		Double leaf security gate 900 x 2000 x 40 x 2.8mm. Square tubing frame with 15mm x 2.5mm round tubing at 75mm centres	No.	1	R	R
B.11.3		DIAMOND MESH FENCING				
		<i>PVC coated fencing</i>				
B.11.3.1		PVC-coated (green) 2.5mm diamond mesh with 50mm apertures closing off the Plugging and Dispatch porch. Rolls of 1200mm height.	m <sup>2</sup>	45	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 38

## SECTION 3: MAIN BUILDING – BILL 11 | METAL WORK

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.11.4		HOT DIP GALV FIXED LOUVRES				
		<i>Galvanised louvre frames</i>				
B.11.4.1		Fixed steel galvanised rectangular louvre 1000mm (l) x 500mm (h) x 100mm (d), mounted in metal surround frame, into masonry, bird and vermin proof. For gable walls.	No.	4	R	R
B.11.4.2		Fixed steel galvanised rectangular louvre 500mm (l) x 300mm (h) x 100mm (d), mounted in metal surround frame, into masonry, bird and vermin proof. Above passage on storage side.. 5-8 blades	No.	2	R	R
B.11.5		ROLLER SHUTTER DOORS				
		<i>HDG steel slatted chain operated door</i>				
B.11.5.1		Hot Dip galvanised steel chain operated roller door. 3000mm (l) x 2500mm (h) Spring-loaded. Curtain: 11.5kg/m <sup>2</sup> . Interlocking slats of 45-75mm width. With guidelocks and nylon or malleable iron end locks for noise reduction. With overhead curtain box and T-bar.	No.	1	R	R
		<i>HDG steel slatted push up door</i>				
B.11.5.2		Hot Dip galvanised push up roller door. 2500mm (l) x 2200mm (h) Spring-loaded. Curtain: 11.5kg/m <sup>2</sup> . Interlocking slats of 45mm-75mm width. With guide locks and nylon or malleable iron end locks for noise reduction.	No.	1	R	R
B.11.6		STEEL WINDOWS				
		<i>Cottage pane HDG steel windows-side hung</i>				
B.11.6.1	PPS F7.1	D7 cottage frame steel window 1022mm (l) x 1245mm (high)	No.	1	R	R
B.11.6.2	PPS F7.1	D54 cottage frame steel window 1511mm (l) x 1245mm (h)	No.	3	R	R
		<i>Cottage pane HDG steel windows-top hung</i>				
B.11.6.3	PPS F7.1	G7 Cottage pane steel window 1022 x 359mm	No.	6	R	R
B.11.6.4	PPS F7.1	G1 Cottage pane steel window 533mm x 359mm	No.	6	R	R
B.11.6.5	PPS F7.1	D5F Cottage pane steel window 533mm x 1245mm	No.	2	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 39

## SECTION 3: MAIN BUILDING – BILL 11 | METAL WORK

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.11.6		STEEL WINDOWS (ctd)				
		<i>Cottage pane HDG steel windows-pivot</i>				
B.11.6.6	PPS F7.1	5HCH school type pivot windows 1143 x 654mm	No.	2	R	R
B.11.6.7	PPS F7.1	6HCH school type pivot 6/4 composite school type steel pivot window 889 x 1245mm	No.	2	R	R
B.11.7		ALUMINIUM WINDOWS – PPS F5				
		<i>Aluminium 2 panel sliding windows</i>				
B.11.7.1	PPS F7.5	Double track 2 panel interlocker aluminium sliding windows Wispeco Elite 1209 XX or eq. 1200mm (l) x 900mm (h) Complete with glazing	No.	5	R	R
B.11.8		STEEL DOORS				
		<i>French double leaf cottage doors</i>				
B.11.8.1	PPS F7.	French door type DA 1181 x 2134mm, 2 x 12 panes with steel bottom sheet	No.	1	R	R
		STEEL LOCKERS WITH BENCHES				
B.11.8.2		Three door lockable steel lockers 1.80m (3x600mm) high x 300 mm wide x 450/500mm deep. 36 compartments in total, 6 lockers per ablution section	No.	12	R	R
		<i>Premanufactured floor or wall mounted locker room benches with chamfered hard wood slatted seats on steel frame.</i>				
B. 11.8.3		2.00-2.20m long x 400-500mm wide x 500mm high	No.	2	R	R
B.11.8.4		1.00m long x 400-500mm x 500mm	No.	2	R	R
Total Carried Forward To Summary >>					R	





## ANNEXURE A

## BILL OF QUANTITIES | PAGE 40

## SECTION 3: MAIN BUILDING – BILL 12 | PLASTERING

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.12	PPS MS 4.1	BILL NO. 12 – PLASTERING				
B.12.1		INTERNAL PLASTER				
		<i>Plaster on brickwork.</i>				
B.12.1.1	PPS MS 4.5	One Coat (10mm) 1:5 cement plaster to brickwork with wooden float finish. Walls & narrow widths.	m <sup>2</sup>	104	R	R
B.12.1.2	PPS MS 4.5	One Coat 1:5 cement plaster to brickwork with steel trowel finish. Walls & narrow widths. Office, Meeting room, kitchen, germination room	m <sup>2</sup>	113	R	R
		<i>Plaster on blockwork</i>				
B.12.1.3	PPS MS 4.5	One Coat (10mm) 1:5 cement plaster to blockwork with wooden float finish. Walls & narrow widths. Includes plaster for tank stands (13m <sup>2</sup> )	m <sup>2</sup>	118	R	R
B.12.1.4	PPS MS 4.5	One Coat 1:5 cement plaster to blockwork with steel trowel finish. Walls & narrow widths. Office, Meeting room, kitchen, germination room.	m <sup>2</sup>	239	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 41

## SECTION 3: MAIN BUILDING – BILL 13 | TILING

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.13	PPS MS 4.1	BILL NO. 13 – TILING				
B.13.1		WALL TILING				
		<i>Glazed white/ivory ceramic wall tiles 200 x 200mm x 6mm, with 3mm grouting lines. Wall edge / corners to be finished with Stainless Steel Square Edge Trims.</i>				
B.13.1.1.	PPS MS 4.5	Wall tiles for male and female ablution rooms on all walls up to 2m high (up to bottom of internal window sill).	m <sup>2</sup>	168	R	R
B.13.1.2		Wall tiles for the kitchen corner. From 900mm upwards to ceiling height (2.7m)	m <sup>2</sup>	11.0	R	R
B.13.2		FLOOR TILING				
		<i>Grade I Ceramic floor tile 300mm x 300mm "Sahara Earth" (CTM Product) or Afriporcelain NT130353A Tirano Sand Slip Resistant Tile (350 x 350mm) (Builders product), or eq. Min thickness: 6.5mm</i>				
B.13.2 1	PPS MS 4.5	Floor tiles for the office, kitchen and meeting room	m <sup>2</sup>	61	R	R
		<i>Grade 1 shiny 6.5mm (min) bathroom floor tiles (beige). Dimensions 350 x 350mm to 450 x 450mm. E.g. Flores Beige Shiny Ceramic Floor Tile - 430 x 430mm (CTM)</i>				
B.13.2 2		Floor tiles for Male & Female ablution rooms & Disabled toilet	m <sup>2</sup>	38	R	R
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 42

## SECTION 3: MAIN BUILDING – BILL 14 | PLUMBING &amp; DRAINAGE

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.14		<i>BILL NO. 14 – PLUMBING &amp; DRAINAGE</i>				
B.14.1		RAINWATER DISPOSAL				
		<i>0.6mm seamless domestic aluminium pre-painted gutters</i>				
		<i>Along all lower roof edges mounted on bottom purlin. With internal bracing, ends and funnels. Steel brackets at 1.0m centres</i>				
B.14.1.1	PPS R 11.3	150mm seamless aluminium industrial OGEE gutters completed and fitted (R7). At lower roof ends of main structure, and over porches. Lengths: 1 x 13.00m <=> 2 x 12.00m, 2 x 7.00m <=> 1 x 6.00m, 1 x 4.00m.	m	61.0	R	R
B.14.1.2	PPS R 11.4	105mm x 75mm OGEE aluminium down pipes 3 downpipes @ 3.0m to apron, 3 @ 2m to water tanks, 1 downpipe @ 3.0m connecting two. Total: 18m. Including 135 degrees bends, downpipe holding brackets @ 1m apart.-	Sum	1	R	R
B.14.2		SANITARY FITTINGS				
		<i>Wash basins (vitreous china)</i>				
B.14.2.1		Wall hung white vitreous china basin With 40mm waste hole and one hole for tap and one for plug. "Vaal Hibiscus" (code 7023) with Two in Male & two in Female ablutions. Complete with steel mounting brackets and bolts.	No.	5	R	R
B.14.2.2		Basin pedestal (ceramic) for B.17.2.1	No.	5	R	R
B.14.2.3		Mounting brackets for basins B.17.2.1.Set of 2	No.	5	R	R
B.14.2.4		Vanity slab 800 x 350mm x 25-35mm With rounded corners. In the Female ablutions Including 3 heavy duty galvanised steel mounting brackets 300-340mm (hor) x 300-400mm (vert.) x 40-50mm (wide) x 4.0-5mm (thick) with stainless screws.	Sum	1	R	R
		<i>Wash troughs (stainless steel)</i>				
B.14.2.5		Double bowl stainless steel wash trough With splash back. For Plugging and Dispatch area. Wall mounted. 1000-1200mm (l) x 400-500mm (w) x 300-400mm (h) Franke Wash Trough ET102 or equivalent. With mounting bolts/brackets.	No.	1	R	R
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 43

## SECTION 3: MAIN BUILDING – BILL 14 | PLUMBING &amp; DRAINAGE

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.14.2		SANITARY FITTINGS (CTD)				
		<i>Stainless steel kitchen sinks</i>				
B.14.2.6		Stainless steel (austenitic, polished) double bowl double drain drop in sink and drainer. 1500-1600mm x 500-600mm (w) x 150-170mm (d) Example: Franke Quinline DCB QLX622	No.	1		
		<i>Vitreous china toilet bowls</i>				
B.14.2.7		Vitreous china close-coupled 90° outlet open rim front single flush toilet suite – White- complete with lid and fitments Example: Vaal Hibiscus Elite FFCC suite.	No.	4		
B.14.2.8		Paraplegic white vitreous low level suite With cistern, seat, down pipe and fittings. Example: Vaal Protea Paraplegic pan code 750200, plus cistern, seat and fittings.	No.	1		
		<i>Wall hung urinals</i>				
B.14.2.9		Vitreous china wall-hung urinal with top inlet. Dim. 550-650mm (h) x 350-400mm (w) x 350-400 (d) To be supplied with a 35-70mm chrome plated grating, spreader, flush pipe and hanger brackets. Example: Vaal "Lavatera" urinal. Code 705426	No.	1		
B.14.3		WASTE UNIONS ETC				
		<i>Waste unions for hand basins and sinks</i>				
B.14.3.1		32mm chrome plated waste union With plug & chain. For ceramic basins B.17.2.1 and B.17.2.2. Example: Cobra Watertech. Ref 301	No.	5		
B.14.3.2		40mm chrome plated waste union. With plug and chain. For sink and wash trough B.17.2.2 Example: Cobra Watertech. Ref 316.	No.	3		
B.14.4		TRAPS ETC				
B.14.4.1		Chrome plated 32mm bottle trap for wash basin. Cobra Water tech ref 301 or equivalent	No.	5		
B.14.4.2		40mm x 40mm flexible reseal S - shaped trap. For stainless steel sinks.	No.	3		
B.14.4.3		Underground Waste gully P-trap 110mm for B17.2.7 and B.17.2.8 toilet bowls	No.	5		
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 44

## SECTION 3: MAIN BUILDING – BILL 14 | PLUMBING &amp; DRAINAGE

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.14.5		TAPS/VALVES, ETC				
B.14.5.1		15mm x 300mm Flexible couplings For toilet cisterns, hand bassins and sinks	No.	16	R	R
B. 14.5.2		Chrome plated brass basin mixer w/ fittings With flow restrictor up to 5 or 6 L/minute. Diameter: 45-55mm. Inlet 15mm. Height: 130-160mm. Example: Cobra Taryn basin mixer	No.	5	R	R
B.14.5.3		Wall mounted chrome plated brass mixer with fittings. For kitchen sink B17.2.6. Inlet: 15mm BSP. All parts chrome plated, including handles. Spout exit 120-190mm above drain board. Example: Cobra Carina Sink mixer. Ref: 3396SB	No.	1	R	R
B.14.5.4		Chrome plated brass bib tap with fittings ½" heavy thread. Cold water only. Projection 85- 120mm. Inlet 15mm. For double wash trough. Example: Cobra Star or Stella bib tap.	No.	3	R	R
B.14.5.5		Stopcock brass 15mm For toilets, showers, hand bassins, urinal and tray filling/storage area north wall	No.	1	R	R
B.14.5.6		Shower set Consisting of single function ball joint connector chrome shower rose + chrome shower arm + 2 chrome plated stop taps. For wall mounting. With flow up to 10 L/minute. Example: Cobra shower set with Stella stop taps. SKU: 3338ST026/065	No.	4	R	R
		<i>Pressure valves</i>				
B.14.5.7		Exposed top inlet Chrome Flush Valve For urinal B.17.2.3. With wall mounting fittings. With non-hold open feature. Example: Cobra Junior Flush master	No.	1	R	R
B.14.5.8		25mm ball valve (brass) - 2x For main supply line to building	No.	2	R	R
B.14.5.9		15mm ball valve (brass) - 11x In supply lines to showers, geyser, urinals & hand basins	No.	11	R	R
B.14.6		WATERMETERS				
B.14.6.1		25mm (or 20mm with 25mm thread) inline horizontal cold water meter Bronze or brass. With airtight sealed registers Odometer type display. Nominal flow rate $Q_n$ : 3.5- 4.0m <sup>3</sup> /h. $Q_{max}$ : 7 - 8m <sup>3</sup> /h. Pressure: 12 bar (min).	No.	1	R	R
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 45

## SECTION 3: MAIN BUILDING – BILL 14 | PLUMBING &amp; DRAINAGE

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.14.7		SANITARY PIPEWORK				
		<i>PVC (S&amp;V) to comply with SABS 967</i>				
B.14.7.1		PVC 40mm pipe	m	35	R	R
B.14.7.2		PVC 50mm pipe	m	5	R	R
B.14.7.3		PVC 110mm pipe	m	40	R	R
		<i>Extra over for PVC pipes for fittings</i>				
B.14.7.4		PVC bends Ø 40mm (45 degrees)	No.	9	R	R
B.14.7.5		PVC bends Ø 50mm (45 degrees)	No.	2	R	R
B.14.7.6		PVC bends Ø 40mm (90 degrees)	No.	4	R	R
B.14.7.7		PVC bends Ø 50mm (90 degrees)	No.	1	R	R
B.14.7.8		PVC bends Ø 110mm (45 degrees)	No.	3	R	R
B.14.7.9		PVC 110/40mm reducer	No.	2	R	R
B.14.7.10		PVC joint 110/40mm – 135 degrees	No.	2	R	R
		<i>PVC airvents</i>				
B.14.7.11		50 mm 2- way PVC airvent with 2m riserpipe	No.	4	R	R
B.14.8		WATER SUPPLY				
		<i>Class 2 copper pipes</i>				
B.14.8.1		Class 2 Cu: 15mm pipes	m	118	R	R
		<i>Extra over Class 2 copper pipes for brass fit.</i>				
B.14.8.2		Copper tees (15mm) – Estimated No.	No.	10	R	R
		<i>Polycop pipes</i>				
B.14.8.3		22m polycop pipe	m	32	R	R
B.14.8.4		15m polycop pipe	m	33	R	R
		<i>Extra over polycop pipes for brass compression fittings</i>				
B.14.8.5		15mm straight couplers (estimated no.)	No.	10	R	R
B.14.8.6		Reducer 32>25mm	No.	1	R	R
B.14.8.7		Reducer 25>22mm	No.	2	R	R
B.14.8.8		Reducer 22>15mm	No.	2	R	R
B.14.8.9		Tee 25>25mm	No.	1	R	R
B.14.8.10		Reducer tee 22>15mm	No.	8	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 46

## SECTION 3: MAIN BUILDING – BILL 14 | PLUMBING &amp; DRAINAGE

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.14.10		GEYSERS ETC				
		<i>Installation as per SANS 10254: Installation, replacement and repair of hot water system.</i>				
		<i>High pressure hot water geysers</i>				
B.14.10.1		200L Electric horizontal high pressure ( $\leq 600$ kPa) hot water geyser. Energy efficiency class A or B. SANS 151 400kPa approved. Element rating: $\leq 4$ kW Example: Kwikot 600 Dual. Product ID: EF200-2D. Including all fittings. To be installed on roof trusses ceiling above passage. Including all fittings and pipes	No.	2	R	R
B.14.10.2		Tray for electric geyser B.14.10.1 Example: Kwiktray geyser tray	No.	2	R	R
B.14.10.3		Installation & connection of geysers to water supply pipes to the showers and kitchen	Sum	1	R	R
B.14.11		FLOOR GULLIES				
		<i>Polymer In floor Drainage Channel</i>				
B.14.11.1		Polymer U-shaped drainage channel Dimensions: 1000 x 100mm. With galv. steel grating .Example: ACO Euroline Polymer resin channel H97, 1m length	m	6.0	R	R
		<i>Stainless steel floor gully</i>				
B.14.11.1		Low profile floor gully with 150mm x 150mm stainless steel grating and horizontal 50mm $\varnothing$ spigot. With airtrap. Example: ACO EG150-DN100	No.	3	R	R
B.14.11.2		Floor gully with 150mm x 150mm stain-less steel grating and vertical 1100mm $\varnothing$ spigot. With airtrap and 3 back inlets ACO EG150-DN100 with 3 back inlets	No.	4	R	R
B.14.12		TESTING				
B.14.12.1		Testing of the entire water supply	Sum	1	R	R
B.14.12.2		Testing the entire plumbing and sanitary installation	Sum	1	R	R
<b>Total Carried Forward To Summary Page&gt;&gt;</b>					<b>R</b>	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 47

## SECTION 3: MAIN BUILDING – BILL 15 | ELECTRICAL WORKS

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B15		<i>BILL NO. 15 ELECTRICAL WORKS (PROVISIONAL)</i>				
		<i>This is a provisional BoQ dealing with lighting and light switches only. The final design and Bill of Quantities for the electrical works will be done by an electrical engineer, the cost of which will be covered by items A.3.13 and A.3.14 of Section A - P&amp;G's</i>				
B.15.1		LIGHT SWITCHES & SOCKET OUTLETS (PROVISIONAL)				
B.15.1.1		Single gang light switch – 1 way	No.	14	R	R
B.15.1.2		Double gang light switch – 1 way	No.	3	R	R
B.15.1.3		Triple gang light switch – 1 way	No.	1	R	R
B.15.1.4		Single gang light switch – 2 way	No.	3	R	R
B.15.1.5		Double gang light switch – 2 way	No.	1	R	R
B.15.1.6		Triple gang light switch – 2 way	No.	1	R	R
B.15.2		LIGHT FITTINGS, LUMINAIRES & EQUIPMENT (PROVISIONAL)				
		<i>All fixtures complete with tubes</i>				
B.15.2.1		Surface mounted 1200 twin tube 36 W Example: Voltex LP1-236-ELB/DIM	No.	23	R	R
B.15.2.2		Twin TUBE ( 2 x 18W) vapour proof T8 (1.2m long) with lens, continuous gasket and lens clips Example: Voltex C2 IP65 C2-218-ELB	No.	10	R	R
B.15.2.3		Twin TUBE ( 2 x 36W) vapour proof T8 (1.2m long) with lens, continuous gasket and lens clips Example: Voltex C2 IP65 C2-236-ELB	No.	14	R	R
B.15.2.4		4 TUBE FLUORESCENT recessed louvre LIGHTING fixtures with reflectors	No.	3	R	R
B.15.2.5		WACO WALL MOUNTED ALABASTER FITTING Example: Voltex E27 SATIN CHROME	No.	14	R	R
Total Carried Over To Summary >>					R	





## ANNEXURE A

## BILL OF QUANTITIES | PAGE 48

## SECTION 3: MAIN BUILDING – BILL 16 | MECHANICAL WORKS

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B16		<i>BILL NO. 16 MECHANICAL WORKS (PROVISIONAL)</i>				
B.16.1		AIRCONDITIONING AND VENTILATION INSTALLATION				
		<i>Self contained cassette and midwall units</i>				
B.16.1.1		Cassette unit 5.4kW/18000 BTU In meeting room ceiling. Including outdoor unit with condenser and compressor, pipes and cabling	No.	1	R	R
B.16.1.2		Midwall Aircons (split) 1.8kW/6000 BTU In office. Including outdoor unit with condenser and compressor, pipes and cabling.	No.	2	R	R
		<i>Extraction fans. All fans to be supplied with two attenuators (silencers/mufflers)</i>				
B.16.1.3		Extract fan 75-100l/s @ 100 Pa In showers	No.	2	R	R
B.16.1.4		Exhaust fan 350-450m <sup>3</sup> /hour In Disabled toilet and germination room	No.	2	R	R
		<i>Ceiling fans</i>				
B.16.1.5		45-55-inch (110-140mm) Industrial metal Ceiling Fan. (White) with 3-5 speeds. To be hung from the purlins in the storage and dispatch areas.	No.	5	R	R
		<i>Fan heaters (tubular)</i>				
B.16.1.6		Mobile fan heater 2-3 kW with grip handle bar and frame. With overheating protection. Air replacement capacity: 200-300m <sup>3</sup> /h. For germination room	No.	2	R	R
		<i>Electrical connections</i>				
B.16.1.7		Allow for all required electrical connections from isolator to units	Sum	1	R	R
		<i>General items</i>				
B.16.1.8		Allow for flashing of all wall penetrations	Sum	1	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>					<b>R</b>	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 49

## SECTION 3: MAIN BUILDING – BILL 17 | GLAZING

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.17		BILL NO, 17 - GLAZING				
B.17.1		MIRRORS				
		6mm silvered float glass copper backed mirrors with polished and bevelled edges				
B.17.1.1		Mirror 450 x 600mm 6mm silvered float glass copper backed mirrors with bevelled edges. Including wall mounting fittings. For male and female ablutions.	No.	4	R	R
B.17.1.2		Mirror 450 x 1000mm 6mm silvered float glass copper backed mirrors with bevelled edges. Including wall mounting fittings. For disabled toilet	No.	6	R	R
B.17.2		GLAZING				
		Floated glass panes of GG quality				
B.17.2.1		4mm floated glass of GG quality To be cut in panes of various dimensions fitting cottage type steel windows. For steel window frames B.11.6.1 – B.11.6.7 Include placement, putty and fittings	m <sup>2</sup>	18.0	R	R
B.17.2.2		5mm floated glass of GG quality To be cut in panes of various dimensions fitting steel French door. For French door B.11.8.1 Include placement, putty and fittings.	m <sup>2</sup>	2.0	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 50

## SECTION 3: MAIN BUILDING – BILL 18 | PAINTWORK

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.18		BILL NO, 18 - PAINTWORK				
B.18.1		ON PLASTER				
		<i>Clean down, make good cracks &amp; minor defects with filler, e.g. Polycell, and paint</i>				
B.18.1.1		1 coat of plaster primer for internal plastered walls	m <sup>2</sup>	560	R	R
B.18.1.2		1 coat of universal undercoat	m <sup>2</sup>	560	R	R
B.18.1.3		2 coats of Velvagro or similar approved paint	m <sup>2</sup>	560	R	R
B.18.2		ON CEILINGS				
		<i>Roller painting of cement fibre ceiling boards</i>				
B.18.2.1		Two coats of Polyacrylic emulsion paint on the nutec ceilings boards	m <sup>2</sup>	142	R	R
B.18.3		ON METAL SURFACES				
		<i>Prepare, clean, degrease and paint</i>				
B.18.3.1		Velvagro or similar: On steel door frame (2x)	m <sup>2</sup>	4	R	R
B.18.4		ON WOOD SURFACES				
		<i>Prepare, sand and apply 3 coats of woodoc 30 on meranti door frames and leaves, sanding slightly between coats.</i>				
B.18.4.1		Woodoc: door frames (7x)	m <sup>2</sup>	7	R	R
B.18.4.2		Woodoc: door leaves (7x) (5x - Ablutions, Office, Passage and Meeting room)	m <sup>2</sup>	11	R	R
		<i>Sand down, fill minor defects, prepare &amp; paint</i>				
B.18.4.3		Velvagro or similar: doors (2x)	m <sup>2</sup>	12	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 51

## SECTION 3: MAIN BUILDING – BILL 21 | SOIL DRAINAGE

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<i>BILL NO. 21 – SOIL DRAINAGE - PROVISIONAL</i>				
B.21.1		SOIL AND WASTE DRAINAGE				
		<i>Class 34 solid wall (heavy duty) PVC pipes</i>				
B.21.1.1		HDPE pipe for French drain (110mm, perforated)	m	75	R	R
		<i>Extra over Class 34 solid wall (heavy duty) PVC pipes for fittings</i>				
B.21.1.2		HDPE 135 deg. Y-branch 110/110mm	No.	2	R	R
B.21.1.3		HDPE 45 deg. bend 110mm	No.	2	R	R
B.21.1.4		HDPE 90 deg. bend	No.	2	R	R
B.21.1.5		HDPE T joint 110/110mm	No.	2	R	R
		<i>Inspection &amp; Distribution chambers</i>				
B.21.1.6		200mm diameter inspection chamber For 110mm sewer pipe with connections at 135, 180 and 225 degrees. With plastic cover, height adjustment shaft, sealing ring and chamber base 200mm. Example Evo pipe DN400-3BL	No.	2	R	R
B.21.1.7		250mm diameter inspection chamber For 110mm sewer pipe with connections at 135, 180 and 225 degrees. With plastic cover, height adjustment shaft, sealing ring and chamber base 250mm. Example Evo pipe DN400-3BL	No.	2	R	R
B.21.1.8		315mm diameter inspection chamber For 110mm sewer pipe with connections at 135, 180 and 225 degrees. With plastic cover, height adjustment shaft, sealing ring and chamber base 315mm. Example Evo pipe DN400-3BL	No.	2	R	R
B.21.2		SEPTIC TANKS				
		<i>Excavate in all materials ≤ 2m deep and use for backfill and dispose of excess materials</i>				
B.21.2.1	PPS EW 3	Septic tank excavation: 3m x 2.0m(w) x 2.0m(d) = 12.0m <sup>3</sup>	m <sup>3</sup>	27.6	R	R
B.21.2.2		Trenches sewer lines between building & septic tank: 33m x 400mm x 600mm = 7.8m <sup>3</sup> See Drawing STO/RDN/2020/042	m <sup>3</sup>	7.8	R	R
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 52

## SECTION 3: MAIN BUILDING – BILL 21 | SOIL DRAINAGE

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.21.2		SEPTIC TANKS (CTD)				
B.21.2.3		Prefabricated plastic ribbed hor. septic tank 5000-6000L. Including fittings, installation.	Sum	1	R	R
B.21.2.4		Concrete foundation slab for septic tank 3.00 x 2.00 x 125mm with Ref 395	Sum	1	R	R
B.21.3		FRENCH DRAIN & DRAINFIELD				
		<i>See Drawing STO/RDN/2020/042</i>				
B.21.3.1		<p>French drain for septic tank</p> <p><i>(provisional specs pending outcome percolation tests)</i></p> <p>Installation of a septic drain field/leach field with dispersal drains in the form of perforated pipes enveloped in gravel.</p> <p><u>Specifications:</u></p> <ul style="list-style-type: none"> <li>• Four lines of drain pipes 2.5m apart.</li> <li>• Total length of piping: ±75m, including footer pipe</li> <li>• Pipe laid with perforations facing downwards</li> <li>• Slope: app. 1.5-2.0%</li> <li>• 110mm pipes laid on 300mm of 30-50mm aggregate (14m³) and enveloped in 150mm of 9mm stone (6m³) up to 50mm above the pipe.</li> <li>• Trenches 600mm wide</li> <li>• Top of 19mm stone filter to be covered with geotextile (50m²).</li> <li>• Trench to be closed with 150-200mm of soil</li> <li>• Price to include pipes, geotextile, stone and fittings: <ul style="list-style-type: none"> <li>➢ HDPE 135 deg. Y-branch 110/110mm (x2)</li> <li>➢ HDPE 45 deg. bend 110mm (x2)</li> <li>➢ HDPE 90 deg. 110mm bend (x2)</li> <li>➢ HDPE T joint 110/110mm (x2)</li> </ul> </li> </ul>	Sum	1	R	R
B.21.3.2		Two way distribution box with two 110mm dirty water gate valves enabling the distribution of the waste over both sides of the drain field	Sum	1	R	R
Total Carried Forward To Summary Page>>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 53

**SECTION 3 – MAIN BUILDING – BILL 22 | WATER RETICULATION**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<i>BILL NO. 22: WATER RETICULATION</i>				
B.22.1		DOMESTIC & FIRE WATER SUPPLY				
		<i>Gate valve housing</i>				
B.22.1.1		Prefabricated valve or meter box. With lockable lid. Polymer concrete, cast iron or plastic. Dimensions app. 900mm (l) x 600mm (w) x 450mm (h) should fit water meter + three valves as per Drawing 15 (STO/RDN/2020/058)	No.	1	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 54

## SECTION 3 - MAIN BUILDING – BILL 23 | STORM WATER DRAINAGE

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
		<i>BILL NO. 23 - STORM WATER DRAINAGE</i>				
B.23.1		STORMWATER DISPOSAL				
		<i>Concrete aprons with 1 side abutting brickwork</i>				
B.23.1.1		Aprons: scarify to a depth of 150mm and level and recompact earth.	m <sup>2</sup>	89	R	R
B.23.1.2		Aprons: Class 25MPa/19mm in apron slab	m <sup>3</sup>	9	R	R
B.23.1.3		Aprons: Class U2 finish to top of concrete surface bed.	m <sup>2</sup>	89	R	R
B.23.1.4		Aprons: Class F1 formwork to slab edge	m	89	R	R
B.23.1.5		Aprons: Expansion joints of 12mm bitumen impregnated softboard. Joints 3m apart	m	35	R	R
B.23.1.6		Aprons: rake out softboard 12mm deep and seal expansion joints.	m	35	R	R
B.23.1.7		Aprons: Ref 193 fabric reinforcement in concrete surface beds.	m <sup>2</sup>	80	R	R
B.23.2		WATER TANKS				
		<i>Supply &amp; Installation of SABS approved plastic water tank.</i>				
B.23.2.11		Supply and installation of a 5000-5300 liter LLDPE, UV stabilized drinking water tank. To be supplied with at least a 40mm inlet connector at the top, a 40mm outlet connector at the bottom, and a 450mm lid. The tank must be connected to roof gutters, and be securely mounted on, and loosely fixed to, the block stand with twisted wires.	No.	3	R	R
Total Carried Forward To Summary >>					R	



## ANNEXURE A

## BILL OF QUANTITIES | PAGE 55

**SECTION 3 - MAIN BUILDING – BILL 23 | STORM WATER DRAINAGE**

ITEM #	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
B.23.3		STANDS FOR WATER TANKS				
		<i>Solid Block &amp; Concrete slab stands</i>				
B.23.3.1		<p>Tank stand for 1 x 5000L water tank As per drawing TAN/RDN/2014/02R</p> <p>1. Dimensions of the tank stands 2.00m x 1.95m x 0.70m (0.5m aboveground). All blocks mortar filled</p> <p>2. Three courses of blocks on 500 x 200mm 15 MPa strip foundation.</p> <p>3. Tanks secured to stand with 4 twisted double strands of straining wire connected to 4 Y8 steel stirrups (length: 0.5m each) cast in floor concrete. Strands to be slightly strained.</p> <p>4. Connection with gutter with three 50mm diam. downpipe bends and one 40mm diameter straight PVC piece, glued with PVC cement after inspection of connection.</p> <p>5. Brass lockable tap with fittings.</p>	Sum	1	R	R
B.23.3.2		<p>Tank stand for 2 x 5000L water tanks As per Drawing TAN/RDN/2020/041 Dimensions 4.00m x 1.90m x 0.70m (0.5m aboveground) Other specifications as B.23.3.1</p>	Sum	1	R	R
<b>Total Carried Forward To Summary &gt;&gt;</b>					<b>R</b>	





## ANNEXURE A 1

## BILL OF QUANTITIES | PAGE 58

**SUMMARY OF SECTIONS**

SECTION	BOQ PAGE NO.	DESCRIPTION	AMOUNT (RAND)
1		<b>SECTION 1 - PRELIMINARY &amp; GENERAL</b>	
	1	FIXED CHARGE ITEMS	R
	2	FIXED CHARGE/ TIME RELATED ITEMS	R
	3	TIME RELATED ITEMS	R
	4	SUMS STATED PROVISIONALLY BY THE ENGINEER	R
	5	SUMS STATED PROVISIONALLY BY THE ENGINEER	R
	6	SUMS STATED PROVISIONALLY BY THE ENGINEER	R
2		<b>SECTION 2 – SEEDLING NURSERY</b>	
	7	EARTHWORKS	R
	8	EARTHWORKS (CTD)	R
	9	IRRIGATION	R
	10	IRRIGATION (CTD)	R
	11	IRRIGATION (CTD)	R
	12	RESERVOIR, TREATMENT PIT & CONCRETE FOOTINGS	R
	13	POLES FOR NURSERY STRUCTURE & RACKS, FASTENERS	R
	14	STEEL WIRES FOR SHADE CLOTH SUPPORT	R
	15	SHADECLOTH, TANKS & TANKSTANDS, PATHWAYS	R
	16	CONSUMABLES AND FENCING	R
3		<b>COMBINED SERVICES MAIN BUILDING</b>	
	17	BILL 2 – EARTHWORKS	R
	18	BILL 2 - EARTH WORKS & SOIL POISONING	R
	19	BILL 3 - CONCRETE, FORM WORK & REINFORCEMENT, LINT.	R
	20	BILL 3 - CONCRETE, FORM WORK & REINFORCEMENT, LINT.	R
	21	BILL 3 - CONCRETE, FORM WORK & REINFORCEMENT, LINT	R
	22	BILL 4 – MASONRY	R
	23	BILL 4 – MASONRY	R
	24	BILL 4 – MASONRY	R
	25	BILL 5 - WATER PROOFING	R
	26	BILL 6 – ROOF COVERINGS	R
	27	BILL 7 – CARPENTRY AND JOINERY	R
	28	BILL 7 – CARPENTRY AND JOINERY	R
	29	BILL 7 – CARPENTRY AND JOINERY	R
	30	BILL 7 – CARPENTRY AND JOINERY	R
	<b>SUBTOTAL SUMMARY PAGE 1 - TRANSFER TO NEXT PAGE &gt;&gt;</b>		<b>R</b>

**ANNEXURE A****BILL OF QUANTITIES | PAGE 59****BILL OF QUANTITIES FOR THE CONSTRUCTION OF FIVE SHADE CLOTH SEEDLING NURSERY STRUCTURES & ANCILLARY BUILDINGS AT CEDARA RESEARCH STATION****SUMMARY OF SECTIONS (2)**

		SUBTOTAL FROM PREVIOUS PAGE>>	R
SEC-TION	BOQ PAGE NO.	DESCRIPTION	AMOUNT
	31	BILL 8 – CEILING AND PARTITIONS	R
	32	BILL 8 – CEILING AND PARTITIONS	R
	33	BILL 9 – IRONMONGERY	R
	34	BILL 9 – IRONMONGERY	R
	35	BILL 9 – IRONMONGERY	R
	36	BILL 10 – STRUCTURAL STEEL WORK	R
	37	BILL 11 - METAL WORK	R
	38	BILL 11 – METAL WORK	R
	39	BILL 11 – METAL WORK	R
	40	BILL 12 – PLASTERING	R
	41	BILL 13 – TILING	R
	42	BILL 14 – PLUMBING AND DRAINAGE	R
	43	BILL 14 – PLUMBING AND DRAINAGE	R
	44	BILL 14 – PLUMBING AND DRAINAGE	R
	45	BILL 14 – PLUMBING AND DRAINAGE	R
	46	BILL 14 – PLUMBING AND DRAINAGE	R
	47	BILL 15 – ELECTRICAL WORKS	R
	48	BILL 16 – MECHANICAL WORKS	R
	49	BILL 17 – GLAZING	R
	50	BILL 18 – PAINTWORK	R
	51	BILL 21 – SOIL DRAINAGE	R
	52	BILL 21 – SOIL DRAINAGE	R
	53	BILL 22 – WATER RETICULATION	R
	54	BILL 23 – STORM WATER DRAINAGE	R
	55	BILL 23 – STORM WATER DRAINAGE	R
<b>TOTAL ALL SECTIONS (PAGES 1-55) &gt; TRANSFER TO NEXT PAGE &gt;&gt;&gt;</b>			<b>R</b>

**ANNEXURE A****BILL OF QUANTITIES | PAGE 60****SUMMARY OF SCHEDULES**

SCHEDULE	DESCRIPTION	AMOUNT (RAND)
1	Total all sections	R.....
2	Contingencies 10%	R.....
SUBTOTAL		R.....
3	VAT 15%	R.....
TOTAL		R.....

**ANNEXURE B | CONTRACTOR'S HEALTH AND SAFETY DECLARATION**

## Contractors Health and Safety Declaration

In terms of Clause 5(1)(h) of the OHSA 1993 Construction Regulations 2014 (referred to as "the Regulations" hereafter), a Contractor may only be appointed to perform construction work if the Department is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHSA 1993 Construction Regulations 2014.

To that effect a person duly authorised by the bidder must complete and sign the declaration hereafter in detail.

**Declaration by Bidder**

1. I the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHSA 1993 Construction Regulations 2014.
2. I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Department's Health and Safety Specifications.
3. I hereby confirm that adequate provision has been made in my tendered rates and prices in the Bill of Quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2014, including the cost of the specific items listed in the tables hereafter.

*(Tables to be completed by bidder)*

**TABLE 1: COST OF SAFETY PERSONNEL**

PERSONNEL	COSTS AS ALLOWED IN BID	NOMINATED PERSON/S
Construction Supervisor		
Construction Safety Officer		
Health & Safety Representatives		
Health and Safety Committee		

**TABLE 2: COST OF SAFETY EQUIPMENT**

EQUIPMENT	STATE YES or NO	COST ALLOWED FOR IN BID
Hard hats		
Safety boots		
Add items as per risk assessment:		



4. I hereby undertake, if my bid is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 7(1)(a) of the Construction Regulations, which plan shall be subject to approval by the Department.
5. I confirm that copies of my company's approved Health and Safety Plan, the Department's Safety Specifications as well as the OHSA 1993 Construction Regulations 2014 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Department's personnel, the Engineer, visitors, and officials and inspectors of the Department of Labour.
6. I hereby confirm that, I will be liable for any penalties that may be applied by the Department in terms of the said Regulations (Regulation 33) for failure on the Contractor's part to comply with the provisions of the Act and the Regulations.
7. I agree that my failure to complete and execute this declaration to the satisfaction of the Department will mean that I am unable to comply with the requirements of the OHSA 1993 Construction Regulations 2014, and accept that my bid will be prejudiced and may be rejected at the discretion of the Department.

**SIGNATURE OF BIDDER .....** **DATE .....**

*(of person authorised to sign on behalf of the Bidder)*

**ANNEXURE C | ADDITIONAL INFORMATION (1) - EXPERIENCE**

Please indicate your experience and expertise in identical or similar work over the past five years by completing the table.

No.	Name of project + Period	Project description	Role (self or sub- contracted)	Project value	Name and contact number of referee
1					
2					
3					
4					
5					

**ANNEXURE C2 | ADDITIONAL INFORMATION (2) – PROFESSIONAL SKILLS**

Indicate in the table in which fields you regard yourself a specialist. For fields with unticked boxes it is expected that the name and contact details of sub-contractors are listed under Annexure C3.

<b><u>Tick box</u></b>	<b>Field(s) for which specialist status is claimed</b>	<b>Evidence of specialist status (professional registration, certificates, diploma's, etc)</b>
	SUPPLY & ERECTION OF A STEEL PORTAL STRUCTURE PLUS ROOF	
	SUPPLY & INSTALLATION OF A PREMANUFACTURED SEPTIC TANK AND SOAKAWAY	
	ELECTRICAL INSTALLATIONS	
	IRRIGATION INCLUDING DRAINAGE MANAGEMENT STRUCTURE	
	CONSTRUCTION/INSTALLATION OF BULK WATER RESERVOIR	
	DESIGN OF ELECTRICAL INSTALLATIONS	

**ANNEXURE C | ADDITIONAL INFORMATION - (3) SUBCONTRACTED WORKS**

Please list whom you will sub-contract parts of this contract to, with particular reference to the specialists' works per STC clauses 8.1 & 8.4. If you are a specialist in one or more of the fields, please supply evidence thereof in the experience section of this Annexure, C1.

NO.	SPECIALIST'S WORKS	SUB CONTRACTOR WITH CONTACT DETAILS	CSD REGISTRATION NUMBER OF SUB-CONTRACTOR	SUBCONTRACTOR'S CIDB REGISTRATION NO. - IF APPLICABLE
1	CONSTRUCTION OF FIVE SEEDLING NURSERIES WITH IRRIGATION			
2	SUPPLY & ERECTION OF A STEEL PORTAL STRUCTURE PLUS ROOF			
3	SUPPLY & INSTALLATION OF A PREMANUFACTURED SEPTIC TANK AND SOAKAWAY			
4	ELECTRICAL INSTALLATIONS			
5	CONSTRUCTION/INSTALLATION OF WATER TREATMENT FACILITIES			
6	CONSTRUCTION OF WATER RESERVOIR			
7				



**ANNEXURE D |****PRELIMINARY CONSTRUCTION PROGRAMME****Preliminary Construction Program**

The bidder shall submit a preliminary program reflecting the proposed sequence and duration of the various activities comprising the work for this Contract to include the projected cash flow for each activity. The program shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of his bid.

[Note: The program must be based on the completion time as specified in the Clause 59 of the Special Terms & Conditions.]

Note 2: The presented order of the works is not necessarily sequential, e.g. the fencing does not have to come after the construction of the shed

<b>PRELIMINARY CONSTRUCTION PROGRAMME FOR NURSERY MAIN BUILDING &amp; ANCILLARY WORKS</b>				
<b>NO.</b>	<b>PHASE DESCRIPTION</b>	<b>Starting date (No. of days/weeks after Site handover)</b>	<b>Completion date (No. of days/weeks after site hand over)</b>	<b>Duration (No. of days/ weeks)</b>
1	Site hand over			
2	Site establishment			
3	Site clearing			
4	Ordering of steel portal structure			
5	Site leveling			
	<b>MAIN BUILDING</b>			
6	Excavate foundation trenches to level and compact.			
7	Installation of reinforcement if required.			
8	Erection of steel structure			
9	Casting of strip foundation (shed & stands)			
10	Curing of strip foundation			
11	Construction of foundation wall & tank stands walls			
12	Import floor base material & compact			
13	Placement of reinforcement steel, form work and USB			
14	Casting of floors, tank stand slabs			
15	Brick/block up walls up to eaves level			
17	Installation of doors and windows			
18	Completion of walling			
19	Installation of the ceilings			
20	Plastering of walls			
21	Plumbing & Sanitation			
22	Installation of fencing			
23	Electricity			
24	Painting			
25	Supply & installation of water tanks			
26	Installation of gutters & downpipes			

>> Continued on next page>>

**PRELIMINARY CONSTRUCTION PROGRAMME FOR NURSERY MAIN BUILDING & ANCILLARY WORKS (CTD)**

NO.	PHASE DESCRIPTION	Starting date (No. of days/weeks after Site handover)	Completion date (No. of days/weeks after site hand over)	Duration (No. of days/ weeks)
	<b>NURSERIES, RESERVOIR, IRRIGATION AND DRAINAGE</b>			
27	EXCAVATION FOR POLES			
28	Install/Erect Poles for five shade cloth Nurseries			
29	Construct the shade cloth nurseries			
30	Construction of racks with in all the Nurseries			
31	Construction of pump house			
32	Install Pump, Motor and fittings			
33	Electrical works, from an existing transformer to the pump house			
34	Installation of Pipe line between the water source and reservoir			
35	Construction of Bulk water Reservoir			
36	Installation of Pipe networks and mixing tanks between the reservoir and the nurseries			
37	Installation of irrigation system with-in the Nurseries			
38	Construction of Drainage Facilities (Concrete canals and treatment pond)			
	<b>FINISHING</b>			
39	Site de-establishment			
40	Clearing of the site of all building rubble			
41	Site hand over			

PROPOSED CONSTRUCTION PERIOD \_\_\_\_\_ WEEKS

DATE . .....

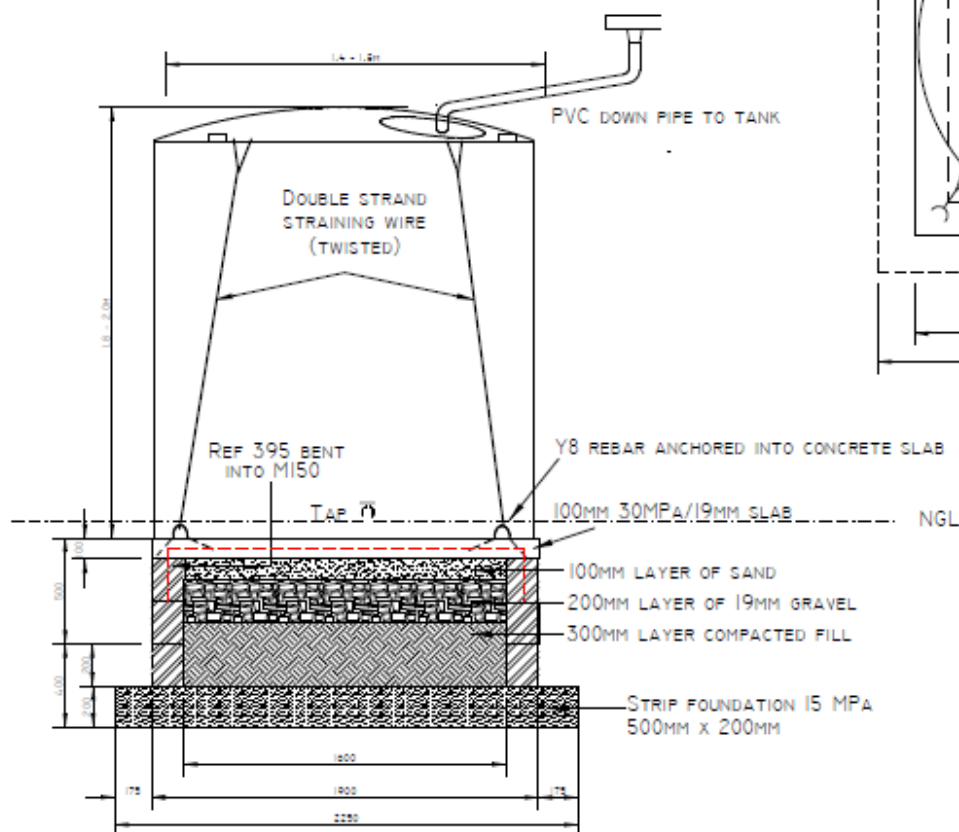
SIGNATURE OF TENDERER .....

(of person authorised to sign on behalf of the Tendere

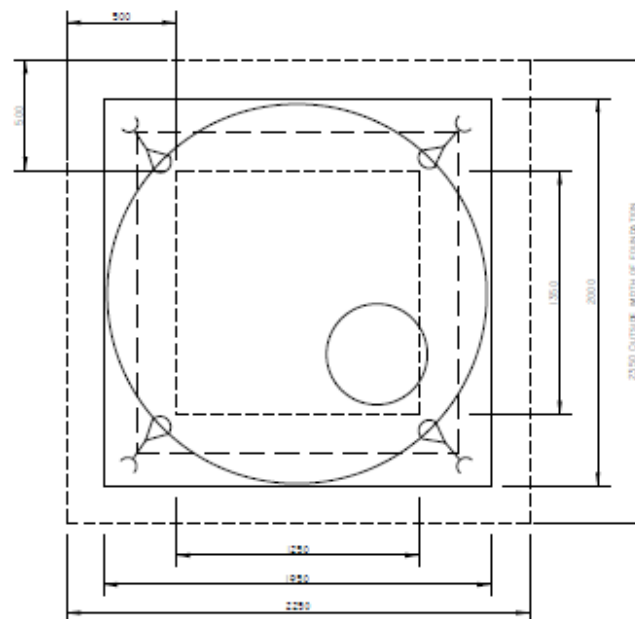


# NOTES

1. DIMENSIONS OF THE TANK STANDS 1.75M X 1.75M X 0.70M (0.5M ABOVEGROUND). ALL BLOCKS MORTAR FILLED
2. THREE COURSES OF BLOCKS ON 500 X 200MM 15 MPA STRIP FOUNDATION.
3. TANKS SECURED TO STAND WITH 4 TWISTED DOUBLE STRANDS OF STRAINING WIRE CONNECTED TO 4 Y8 STEEL STIRRUPS (LENGTH: 0.5M EACH) CAST IN FLOOR CONCRETE. STRANDS TO BE SLIGHTLY STRAINED.
4. CONNECTION WITH GUTTER WITH THREE 50MM DIAM. DOWNPIPE BENDS AND ONE 40MM DIAMETER STRAIGHT PVC PIECE, GLUED WITH PVC CEMENT AFTER INSPECTION OF CONNECTION.
5. BRASS LOCKABLE TAP WITH FITTINGS.



CROSS SECTION



TOP VIEW

## BILL OF QUANTITIES MAIN BUILDING MATERIALS

- 1) POCKETS OF CEMENT: 8
- 2) UMGENI SAND: 1.0 CU.M
- 3) 19MM STONE: 1.3 CU.M
- 4) M150 BLOCKS: 48
- 5) Y8 REBAR: 2.00M
- 6) REF 395 MESH: 2.00 x 1.65M
- 7) GALV STEEL WIRE: 20M x 2.0MM

## MIXES

- 15 MPA MIX: 2 BAGS OF CEMENT + 3 WHEELBARROWS SAND + 4 WHEELBARROWS STONE
- 30 MPA MIX: 2 BAGS OF CEMENT + 2 WHEELBARROWS SAND + 2.5 WHEELBARROWS STONE

# NOTES

NO	DATE	DESCRIPTION	BY	CHECKED
1	15/01/2018	PROJECT START	TECH	
2				
3				

KZN DEPARTMENT OF AGRICULTURE & RURAL DEVELOPMENT



## ENGINEERING SERVICES

1 CEDARA ROAD | CEDARA | PRIVATE BAG X9089, Pietermaritzburg, 6000  
PHONE: 033-334-25700

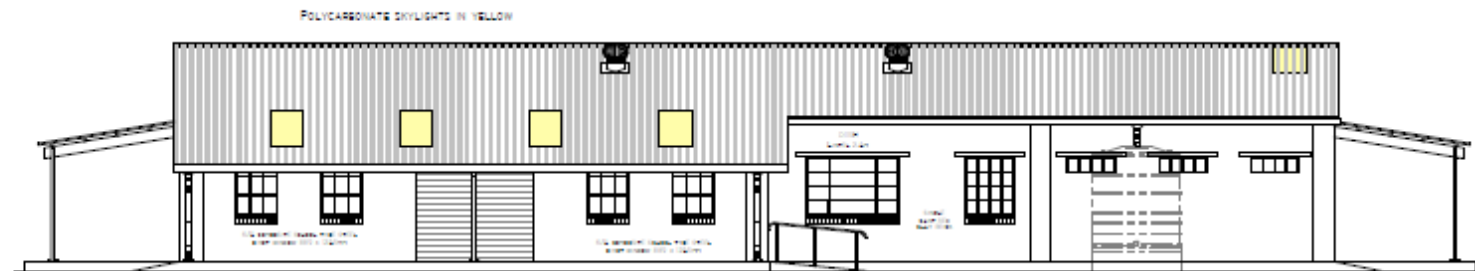
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2				
3				

## DRAWING 14

TANK STAND FOR 2500 & 5000L TANKS

NO	DATE	DESCRIPTION	BY	CHECKED
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2				
3				



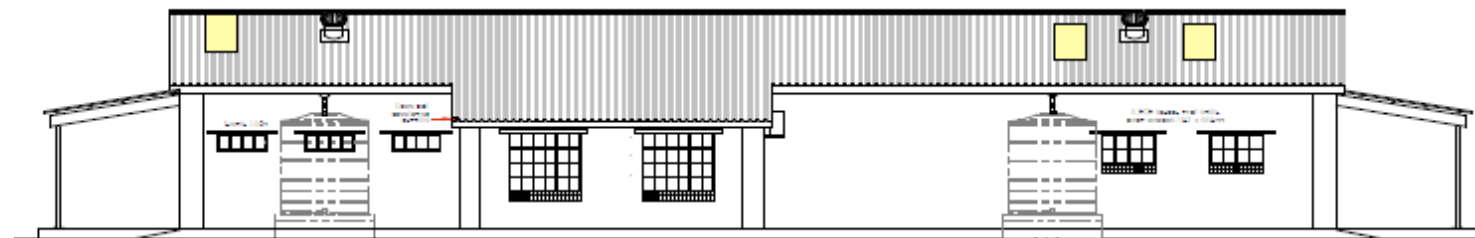


NORTH ELEVATION



NORTH ELEVATION

SHOWING DIAMOND FENCE ENCLOSURE OF DISPATCH AREA



SOUTH ELEVATION

REVISIONS			
NO.	DATE	DESCRIPTION	BY

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT

#### ENGINEERING SERVICES

1 CEDURA ROAD | CEDURA |  
DRAKENSBERG | 3200  
PHONE: 033-33426700

#### CUSTOMER INFORMATION

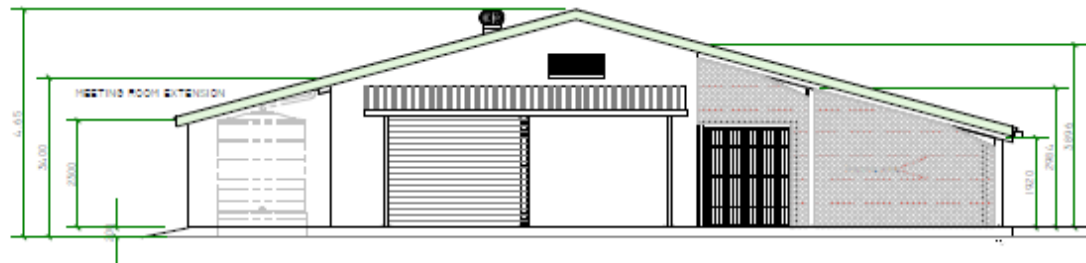
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CUSTOMER:

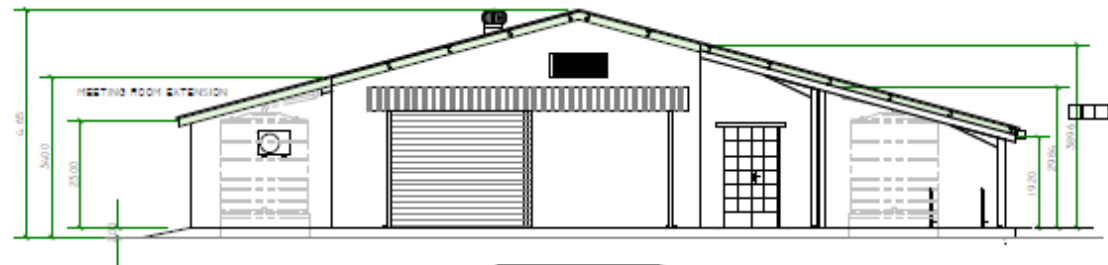
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**MEGANURSERY**  
**COMBINED**  
**SERVICES**  
**MAIN**  
**BUILDING**  
**-----**  
**NORTH &**  
**SOUTH**  
**ELEVATIONS**

#### WEEKLY PROGRESS REPORT (WEEK)

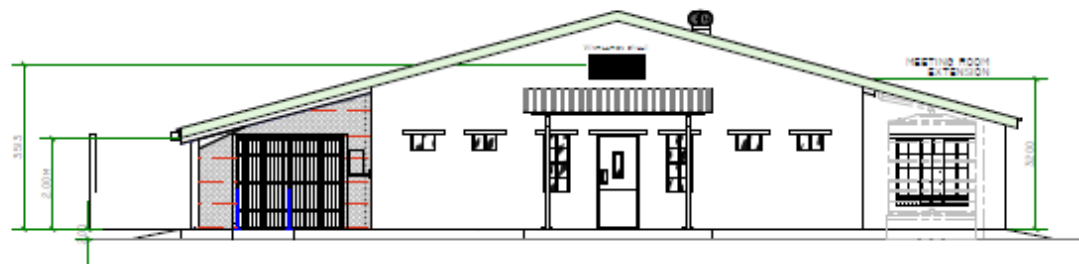
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DATE																															
DATE																															



(WEST ELEVATION (EXTENDED ROOF OPTION))  
SHOWING DIAMOND FENCE ENCLOSURE OF DISPATCH AREA



(WEST ELEVATION)



(EAST ELEVATION)  
SHOWING DIAMOND FENCE ENCLOSURE OF DISPATCH AREA

REVISIONS				
No.	Date	Description	By	Checked

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT

#### ENGINEERING SERVICES

1 CEDURA ROAD | CEDURA |  
PIETERMARITZBURG 3200  
Phone: 033-33428700

CUSTOMER NO. K000000

NO. ENGINEER DATE

CHECKED

#### DRAWING 3

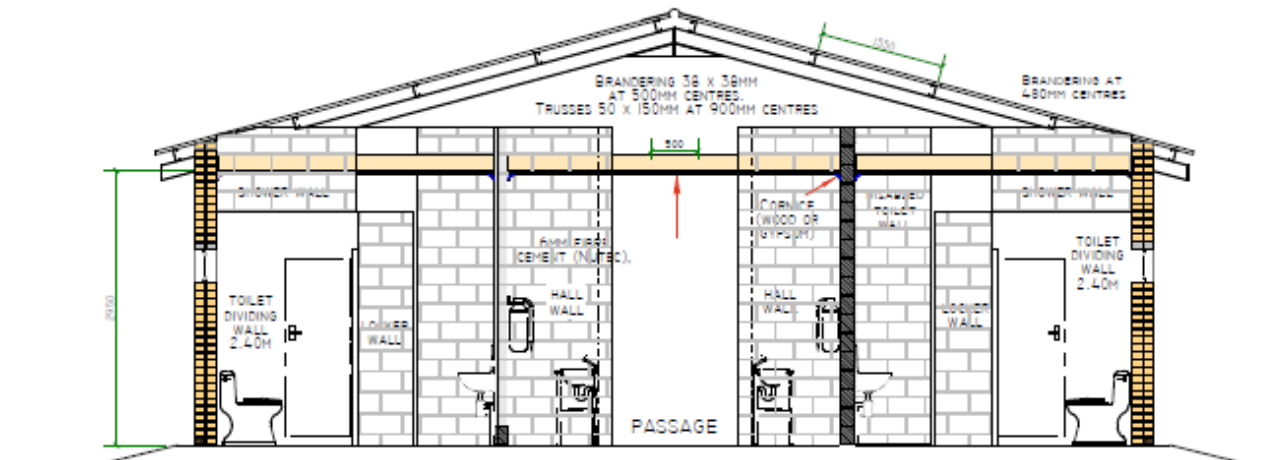
MEGANURSERY  
COMBINED  
SERVICES  
MAIN  
BUILDING

EAST &  
WEST  
ELEVATIONS

DATE: 10/08/2017

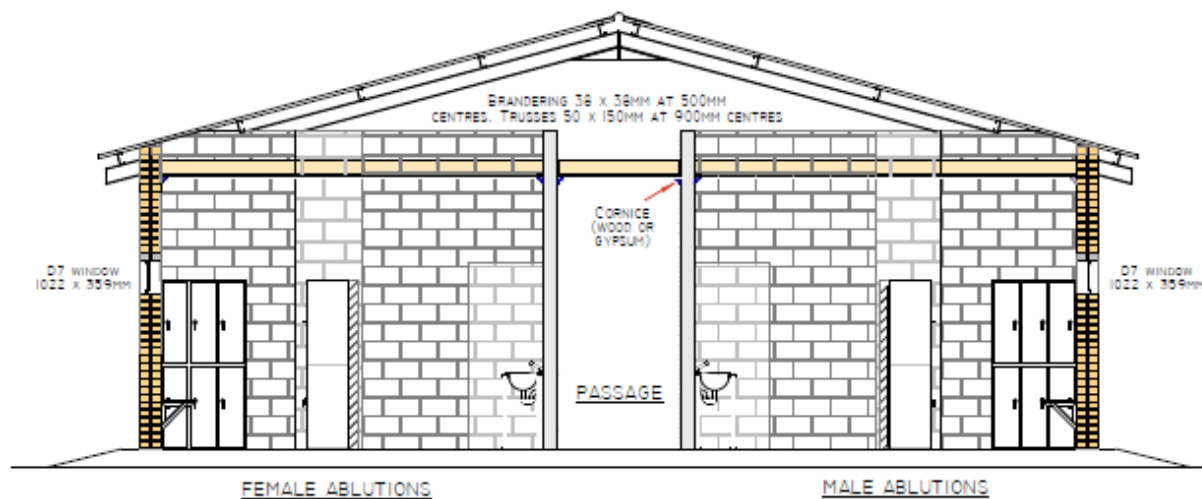
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10/08/2017	10:00	10/08/2017	10:00





SECTION A - A

SECTION ONLY SHOWS THE FOUNDATION FOR THE INTERNAL AND EXTERNAL WALLS AND NOT THOSE OF THE PORTAL FOOTINGS  
ALL INTERNAL WALLS TO BE PLASTERED BEFORE PAINTING



SECTION D - D

ALL INTERNAL WALLS TO BE PLASTERED BEFORE PAINTING

REVISIONS			
No	Desc	Drawn	Issued

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT

ENGINEERING SERVICES

1 CEDUNA ROAD | CEDUNA |  
Pretoria 0001, 0001,  
Pretoria 0001, 0001  
Phone: 011-554-5500

CUSTOMER FOR PROJECT

PG. 001/002 DATE

CL. 01

DRAWING 5

MEGANURSERY  
COMBINED  
SERVICES  
MAIN  
BUILDING

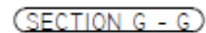
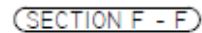
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SECTIONS  
A-A AND D-D

USE REQUIREMENT OF CODE

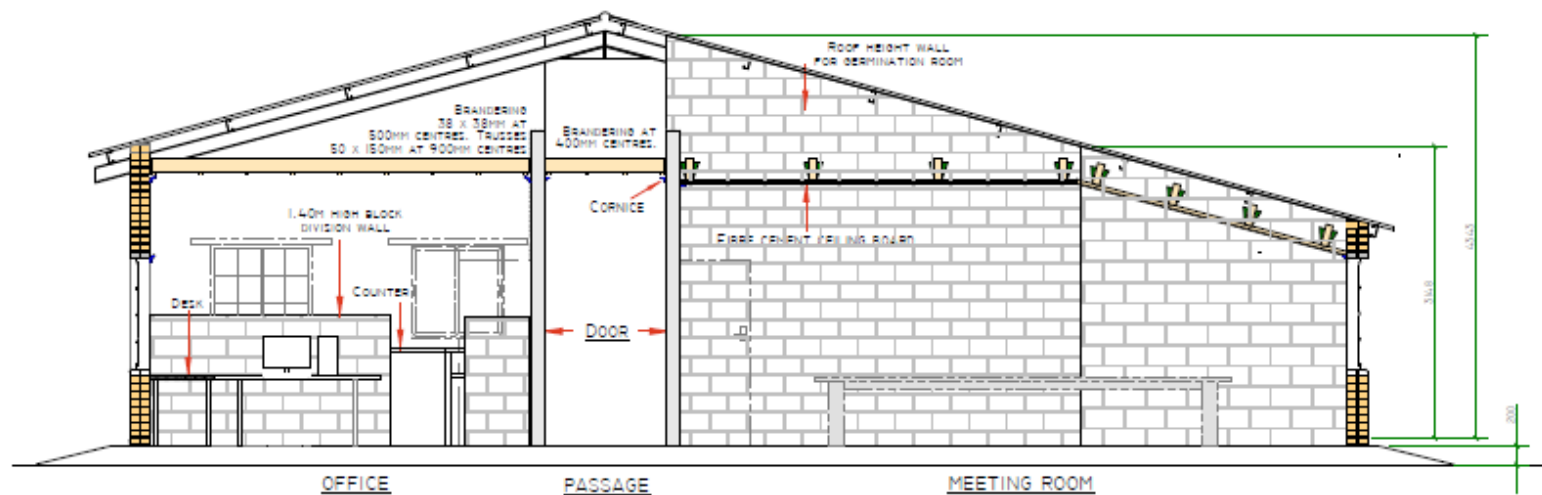
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DATE	BY	CHKD	DATE
DATE	BY	CHKD	DATE

DATE	BY	CHKD	DATE
DATE	BY	CHKD	DATE
DATE	BY	CHKD	DATE





DISEASE PREVALENCE (%)	Car		Normal		TMS		TMS-T	
	O	T	O	T	O	T	O	T



SECTION ONLY SHOWS THE FOUNDATION FOR THE INTERNAL AND EXTERNAL WALLS AND NOT THOSE OF THE PORTAL FOOTINGS  
ALL INTERNAL WALLS TO BE PLASTERED BEFORE PAINTING

SECTION E - E

REVISIONS			
No.	Desc.	Drawn	By

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT



ENGINEERING SERVICES

1 CEDARA ROAD | CEDARA |  
PRIVATE BAG 10050,  
PIETERMARITZBURG, 3200  
Phone: 033-334-28500

CHECKED BY: J. J. J. J.

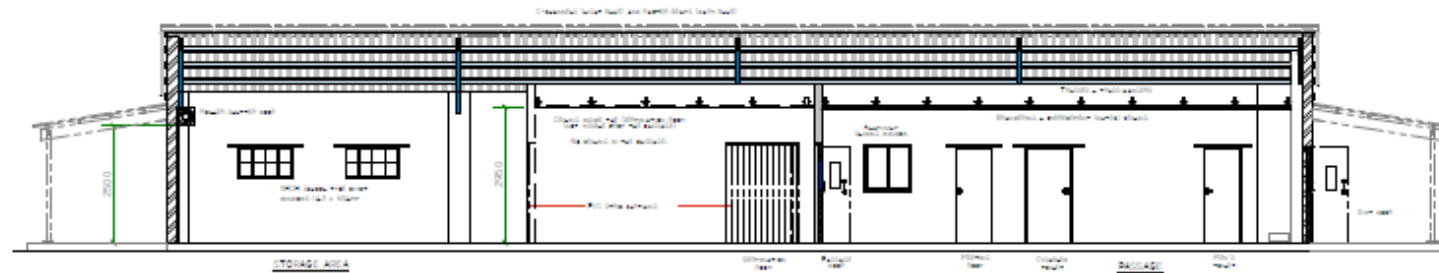
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SUBMIT

DRAWING 7  
MEGANURSERY  
COMBINED  
SERVICES  
MAIN  
BUILDING  
-----  
CROSS  
SECTION  
E - E

DATE REVISIONS			
DATE	BY	DATE	BY

DATE: 01/01/2011



SECTION B - B



SECTION C - C

REVISIONS			
No.	Desc.	Drawn	Checked

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT



#### ENGINEERING SERVICES

1 CEDARA ROAD | CEDARA | CEDARA |  
PRIVATE BAG 10050,  
PIETERMARITZBURG, 3200  
PHONE: 033-3342600

CUSTOMER FOR PROJECT

PG. NO. 1/1000 DATE

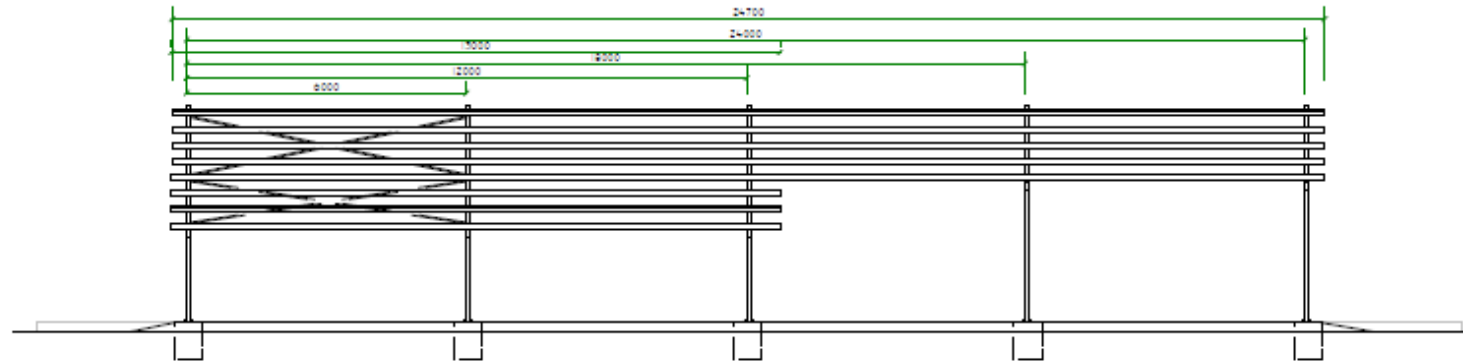
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**DRAWING 8**  
**MEKANURSERY**  
**COMBINED**  
**SERVICES**  
**MAIN**  
**BUILDING**  
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**CROSS**  
**SECTION**  
**B-B & C-C**

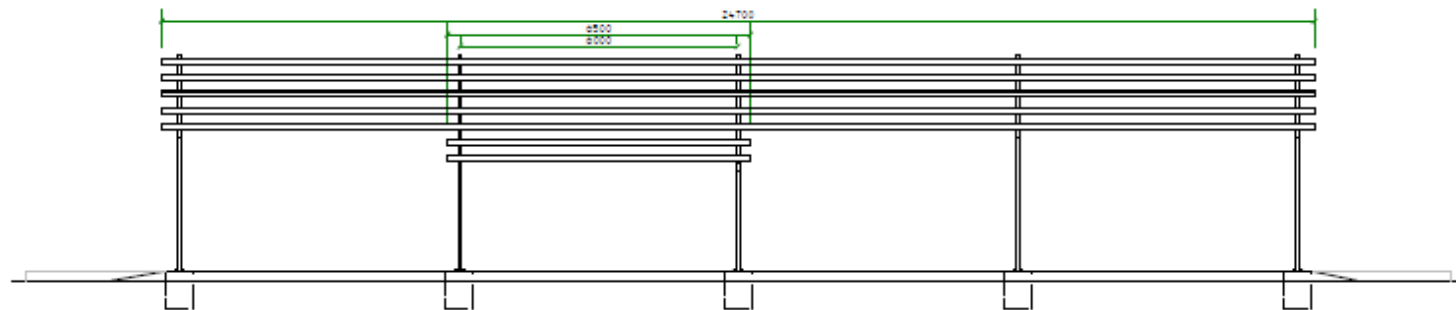
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2018/08/01	2018/08/01	2018/08/01	2018/08/01

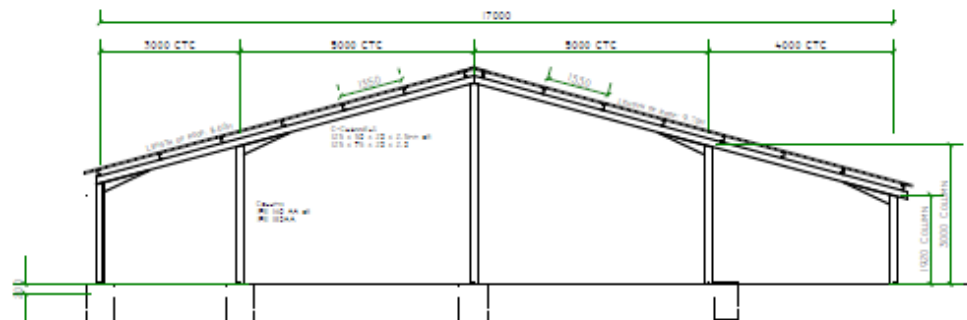
DATE	DATE	DATE	DATE
2018/08/01	2018/08/01	2018/08/01	2018/08/01
2018/08/01	2018/08/01	2018/08/01	2018/08/01



(PORTAL FRAME - NORTH ELEVATION)



(PORTAL FRAME - SOUTH ELEVATION)



(PORTAL FRAME CROSS SECTION CENTRAL PORTAL)

REVISIONS				
No.	Rev.	Description	By	Checked

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT



ENGINEERING SERVICES

1. CECILIA ROAD | CECILIA  
PIETERMARITZBURG, 3200  
Phone: 033-33426100

CUSTOMER FOR PROJECT

PG. 001/002 DATE

CL: 017

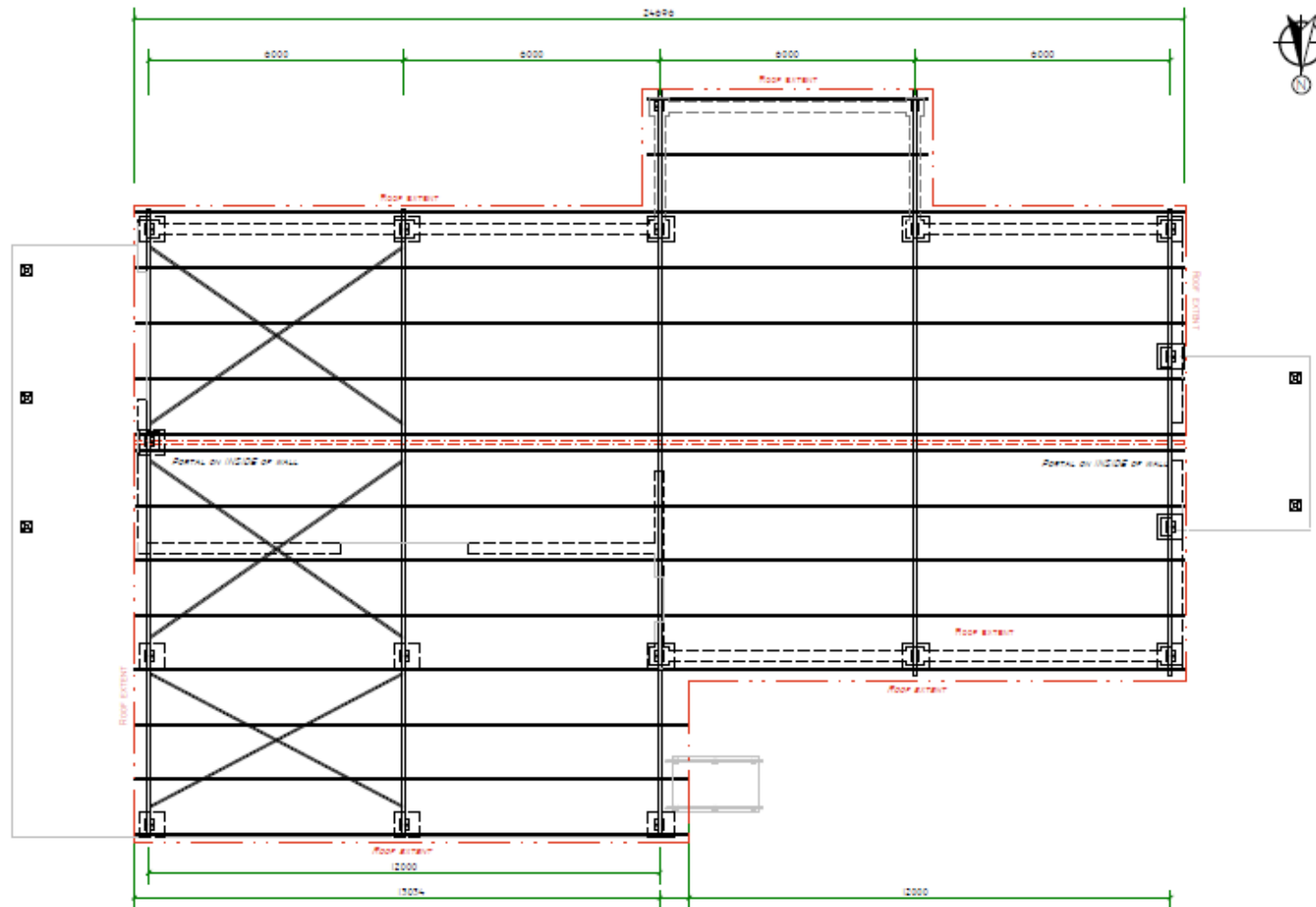
DRAWING 9  
MEGANURSERY  
COMBINED  
SERVICES  
MAIN  
BUILDING

PORTAL  
FRAME  
ELEVATIONS  
& CROSS  
SECTION

USE REQUIREMENT (SEE SPEC)

DESIGN	DATE	BY	CHKD
DRAWN	DATE	BY	CHKD
SCALE	DATE	BY	CHKD

DESIGNED	DATE	BY	CHKD
REVISION	DATE	BY	CHKD



REVISIONS				
No	Desc	Drawn	Rev	Comments

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT



ENGINEERING SERVICES

1 CEDUNA ROAD | CEDUNA |  
PIETERMARITZBURG, 3200  
PHONE: 033-3342600

CUSTOMER NO. / PROJECT NO.

NO. ENGINEER DATE

CHECKED

DRAWING 10

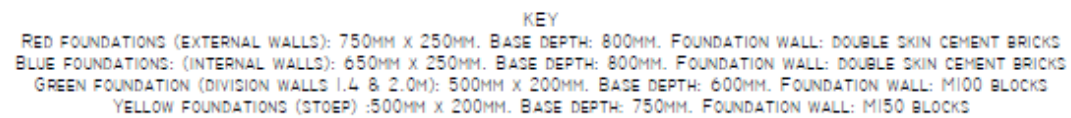
MEGANURSERY  
COMBINED  
SERVICES  
MAIN  
BUILDING

-----  
PORTAL  
FRAME  
TOP VIEW

USE: MISCELLANEOUS (SEE SPEC)

DESIGNED	BY: HEP	DATE:	BY: HEP	DATE:
CHECKED	BY: HEP	DATE:	BY: HEP	DATE:

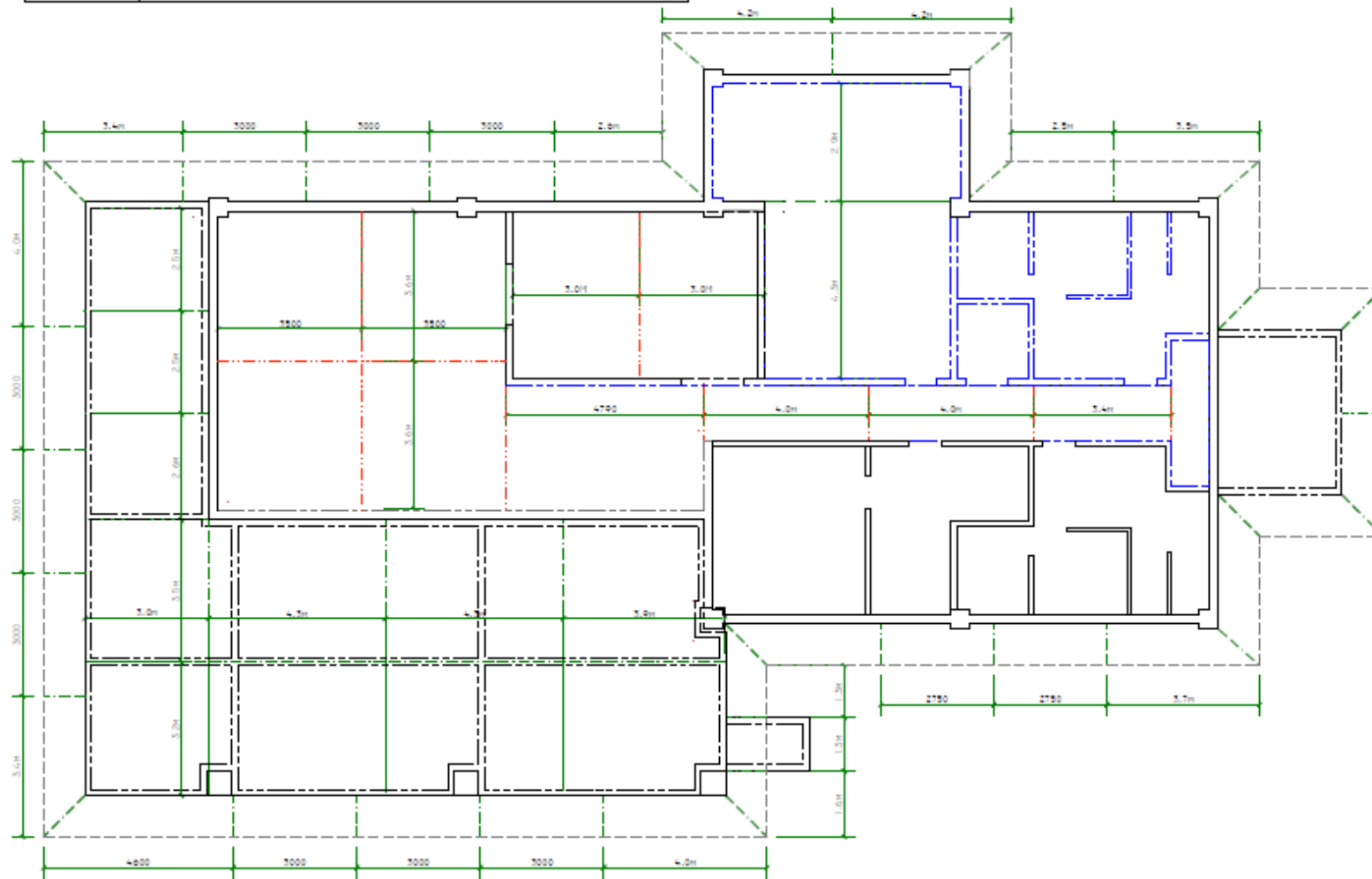
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CHECKED	BY: HEP	DATE:	BY: HEP	DATE:



CHARGES	Case	Number	Year	Dis. No.
REFERENCE	074	1042020	084	



KEY	
	BLUE-ISOLATION JOINTS (BITUMINOUS SOFT BOARD OR SYNTHETIC VOID FILLER)
	RED - CONTRACTION JOINTS (CUT)
	GREEN - EXPANSION JOINTS (BITUMINOUS SOFT BOARD)



REVISIONS				
No.	Date	Description	By	Checked

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT



ENGINEERING SERVICES

1 CEDUNA ROAD | CEDUNA |  
PRIVATE BAG 10050  
PIETERMARITZBURG, 3200  
Phone: 033-33426900

DRAWN: MS KUYISILE

MS. KUYISILE DATE

CHECK

DRAWING 12

MEGANURSERY  
COMBINED  
SERVICES  
MAIN  
BUILDING  
-----  
JOINTS

MS. KUYISILE'S WORK

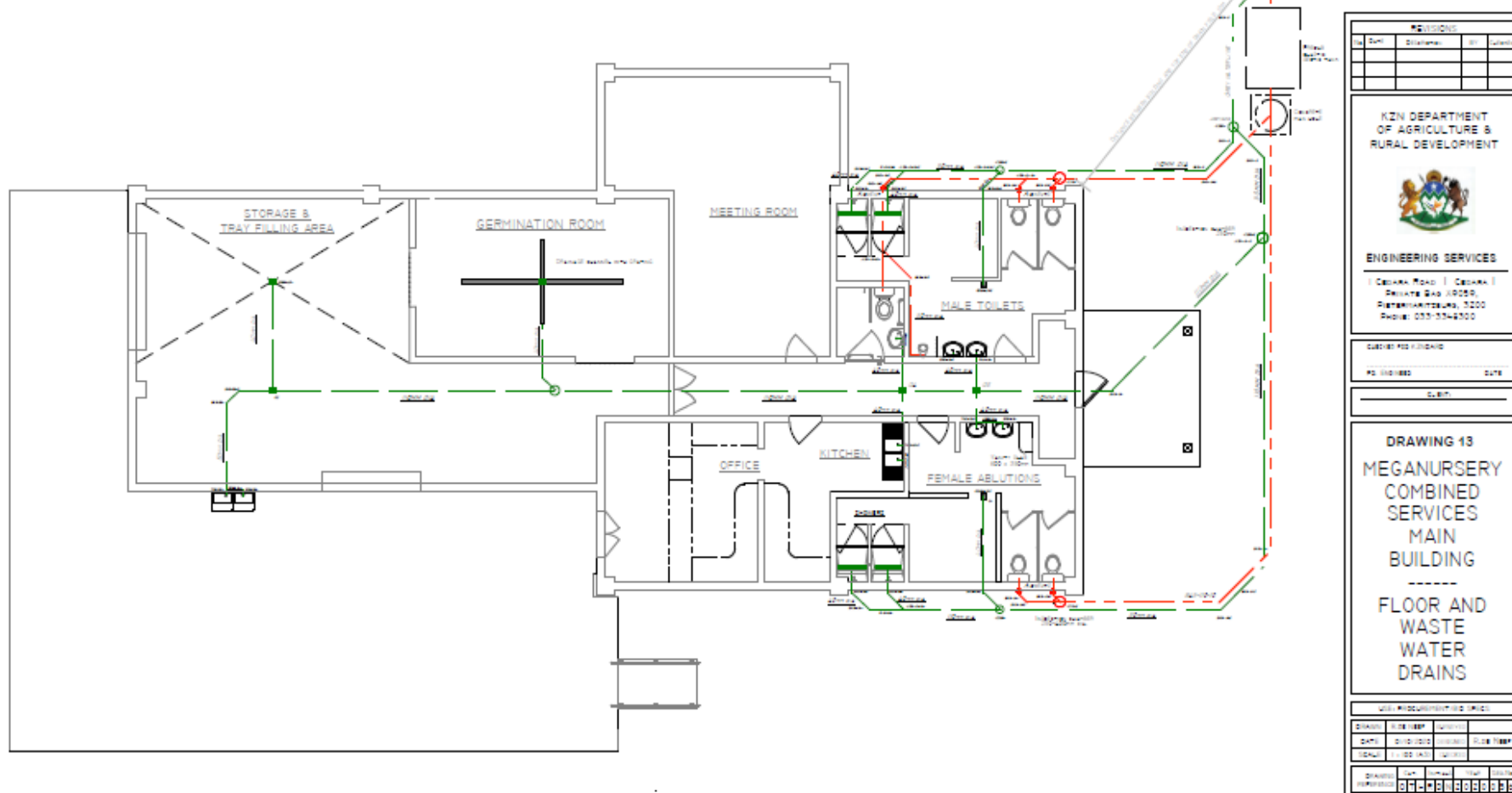
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DATE	DESIGNED	DESIGNED	DATE
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DATE	DATE	DATE	DATE





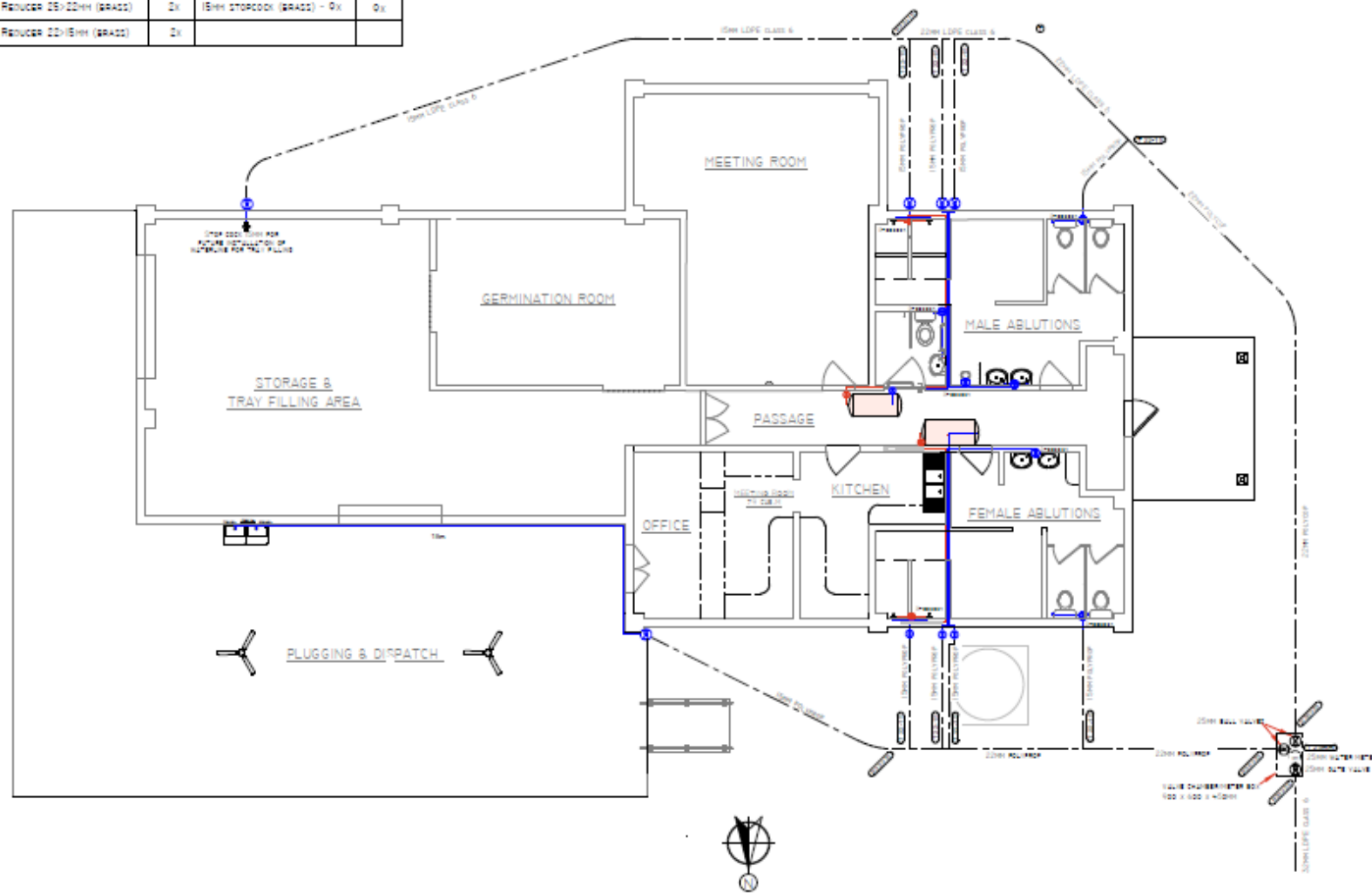


KEY	
	RED DASHED LINES: BLACK WATER PIPES (PVC 50MM AND 110MM)
	GREEN DASHED LINES: GREY WATER AND FLOOR DRAIN PIPES (PVC 40MM AND 110MM)
SMALLER FONTS INDICATE BENDS (B), TEES (T) OR JUNCTIONS (J), WITH ANGLES AND DIAMETERS. EXAMPLES:	
J135-110/40-2	135 DEG. JUNCTION WITH 40MM INLETS AND 110MM OUTLET
B45-40-2	45 DEG. BEND FOR 40MM PIPE
T40/40-1	EQUAL TEE FOR 40MM PIPES





BOQ WATER RETICULATION			
LOPE 40MM MAIN SUPPLY LINE	TGA		
22MM POLYCOB PIPE -	32X	T 25/25MM (GRASS) - 1X	1X
15MM POLYCOB PIPE -	33X	T 22/15MM (GRASS) - 5X	5X
15MM CLASS 2 COPPER PIPE	118X	25MM BALL VALVE (GRASS) - 2X	2X
REDUCER 32/25MM (GRASS)	1X	15MM BALL VALVE (GRASS) - 11X	11X
REDUCER 25/22MM (GRASS)	2X	15MM STOPCOCK (GRASS) - 0X	0X
REDUCER 22/15MM (GRASS)	2X		



REVISIONS			
No	Rev	Description	By

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT



ENGINEERING SERVICES

1 CEDUNA ROAD | CEDUNA |  
PRIVATE BAG 10050  
PIETERMARITZBURG, 3200  
Phone: 033-33426900

DRAWN BY: K. K. K. K.

NO. 10000000 DATE

CHECK

DRAWING 15

MEGANURSERY  
COMBINED  
SERVICES  
MAIN  
BUILDING

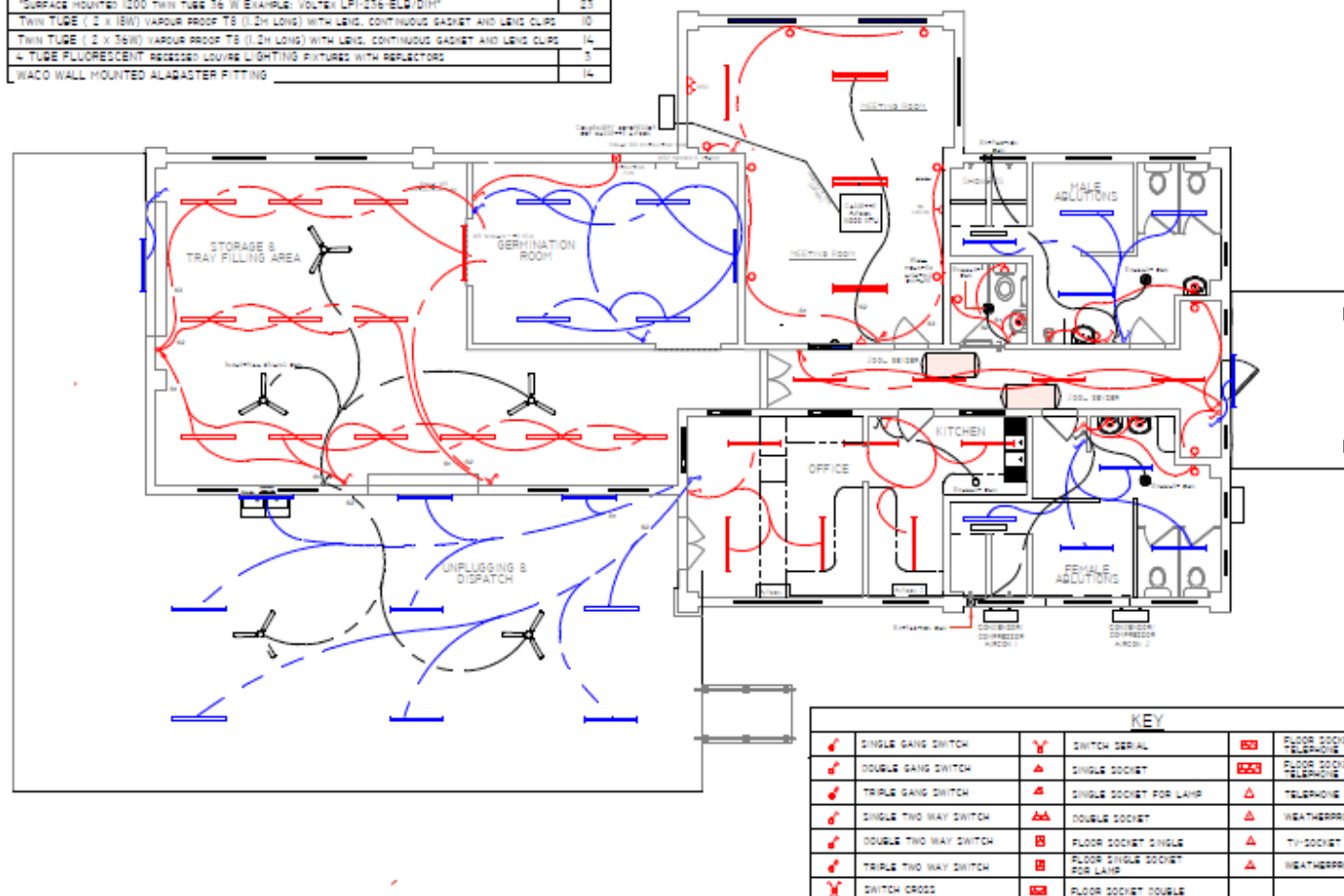
WATER  
RETICULATION

ALL DIMENSIONS IN METERS

DATE	TIME	BY	FOR
DATE	TIME	BY	FOR
DATE	TIME	BY	FOR
DATE	TIME	BY	FOR



BOQ LIGHTING FIXTURES & LIGHT & FAN SWITCHES (PROVISIONAL)	
SINGLE GANG LIGHT SWITCH - 1 WAY	14
DOUBLE GANG LIGHT SWITCH - 1 WAY	3
TRIPLE GANG LIGHT SWITCH - 1 WAY	1
SINGLE GANG LIGHT SWITCH - 2 WAY	3
DOUBLE GANG LIGHT SWITCH - 2 WAY	1
TRIPLE GANG LIGHT SWITCH - 2 WAY	1
LIGH FITTINGS, LUMINAIRE & EQUIPMENT (PROVISIONAL)	
SURFACE MOUNTED 1200 TWIN TUBE 36 W EXHAUST VOLTAGE LFI-536-ELD/DIM	23
TWIN TUBE ( 2 X 18W) VARDUR PROOF T8 (1.2M LONG) WITH LENS, CONTINUOUS GASKET AND LENS CLIP	10
TWIN TUBE ( 2 X 36W) VARDUR PROOF T8 (1.2M LONG) WITH LENS, CONTINUOUS GASKET AND LENS CLIP	14
4 TUBE FLUORESCENT RECESSED DOWN LIGHTING FIXTURES WITH REFLECTORS	3
WACO WALL MOUNTED ALABASTER FITTING	14



KEY					
⚡	SINGLE GANG SWITCH	Y	SWITCH SERIAL	⚡	FLOOR SOCKET SINGLE TELEPHONE
⚡	DOUBLE GANG SWITCH	▲	SINGLE SOCKET	⚡	FLOOR SOCKET DOUBLE TELEPHONE
⚡	TRIPLE GANG SWITCH	▲	SINGLE SOCKET FOR LAIR	▲	TELEPHONE SOCKET
⚡	SINGLE TWO WAY SWITCH	▲	DOUBLE SOCKET	▲	WEATHERPROOF SOCKET
⚡	DOUBLE TWO WAY SWITCH	⊠	FLOOR SOCKET SINGLE	▲	TV-SOCKET
⚡	TRIPLE TWO WAY SWITCH	⊠	FLOOR SINGLE SOCKET FOR LAIR	▲	WEATHERPROOF SOCKET
✗	SWITCH CROSS	⚡	FLOOR SOCKET DOUBLE		

## NOTES

THIS IS A PROVISIONAL, INCOMPLETE SCHEDULE FOR THE ELECTRICAL WORKS REQUIRED IN THE BUILDING. THE FINAL DESIGN OF THE ELECTRICAL WORKS WILL BE DONE BY AN ELECTRICAL ENGINEER

## REVISIONS

No.	Date	Description	By	Checked

KZN DEPARTMENT OF AGRICULTURE & RURAL DEVELOPMENT



## ENGINEERING SERVICES

1 CEDARA ROAD | CEDARA |  
PRIVATE BAG 30000,  
PIETERMARITZBURG, 3200  
PHONE: 033-33428500

## CHECKED BY: KJL/DAID

NO. 11010002 DATE

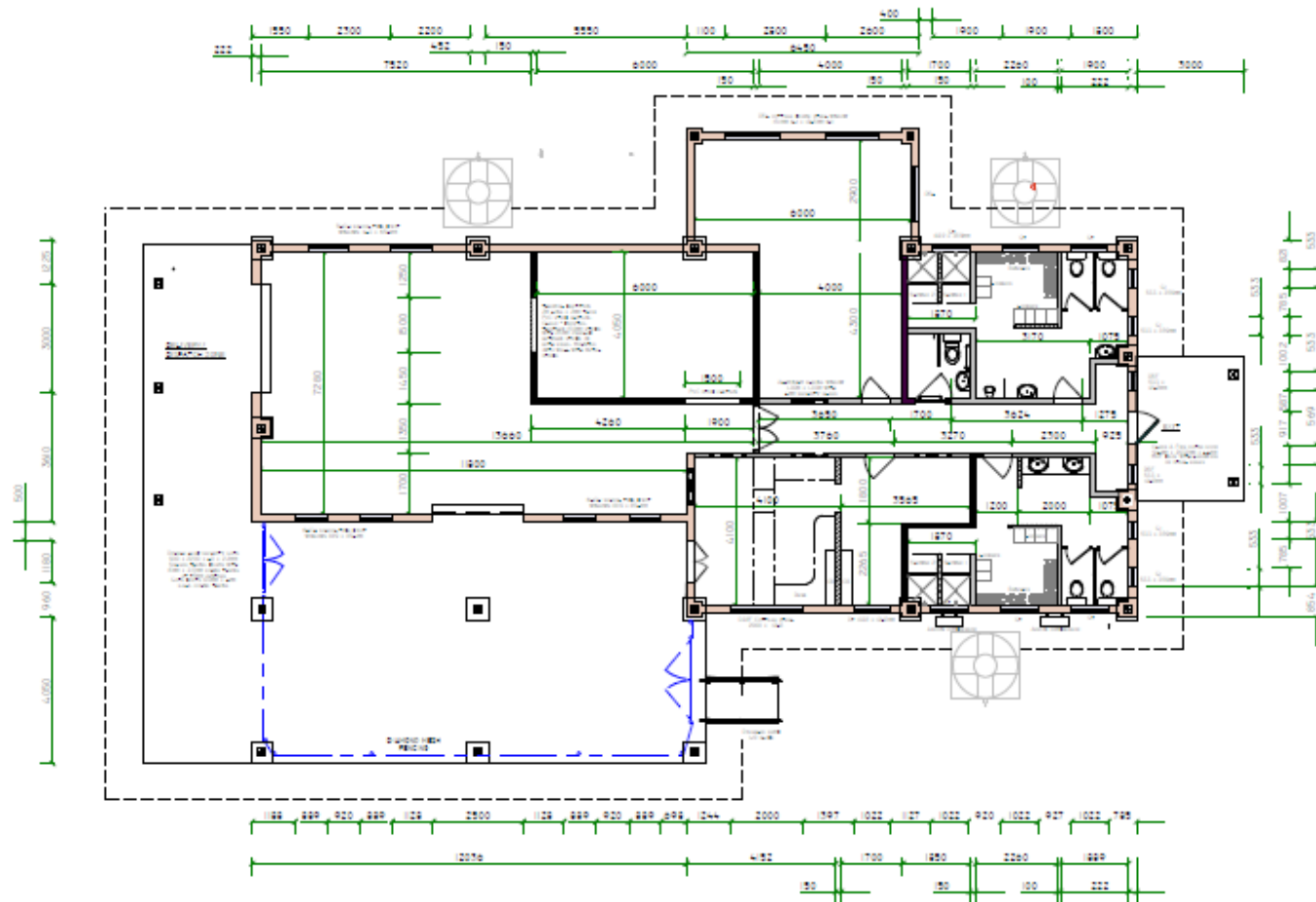
CLIENT

**DRAWING 16**  
**MEGANURSERY**  
**COMBINED**  
**SERVICES**  
**MAIN**  
**BUILDING**  
**-----**  
**LIGHTING**  
**FIXTURES,**  
**FANS AND**  
**AIRCON**  
**(PROVISIONAL)**

## USER INFORMATION SHEET

DRAWN	DATE ISSUED	BY	DATE
CHECKED	DATE ISSUED	BY	DATE
REVIEWED	DATE ISSUED	BY	DATE
APPROVED	DATE ISSUED	BY	DATE





REVISIONS			
No.	Date	Description	By

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT

ENGINEERING SERVICES

1 CEDUNA ROAD | CEDUNA | CEDUNA  
PRIVATE BAG 10000,  
PIETERMARITZBURG, 3200  
Phone: 033-33426900

DRAWN BY: K. K. K. K.

NO. 1000000 DATE

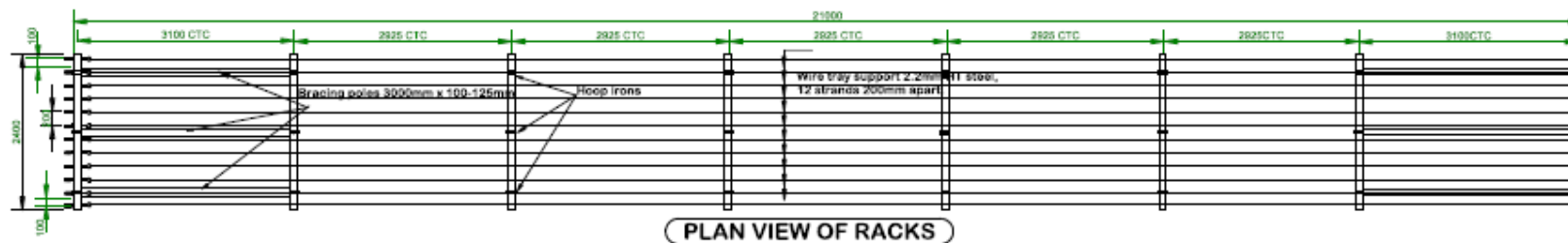
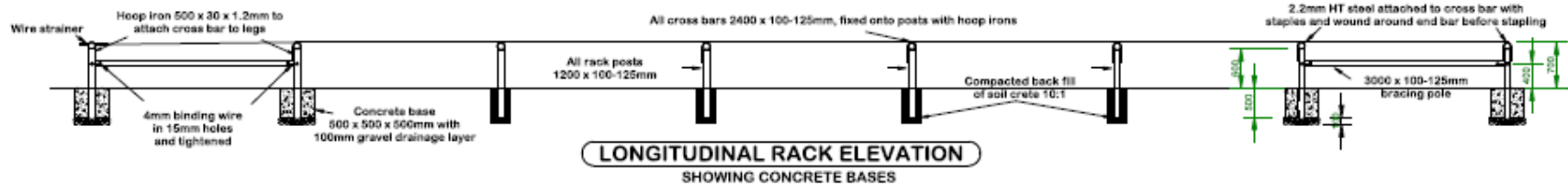
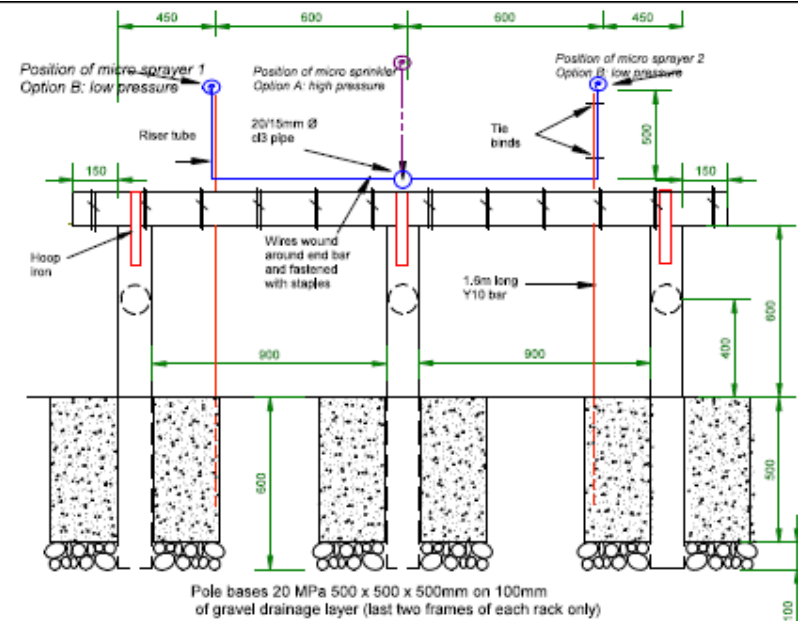
CHECK

DRAWING 18  
MEGANURSERY  
COMBINED  
SERVICES  
MAIN  
BUILDING  
-----  
PLAN (2)  
INTERNAL  
DIMENSIONS

UNIT: MILLIMETERS (mm)

DATE	BY	CHKD	DATE
20/05/2018	K. K. K. K.		
20/05/2018	K. K. K. K.		

DATE	BY	CHKD	DATE
20/05/2018	K. K. K. K.		
20/05/2018	K. K. K. K.		



KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT



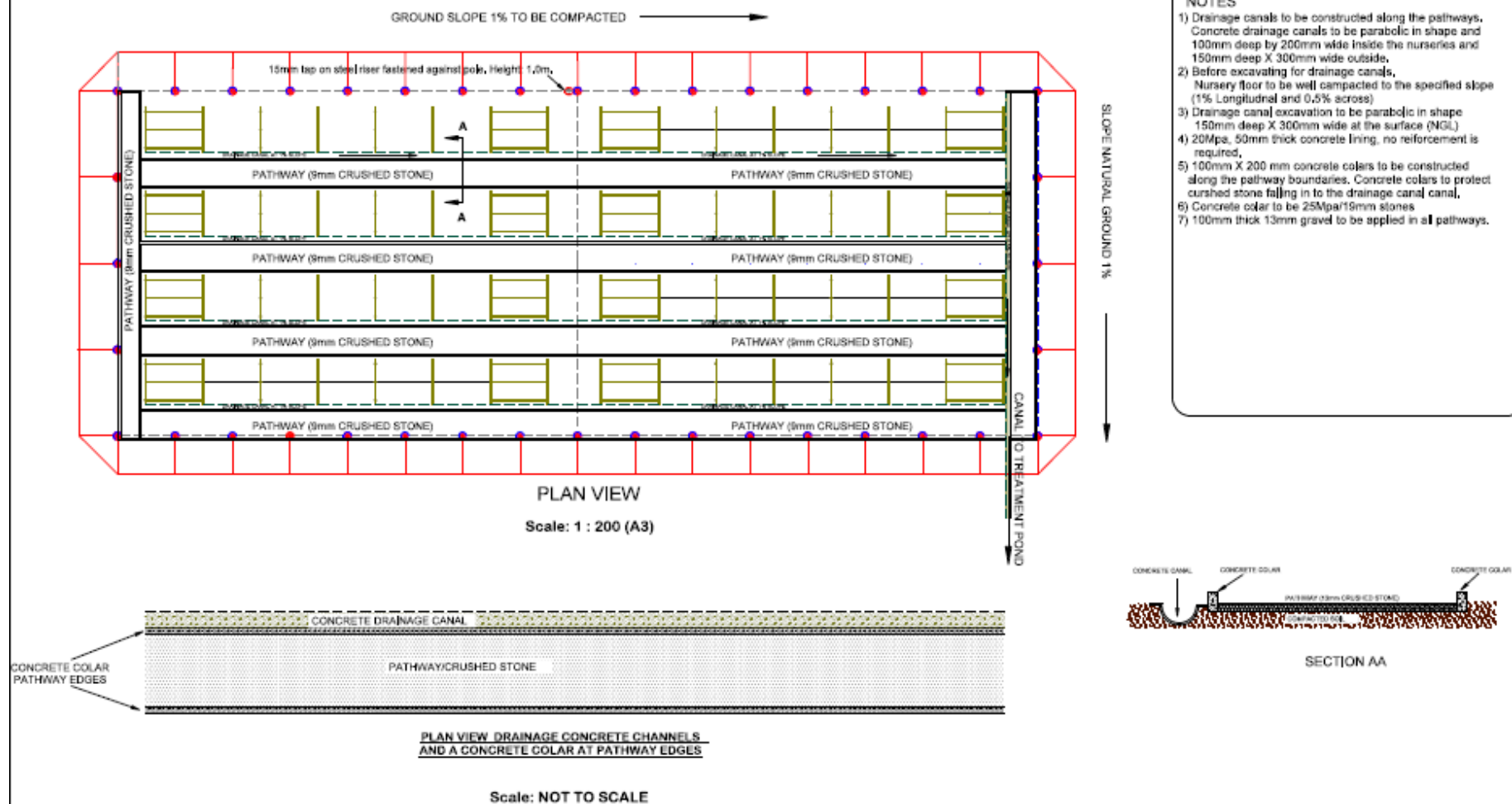
ENGINEERING SERVICES  
4 PINDAR AVENUE | PRIVATE BAG 39505  
HILTON / 3245 / PHONE: 033-3438300  
FAX: 0333438443

Scale:  
As indicated

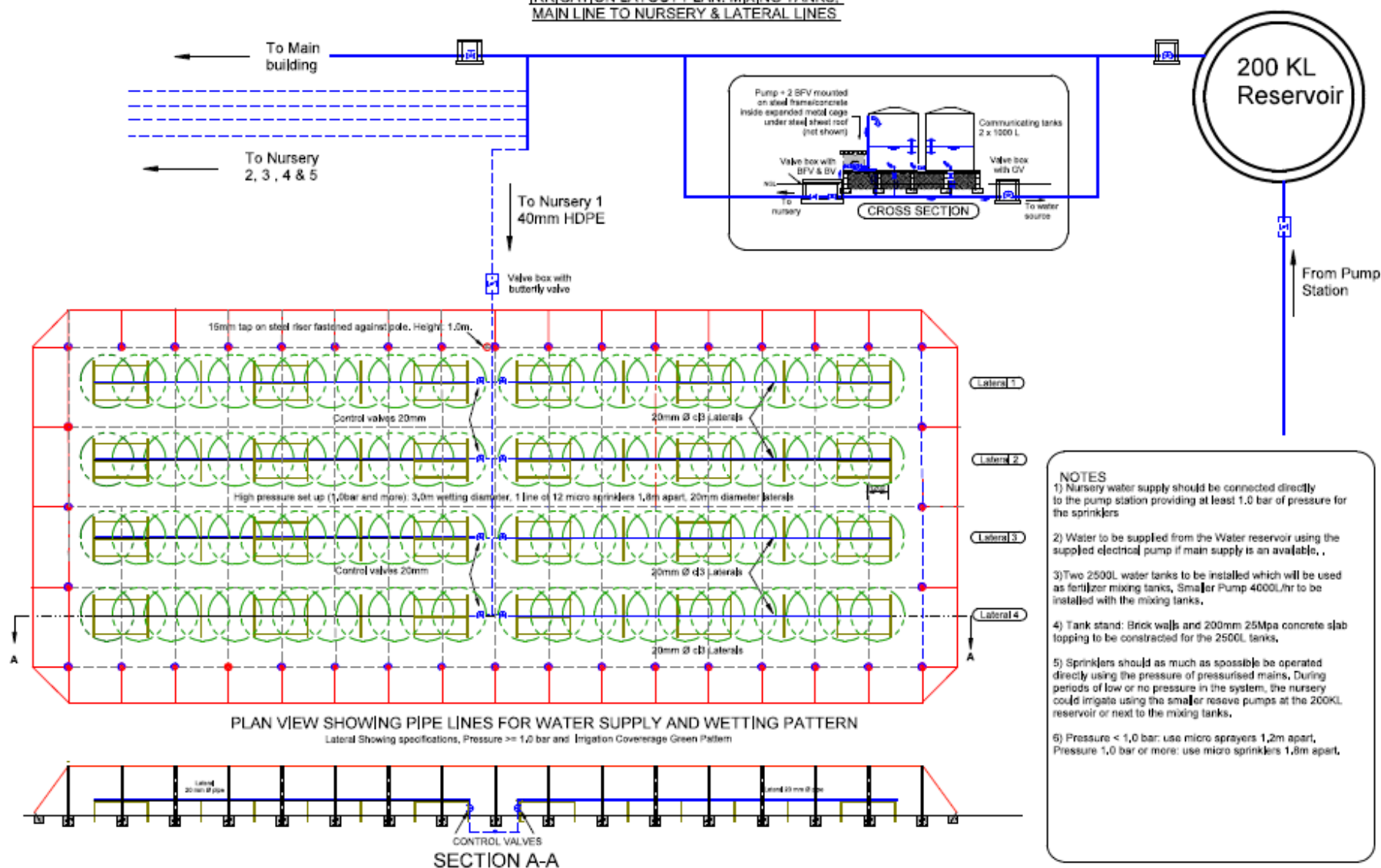
Drawing: R. de Neef  
Design: R. de Neef  
Checked: Erwin Koch  
Date: 25 November 2013

DRAWING REFERENCE  
RDN/2013/22/NUR

DRAWING 3  
NURSERY 52M X 22M  
RACKS PLAN





**IRRIGATION LAYOUT PLAN: MIXING TANKS**  
**MAIN LINE TO NURSERY & LATERAL LINES**

KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT

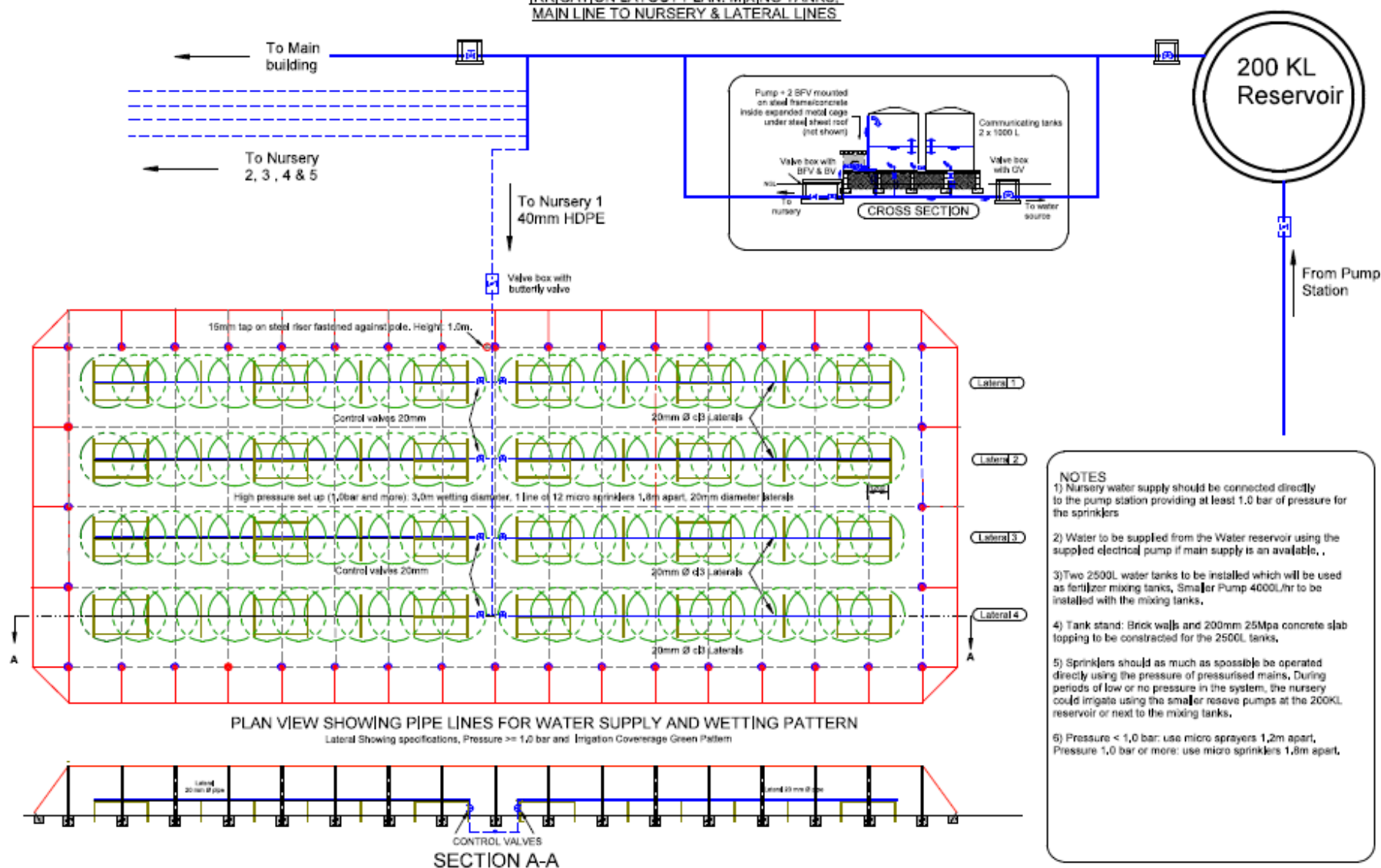
ENGINEERING SERVICES  
4 PINDAK AVENUE / PRIVATE BAG X5005  
HILTON / 3245 / PHONE : 033-3438300  
FAX : 0333438443

Design: TK Onkay/RdN  
Drawn by: TK Onkay/RdN  
Revised by: R. de Neef  
Date: 20 May 2020

DRAWING REFERENCE  
RDN/2020/24/NUR  
Scale: 1 : 200 (A3)

DRAWING 1  
**NURSERY 52M X 22M**  
**IRRIGATION LAY OUT**



**IRRIGATION LAYOUT PLAN: MIXING TANKS  
MAIN LINE TO NURSERY & LATERAL LINES****NOTES**

- 1) Nursery water supply should be connected directly to the pump station providing at least 1.0 bar of pressure for the sprinklers
- 2) Water to be supplied from the Water reservoir using the supplied electrical pump if main supply is an available.
- 3) Two 2500L water tanks to be installed which will be used as fertilizer mixing tanks, Smaller Pump 4000L/hr to be installed with the mixing tanks.
- 4) Tank stand: Brick walls and 200mm 25Mpa concrete slab topping to be constructed for the 2500L tanks.
- 5) Sprinklers should as much as possible be operated directly using the pressure of pressurised mains. During periods of low or no pressure in the system, the nursery could irrigate using the smaller reserve pumps at the 200KL reservoir or next to the mixing tanks.
- 6) Pressure < 1.0 bar: use micro sprayers 1.2m apart, Pressure 1.0 bar or more: use micro sprinklers 1.8m apart.

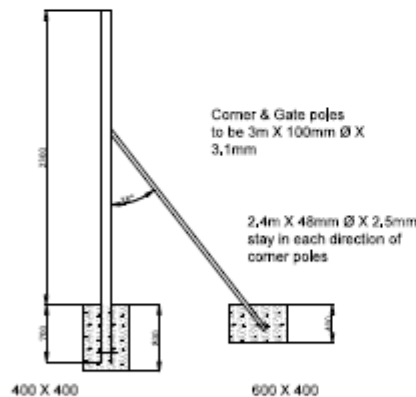
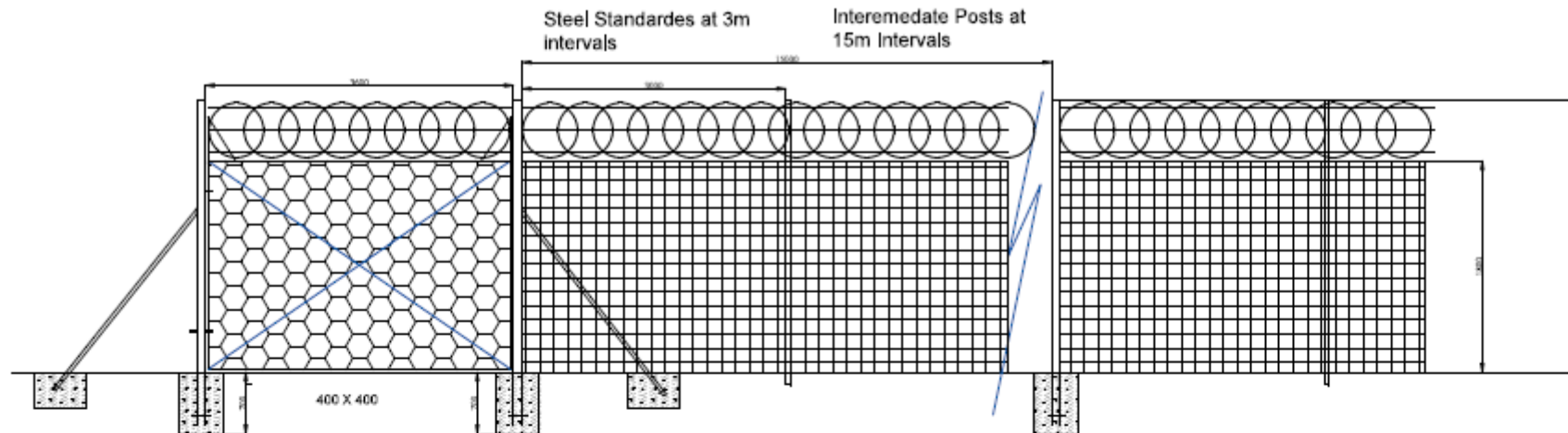
**KZN DEPARTMENT  
OF AGRICULTURE &  
RURAL DEVELOPMENT**

**ENGINEERING SERVICES**  
4 PINDAK AVENUE / PRIVATE BAG X5005  
HILTON / 3245 / PHONE : 033-3438300  
FAX : 0333438443

Design: TK Onkay/RdN  
Drawn by: TK Onkay/RdN  
Revised by: R. de Neef  
Date: 20 May 2020

**DRAWING REFERENCE**  
RDN/2020/24/NUR  
Scale: 1 : 200 (A3)

**DRAWING 1**  
**NURSERY 52M X 22M**  
**IRRIGATION LAY OUT**



Detail of Corner & gate Posts

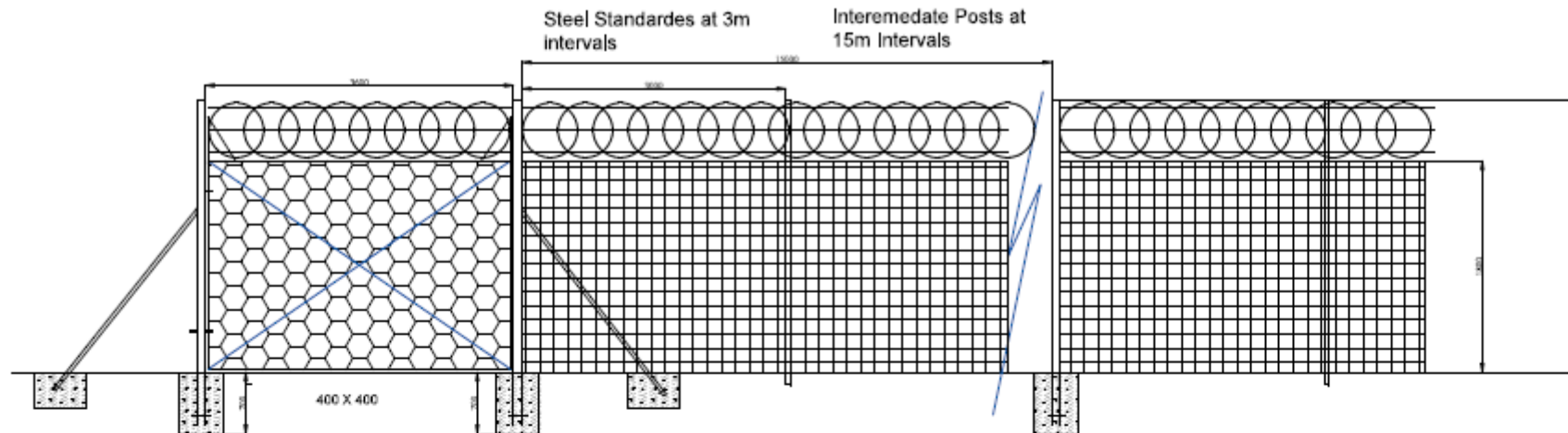


Detail of intermediate Posts

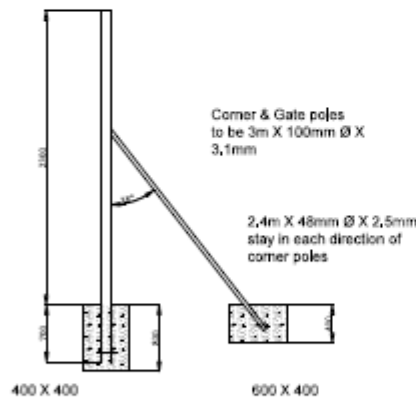
NOTES: SECURITY FENCE SPECIFICATIONS,

- 1) Corner & gate posts shall be 3,00m x 100mm OD x 3,1mm fully galvanized with caps and base plates
- 2) Intermediate posts, These shall be 3,00m x 80mm OD x 2,5mm fully galvanized with caps of 1,5mm thick. Pole spacing 15m
- 3) Hinged fence 1,8m High fully Galvanized (100 X 50 X 2mm)
- 4) Fencing standards, To be 3,0m long and spaced at 3m centres
- 5) Stays shall be 2,4m x 48mm OD x 2,5mm fully galvanized
- 6) Straining wire shall be 4,0 mm diameter fully galvanized zinc-coated mild-steel
- 7) Razor wire flat wrap coils: flat wrap tape wire coils of 500mm to be stretched to 15 m length when installed,
- 8) Welded mesh: shall be 1,83m high and lightly galvanized, Dimensions: 100mm x 50mm x 2,0mm
- 9) Concrete mix to be 20MPa/13mm, Baseplates and tubing to have a minimum of 50mm cover on all sides,
- 10) Main Gate: The double framed gate shall be manufactured of mild-steel tubing having continuously welded seams and fully galvanized, The frames shall be of tubing of minimum bore of 42 mm and wall thickness of 2,5 mm in the case of main frame members, and bore of 32mm and wall thickness of 2,0 mm in the case of bracing members and fully galvanized Gate Dimension: 3600mm X 2300mm Hot dip Galvanized vehicle gate and 900mm X 2300mm Hot dip galvanized Pedestrian gate

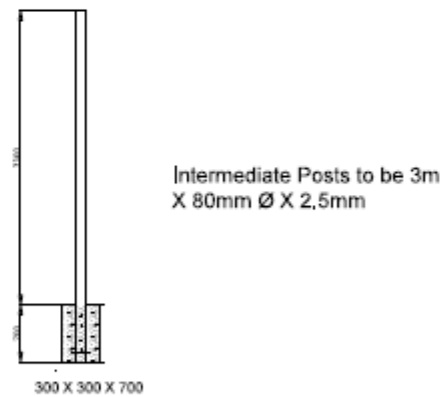
KZN DEPARTMENT OF AGRICULTURE & RURAL DEVELOPMENT	ENGINEERING SERVICES		DRAWING REFERENCE TKO/2020/15/SF	DRAWING 1
	4 PINOAK AVENUE / PRIVATE BAG X6005 HILTON / 3245 / PHONE : 033-3438300 FAX : 0333438443	Design: TK Onkay Drawn by: TK Onkay Date: 20 May 2020	Scale: AS INDICATED	SECURITY FENCE PLAN



3.6m wide Vehicle Gate



Detail of Corner & gate Posts



Detail of intermediate Posts

NOTES: SECURITY FENCE SPECIFICATIONS,

- 1) Corner & gate posts shall be 3,00m x 100mm OD x 3,1mm fully galvanized with caps and base plates
- 2) Intermediate posts, These shall be 3,00m x 80mm OD x 2,5mm fully galvanized with caps of 1,5mm thick. Pole spacing 15m
- 3) Hinged fence 1,8m High fully Galvanized (100 X 50 X 2mm)
- 4) Fencing standards, To be 3,0m long and spaced at 3m centres
- 5) Stays shall be 2,4m x 48mm OD x 2,5mm fully galvanized
- 6) Straining wire shall be 4,0 mm diameter fully galvanized zinc-coated mild-steel
- 7) Razor wire flat wrap coils: flat wrap tape wire coils of 500mm to be stretched to 15 m length when installed,
- 8) Welded mesh: shall be 1,83m high and lightly galvanized, Dimensions: 100mm x 50mm x 2,0mm
- 9) Concrete mix to be 20MPa/13mm, Baseplates and tubing to have a minimum of 50mm cover on all sides,
- 10) Main Gate: The double framed gate shall be manufactured of mild-steel tubing having continuously welded seams and fully galvanized, The frames shall be of tubing of minimum bore of 42 mm and wall thickness of 2,5 mm in the case of main frame members, and bore of 32mm and wall thickness of 2,0 mm in the case of bracing members and fully galvanized Gate Dimension: 3600mm X 2300mm Hot dip Galvanized vehicle gate and 900mm X 2300mm Hot dip galvanized Pedestrian gate

KZN DEPARTMENT OF AGRICULTURE & RURAL DEVELOPMENT	ENGINEERING SERVICES		DRAWING REFERENCE TKO/2020/15/SF	DRAWING 1
	4 PINOAK AVENUE / PRIVATE BAG X6005 HILTON / 3245 / PHONE : 033-3438300 FAX : 0333438443	Design: TK Onkay Drawn by: TK Onkay Date: 20 May 2020	Scale: AS INDICATED	SECURITY FENCE PLAN



## NOTES

1. DIMENSIONS OF THE TANK STANDS  
4,00MM X 1,90M (0,5M ABOVEGROUND  
(INCL. SLAB). ALL BLOCKS MORTAR FILLED.
2. THREE COURSES OF BLOCKS ON 500 X 200MM  
15 MPA STRIP FOUNDATION.
3. TANKS SECURED TO STAND WITH 4 TWISTED  
DOUBLE STRANDS OF STRAINING WIRE  
CONNECTED TO 4 Y8 STEEL STIRRUPS  
(LENGTH: 0,5M EACH) CAST IN FLOOR  
CONCRETE. STRANDS TO BE LOOSELY STRAINED.
4. CONNECTION WITH GUTTER WITH THREE 50MM  
DIAM. DOWNPIPE BENDS AND ONE 40MM D  
IAMETER STRAIGHT PVC PIECE, GLUED WITH  
PVC CEMENT AFTER INSPECTION OF CONNECTION.
5. BRASS LOCKABLE TAP WITH FITTINGS.

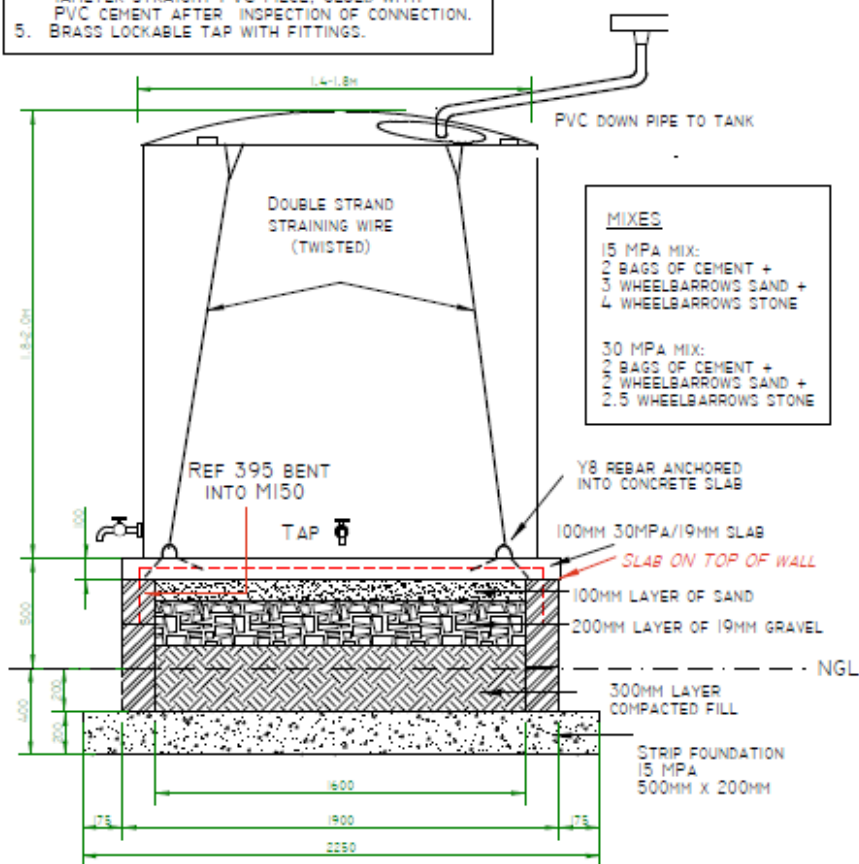
BILL OF QUANTITIES  
MAIN BUILDING MATERIALS

- 1) POCKETS OF CEMENT: 15
- 2) UMGENI SAND: 2,0 CU.M
- 3) 19MM STONE: 2,5 CU.M
- 4) M150 BLOCKS: 84
- 5) Y8 REBAR: 4,00M
- 6) REF 395 MESH  
3900 X 1650MM
- 7) GALV STEEL WIRE  
20M X 2,0MM

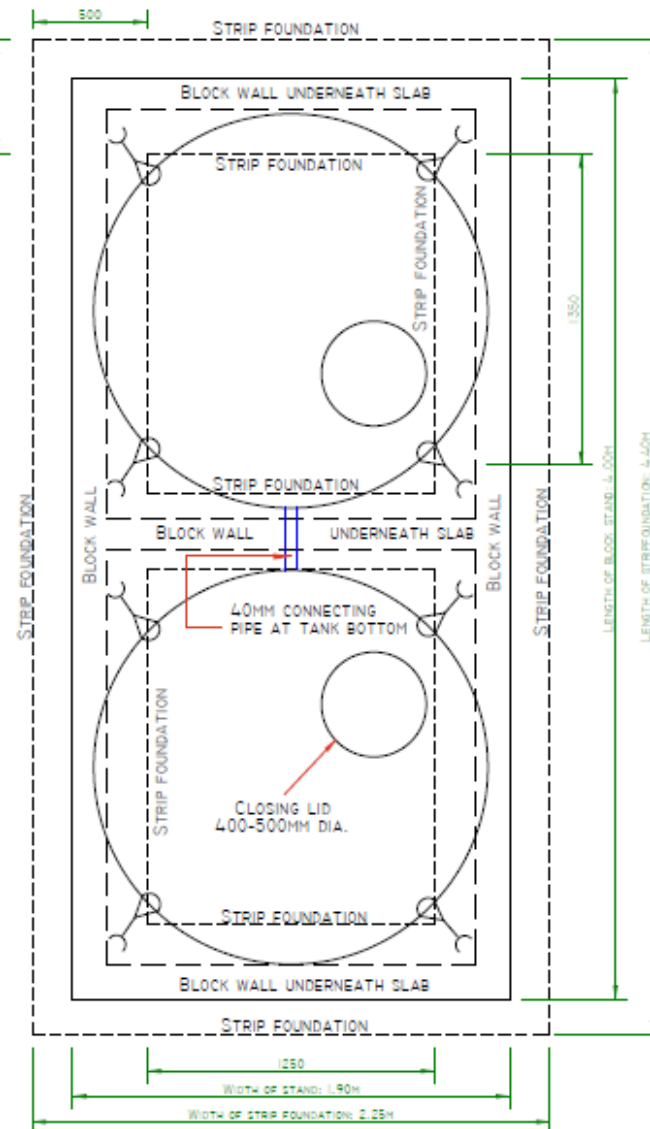
## MIXES

- 15 MPA MIX:  
2 BAGS OF CEMENT +  
3 WHEELBARROWS SAND +  
4 WHEELBARROWS STONE

- 30 MPA MIX:  
3 BAGS OF CEMENT +  
WHEELBARROWS SAND +  
2,5 WHEELBARROWS STONE



CROSS SECTION



TOP VIEW

## NOTES

## REVISIONS

No	Date	Description	By	Author
1	10/01/2010	REVISION 1		
2	10/01/2010	REVISION 2		
3	10/01/2010	REVISION 3		
4	10/01/2010	REVISION 4		
5	10/01/2010	REVISION 5		

KZN DEPARTMENT OF  
AGRICULTURE &  
RURAL DEVELOPMENT

## ENGINEERING SERVICES

1 CEDARA ROAD | CEDARA |  
PRIVATE BAG 10050,  
WINTERHARTSBURG, 3200  
PHONE: 033-35428500

CHECKED BY: J. J. J. J. J.

NO. 000000 DATE

CITY:

TANK  
STAND  
FOR  
TWO  
5000L  
WATER  
TANKS

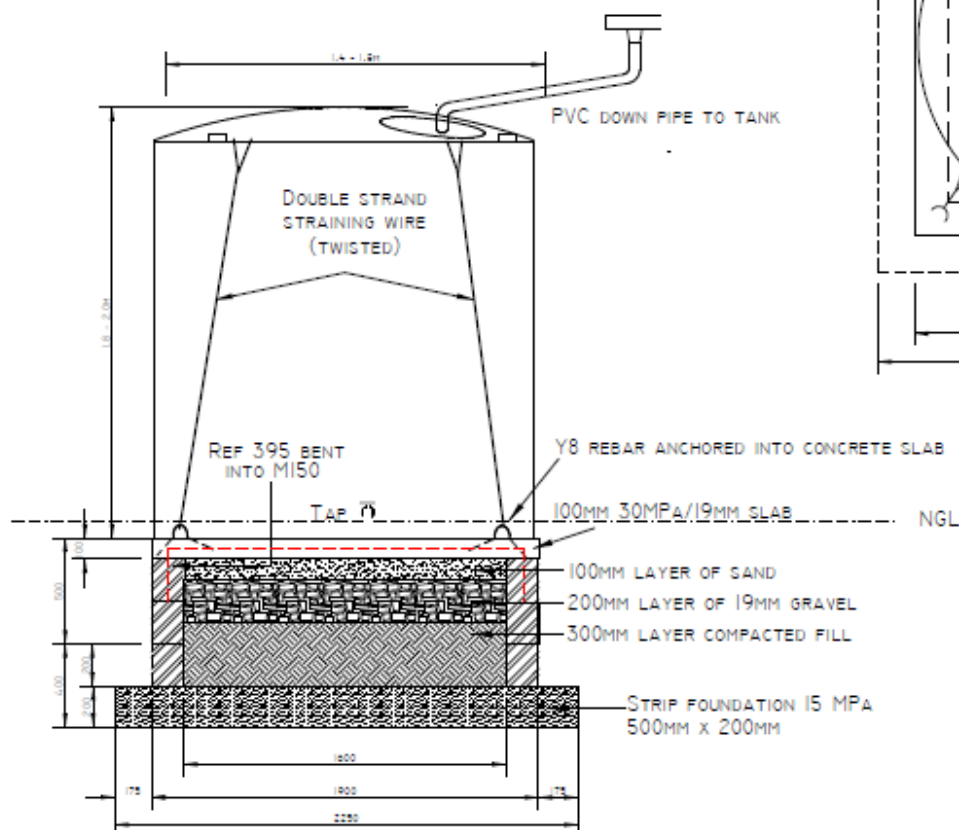
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DISCOUNT	DATE	BY	DATE	BY
DISCOUNT	DATE	BY	DATE	BY
DISCOUNT	DATE	BY	DATE	BY
DISCOUNT	DATE	BY	DATE	BY

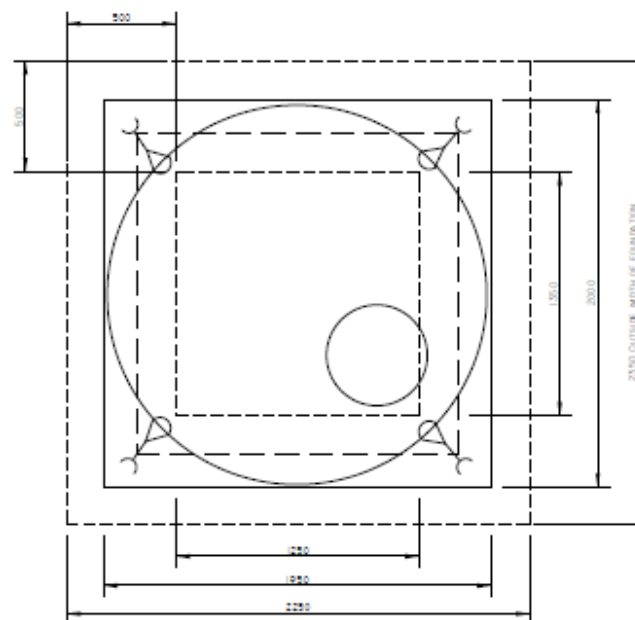


## NOTES

1. DIMENSIONS OF THE TANK STANDS 1.75M X 1.75M X 0.70M (0.5M ABOVEGROUND). ALL BLOCKS MORTAR FILLED
2. THREE COURSES OF BLOCKS ON 500 X 200MM 15 MPA STRIP FOUNDATION.
3. TANKS SECURED TO STAND WITH 4 TWISTED DOUBLE STRANDS OF STRAINING WIRE CONNECTED TO 4 Y8 STEEL STIRRUPS (LENGTH: 0.5M EACH) CAST IN FLOOR CONCRETE. STRANDS TO BE SLIGHTLY STRAINED.
4. CONNECTION WITH GUTTER WITH THREE 50MM DIAM. DOWNPIPE BENDS AND ONE 40MM DIAMETER STRAIGHT PVC PIECE, GLUED WITH PVC CEMENT AFTER INSPECTION OF CONNECTION.
5. BRASS LOCKABLE TAP WITH FITTINGS.



CROSS SECTION



TOP VIEW

BILL OF QUANTITIES  
MAIN BUILDING MATERIALS

- 1) POCKETS OF CEMENT: 8
- 2) UMGENI SAND: 1.0 CU.M
- 3) 19MM STONE: 1.3 CU.M
- 4) M150 BLOCKS: 48
- 5) Y8 REBAR: 2.00M
- 6) REF 395 MESH: 2.00 x 1.65M
- 7) GALV STEEL WIRE: 20M x 2.0MM

## MIXES

- 15 MPA MIX: 2 BAGS OF CEMENT + 3 WHEELBARROWS SAND + 4 WHEELBARROWS STONE
- 30 MPA MIX: 2 BAGS OF CEMENT + 2 WHEELBARROWS SAND + 2.5 WHEELBARROWS STONE

## NOTES

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	2014	ISSUED FOR TENDERS	ENG

KZN DEPARTMENT OF AGRICULTURE &amp; RURAL DEVELOPMENT



## ENGINEERING SERVICES

1 CEDARA ROAD | CEDARA |  
PRIVATE BAG X9089,  
PIETERMARITZBURG, 3200  
PHONE: 033-334-25700

CHECKED FOR: [ ]	
PG. [ ]	DATE

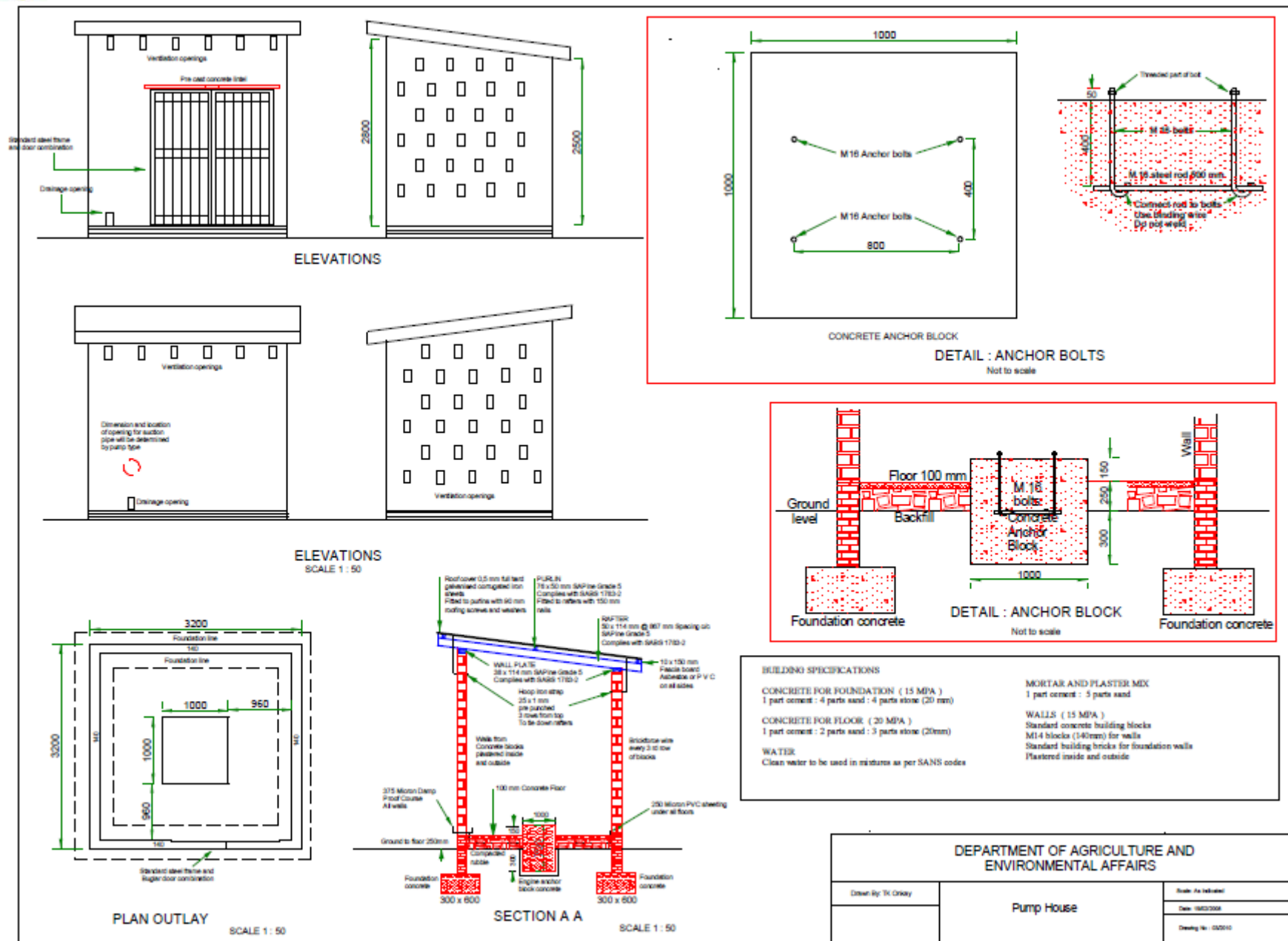
[ ]

## DRAWING 14

TANK  
STAND  
FOR  
2500 &  
5000L  
TANKS

KZN DEPARTMENT OF AGRICULTURE & RURAL DEVELOPMENT			
DESIGNER	DATE	REVISION	DATE







## **PART F**

### **BID DISQUALIFYING FACTORS**

All bids received shall be evaluated on the following:

1. Only bids that meet both of the following **Prequalification Criteria** shall be considered:
  - (i) BBBEE Level 1 (as per the provisions of section 4(1) (a) of the PPPFA Regulations, 2017);
  - (ii) EME (as per the provisions of section 4(1) (b) of the PPPFA Regulations, 2017); and
  - (iii) Minimum CIDB 5 CE/SH.
2. Bids must meet the **Special Terms and Conditions** in all aspects as stipulated in the bid document.
3. **Correctness of information as per SBD 3:**
  - 3.1 All information required in the bid document must be accurate and duly completed including all the appropriate signatures.
  - 3.2 Use of correction fluid is prohibited.
  - 3.3 Any alterations must be initialled.
  - 3.2.1 Under no circumstances may bid forms be retyped or redrafted.
4. **Compulsory administrative compliance requirements that must be submitted with the bid:**
  - 4.1 Central Suppliers Database registration number;
  - 4.2 A certified copy of a valid BBBEE certificate or valid sworn affidavit;
  - 4.3 Documentary proof of bidder being an EME
  - 4.4 Minimum CIDB 5 CE/SH grading
  - 4.4 A resolution authorising a person to sign for Companies and Close Corporations - SBD 11.

**NB. The Department reserves the right to verify all information submitted. Non-compliance with the above shall result in elimination from further processes.**

**Non-submission of any of the above documents shall result in disqualification.**

5. **To enable scoring on functionality, the following must be submitted:**
  - 5.1 Proof of agriculture construction related experience;
  - 5.2 Documentary proof of credit facility with manufacturer and/or Registered Financial Institution or evidence of access to any legal funding instrument;



- 5.3 Proposed methodology and organogram;
- 5.4 Documentary proof of access to machinery (Letter of commitment from machinery company or proof of transportation i.e. Log Books/ Letter of agreement supported by Log book);
- 5.5 Proof of physical address;

**NB. Where copies of original documentation are submitted, those copies must be certified and must not be copies of certified copies.**

**Original certification should not be older than three (3) months. Failure to comply with this requirement shall invalidate the bid submitted.**





## 6. FUNCTIONALITY EVALUATION

6.1 The bid documents shall be evaluated individually on score sheets, by a representative evaluation panel, according to the below mentioned evaluation criteria.

- a. All service providers who score less than minimum functionality score of (70) shall not be considered for the work.

The evaluation criteria are as in Table 2 below.

TABLE 2: BID EVALUATION CRITERIA				
	FUNCTIONALITY EVALUATION CRITERIA	Max Points	Evidence	Bidders Score
1.	<p><b>Bidder's experience</b> in the construction of Buildings for Agricultural, domestic, industrial, institutional or commercial occupancies, or and horticultural works, e.g. seedling/ tree nurseries, shade cloth buildings or under cover irrigation or horticultural infrastructure</p> <p>5 points per project, 6 or more projects = 30 points</p>	30	<p>Completion Certificate (Works or other)</p> <p>In support of <b>Annexure C3</b></p>	
2.	<p><b>Financial Capacity</b></p> <p>Total Credit Facility (with financial institution and/or manufacturer of relevant material)</p> <p>R 500 000 - R 1 000 000 = 10 points</p> <p>R 1 000 001 - R 3 000 000 = 15 points</p> <p>&gt; R 3 000 000 = 20 points</p>	20	<p>Evidence of credit facility with manufacturer/supplier</p> <p><b>and/or</b></p> <p>Registered Financial Institution</p> <p><b>Or</b></p> <p>Evidence of access to any legal funding instrument</p>	
3	<p><b>Methodology and approach</b></p> <p><b>Submission of a methodology proposal</b></p> <p>The proposal to indicate:</p> <p>1) Detailed work break down with a Gantt chart showing critical path.</p> <p>2) An organogram of key personnel with relevant experience.</p> <p>If the proposal includes 1 &amp; 2 15 points</p> <p>If Gantt chart (1) is included 10 points</p> <p>If Organogram (2) is included 5 points</p>	15	<p>Attached proposal with the Tender</p>	



4.	<b>Access to <i>ALL</i> Machinery/ Required machinery</b> <ul style="list-style-type: none"> <li>• TLB</li> <li>• Excavator</li> <li>• Tipper Truck. (Min of 6m<sup>3</sup>)</li> <li>• Grader</li> <li>• Roller (Smooth roller)</li> </ul>	<b>25</b>	<u>List under Annexure C1</u> <i>Letter of commitment from plant hire company</i> Or <i>Documentary proof of transport or transportation facility</i> <i>(Log Books/ Letter of agreement supported by Log book)</i>	
5.	<b>Proof of Physical address</b>  <i>Office of Bidder outside borders of KZN = 3 pts</i> <i>Office of Bidder within borders of KZN = 10 pts</i>	<b>10</b>	<i>Lease agreement; Municipal Utility Bill; or Copy of Bank Statement (first page only) with address</i>	
	<b>TOTAL</b>	<b>100</b>		
	<b>Minimum Functionality Threshold</b>	<b>70</b>		