



ABAQULUSI LOCAL MUNICIPALITY

TENDER DOCUMENT

TENDER NAME : CONSTRUCTION OF EMARASTENI BRIDGE – WARD 11

TENDER NO : 8/2/1/523

CIDB CATEGORY : 5CE OR HIGHER

NAME OF TENDERER : _____
TELEPHONE NUMBER : _____
E-MAIL : _____
PHYSICAL ADDRESS : _____

TENDER SUM (INCL. VAT) : _____

TENDER CLOSING AT 12h00 PM ON 8 AUGUST 2024



EMPLOYER
ABAQULUSI MUNICIPALITY
PO Box 57
VRYHEID
3100

Contact Details:
Tell: (034) 982 2133
Fax: (034) 989 9637



CONSULTING ENGINEERS
TPA CONSULTING CC
UNIT B, THE MEWS
NO. 22 MONTROSE PARK BOULEVARD
VICTORIA COUNTRY CLUB
PIETERMARITZBURG
3201

Tel: (033) 347 0325

SUMMARY FOR TENDER OPENING PURPOSES

[To facilitate the reading out of tender parameters at the opening of tenders, the tenderer shall complete this form and submit it with his tender]

Name of Contractor submitting the tender:

Tender amount *(as stated in the Form of Offer)*: R.....

Alternative Tender offered? *(Yes / No)*

If "Yes" state amount: R

Specified Time for Completion: *(Weeks)*

Alternative Time for Completion offered? *(Yes / No)*

If "Yes", state time offered (weeks)

Details of contact person:

Name *(Print)*:

Telephone No: Fax No:

E-mail address:.....

Cell No. :

Is Form of Offer signed by Tenderer and Witnesses? *(Yes/No)*

SIGNATURE:
(of person authorised to sign the tender)

Note: In the event of conflict between the data provided in this summary and that given in the tender, the latter shall prevail.

CHECK LIST FOR TENDER SUBMISSION

The Tenderer is to indicate in the check-boxes provided that he has completed the required section of the tender document. Completion of this check-list will assist the Tenderer in ensuring that he has attended to all the required items for submission with this Tender.

Page	Description		Completed		For Office Use		
			Yes	No	Yes	No	Comments
Cover	Name of Tenderer						
	Contact Details						
	Tender Sum						
C1-3	C1.1	Form of Offer and Acceptance					
C1-12	C1.2	Contract Data (Part 2)					
C2-6	C2.2	Completed Schedule of Quantities					

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THE CONTRACT			
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T1.1

Contractor

Employer

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PART T1: TENDERING PROCEDURES

PART T1-TENDERING PROCEDURES

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T1.1 TENDER NOTICE AND INVITATION TO TENDER



ABAQULUSI LOCAL MUNICIPALITY

CIDB CATEGORY: 5CE OR HIGHER

CONSTRUCTION OF EMARASTENI BRIDGE - WARD 11

PROJECT NAME: CONTRACT No.: 8/2/1/523

Tenders are hereby invited for Construction of Emarasteni Bridge - Ward 11. The minimum specifications are detailed in the Tender Document.

There will be a compulsory briefing held for the mentioned project. Enquiries/ Queries should be directed to tpa Consulting 033 347 0325

Meeting Venue: Technical Boardroom @ 10:00am
01 August 2024.

The municipal offices can be contacted by using the following telecommunication numbers: 034 982 2133 (Phone) or 034 980 9637 (Fax) 034 989 9637.

Completed tender documents are to be placed in a sealed envelope marked: **Construction of Emarasteni Bridge in Ward - 11; Tender No.:** and must be deposited in the Tender Box at the offices of Abaqulusi Local Municipality's offices at Cnr High & Mark Streets, Vryheid, not later than **12h00 pm** on **08 August 2024**. Tenders will be opened in public soon after closure and only the name of the tenderer and the tender amount will be read out. Telegraphic, faxed and late tenders will not be accepted and the Municipality shall not be held responsible for any couriered documents

The procedure for the evaluation of responsive tenders will be **Financial Offer and Preference**.

The 80/20 scoring method will apply in the evaluation of bids.

The following points will be awarded during the evaluation:

Price = 80

Preference:

BBBEE Status Level Contributor	Number of Points (80/20 Principle)
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-Compliant Contributor	0

TOTAL = 100

Bidder's attention is specially drawn to adhere the provisions of the quotation rules which are included in the tender document and as follows:

- Abaqulusi Municipality Supply Chain Management Policy will apply,
- Bids above R10m, Annual Financial Statements a(AFS) are required,
- Late bids will not be accepted,
- Bids will be valid for a period of 90 days
- Bid must only submitted on the documentation provided by Abaqulusi Municipality
 - (Original document)
- An original valid tax clearance certificate of a company must be submitted with the tender document
- An original current account in terms of water and electricity / rates and taxes obtainable from your local municipality must be submitted or lease agreement
- Certified copies of identity documents of directors and owners of the company must be submitted
- Certified B- BBEE Certificate from a registered Accountant is applicable.
- Failure to comply with these conditions will result in immediate disqualification of the bid.
- Service Providers should be on Municipal Data Base if not please collect data base forms at SCM Office or down load them from Municipal website (www.abaqulusi.gov.za) and submit them with your tender document.
- Registration on CSD documents must also be submitted with tender document

The Abaqulusi Local Municipality does not bind itself to accepting the lowest, or any bid, either wholly or in part or give any reason for such action.

Municipal Manager

Abaqulusi Local Municipality

T1.2.1: TENDER DATA: STANDARD CONDITIONS OF TENDER

The Standard Conditions of Tender as contained in Annex C of the legislated Standard Conditions of Tender as published in Board Notice 423 of 2019 in Government Gazette 42622 of 8 August 2019

T1.2.1: TENDER DATA: APPLICABLE TO THIS TENDER

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this Tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of data given below is cross-referenced to the Clause in the Standard Conditions of Tender to which it mainly applies.

Clause No	Description
F.1.1.1	The Employer is: Abaqulusi Municipality Main Office Building, c/o Mark & High Streets, Vryheid 3100
F.1.2	The tender documents issued by the Employer comprise: Volume 1: Part 1: Tendering Procedures T1.1 Tender Notice and Invitation to Tender T1.2 Tender Data Part 2: Returnable Documents T2.1 List of Returnable Documents T2.2 Returnable Schedules, including the Enterprise Declaration Affidavit which may be bound in a separate volume Part 1: Agreement and Contract Data

Clause No	Description
	C1.1 Form of Offer and Acceptance C1.2 Contract Data C1.3 Forms of Securities Part 2: Pricing Data C2.1 Pricing Instructions C2.2 Schedule of Rates Part 3: Scope of Work C3 Scope of Work including separate volumes for: Part 4: Site Information C4 Site Information
	The following documents form part of the Contract and is NOT provided by the Employer, the Contractor is required to obtain these documents for the execution of the contract: "General Conditions of Contract (GCC) for Construction Works -3rd Edition 2015" This document is issued by the South African Institution of Civil Engineering. (Short title "General Conditions of Contract 2015") and is obtainable separately. Tenderers shall obtain their own copies. "Standardised Specifications for Road and Bridge Works for State Road Authorities – 1998 Edition". Drafted by COTO (Committee of Transport Officials). This document is obtainable separately, and Tenderers shall obtain their own copies. The Occupational Health and Safety Act No 85 of 1993 and Amendment Act No 181 of 1993, and the Construction Regulations 2014. This document is obtainable separately, and Tenderers shall obtain their own copies. Abaqulusi Local Municipality's Occupational Health and Safety Specification in terms of the requirements of Construction Regulations 4(1)(a). This document is available for review at the offices of the Employer and/or the Employer's agent. Tenderers shall obtain their own copies. In addition Tenderers are advised, in their own interest, to obtain their own copies of the following acts, regulations and standards referred to in this document as they are essential for the Tenderer to get acquainted with the basics of construction management, the implementation of preferential construction procurement policies and participation of targeted enterprise and labour. (i) The Construction Industry Development Board Act No 38 of 2000 and the Regulations in terms of the CIDB Act 38/2000, Government Notice No 692 of 9 June 2004,

Clause No	Description
	(ii) SANS 1921:2004 Construction and management Part 1: General Engineering and Construction Works; Part 6: HIV/AIDS Awareness. (iii) SANS 10396:2003 Implementing Preferential Construction Procurement Policies using Targeted Procurement Procedures (iv) SANS 1914:2003 Targeted Construction Procurement, Parts 1 to 6, dealing with Participation of Targeted Enterprises, Joint Ventures, Targeted Labour etc.
C.1.4	The Employer's Agent's (also referred to as the Engineer) details are as follows: Name : TPA Consulting cc Represented by Sihle Zondo Address : Unit B, The Mews 22 Montrose Park Boulevard Victoria Country Club Montrose PMB 3201 Tel No : (033) 347 0325 Fax No : (086) 609 9709 E-mail : sihle@tpa.co.za
	All communication between the tenderer and the employer shall be addressed to Mr Sihle Zondo of TPA Consulting Engineers cc, in writing on email.
F1.5.2	Replace the existing clause with the following: The Employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers, <u>save for all tenders being non-responsive</u>, re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received and such tender was returned unopened to the tenderer.
F.2	TENDERER'S OBLIGATIONS
F.2.1	Eligibility The following tenderers who are registered with the CIDB, or are capable of being so registered prior to the evaluation of submissions, are eligible to submit tenders: 1) contractors who have a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 5CE of construction work, and who satisfy the following criteria: a. Availability of resources b. Availability of skills to manage and perform the contract – including staff which satisfies EPWP requirements (if applicable).

Clause No	Description
	c. Previous experience on contracts of a similar value and nature. d. Financial standing and capability. 2) Joint ventures are eligible to submit tenders provided that: a. every member of the joint venture is registered with the CIDB. b. the lead partner has a contractor grading designation in the 5CE or Higher class of construction work: and, c. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 5 CE class of construction works 3) Information to be submitted with the tender The Tenderer shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.
F.2.7	There will be a Compulsory Clarification Meeting and Site Inspection The arrangements for the compulsory clarification meeting are: Date: 01 August 2024 @ 10:00am Venue: Abaqulusi Local Municipality Technical Boardroom Addenda will be issued to and tenders will be received only from those tendering entities appearing on the recipients of tender documents list.
C.2.12	Alternative Offers If a Tenderer wishes to submit an alternative tender offer, the only criteria permitted for such an alternative tender offer are a. <u>Individual Items</u> Individual items offered as alternatives to items in the Bill of Quantities will only be considered if listed and priced in Part T2 of the Contract Document, accompanied by a detailed statement as necessary. b. <u>Alternative Designs</u> Where a Tenderer desires to submit alternative tender involving modifications to the design or method of construction that would alter the character of the tender, the following procedure must be observed: 1. The alternative offer must be accompanied by supporting information, drawings, calculations and a priced alternative Bill of Quantities to enable its technical acceptability, construction time and price to be fully assessed. Such information, drawings and Bill of

Clause No	Description
	Quantities must be sufficient for proper evaluation of the tendered alternative, otherwise the offer will not be considered. 2. Any alternative tender involving modifications to design will be assessed on its merits and may be accepted. An accepted alternative design will become the design for the purpose of the contract. 3. If an alternative design with its priced Bill of Quantities has been accepted, the sum thus tendered for the alternative will not be subject to re-measurement and will be the final amount payable to the Contractor, except only for variations arising from: • Changes in design parameters ordered by the Engineer. • Changes not arising from any failure or fault of the Contractor, but from modifications requested by the Engineer. 4. A decision whether or not to adopt a technically acceptable modified design will be governed by the amount of the overall saving and the advantages to the Employer, which the modified design can be reliably expected to achieve. Matters to be considered in arriving at the overall saving will include the effect of any deferment in starting date arising from extra time needed for the preparation of an amended contract for signature. 5. The Tenderer will be liable for all costs necessary for the Engineer to check the alternative design offered Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements.
F.2.13	Submitting a Tender Offer
F.2.13.1	Submit one tender offer only, either as a single tendering entity or as a member in a single joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works.
F.2.13.3	Tender offers shall be submitted as an original hard copy only.
F.2.13.5	Delivery of Tender
F.2.13.5	The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are:
F.2.15.1	Location of Tender Box : Abaqulusi Municipality c/o Mark and High Streets, VRYHEID 3100 Identification Details : Contract No: Tender reference number, Title of Tender and the closing date and time of the tender, as well as the Tenderer's name, his Authorised Representative's name, postal address and telephonic contact numbers

Clause No	Description
F.2.13.6 & F.3.5	A two-envelope procedure will not be followed.
F.2.15	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will NOT be accepted.
F.2.15	Tender Submissions The closing time for submission of tender offers is Date: 08 August 2024 Time: 12h00 pm
F.2.16	The tender offer validity period is 90 days.
F.2.18	Contractors Staff The tender shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements
F.2.20	Performance Bond The tenderer is required to submit with his tender a letter of intent from an approved insurer undertaking to provide the Performance Bond to the format included in Part T2.2 of this procurement document
F.2.22	Return of Tender Document Where a Tenderer who received a tender document does not submit a tender, the tender documents issued to him must be returned to the Employer within 14 days after the closing date for submission of tenders
F.2.23	The Tenderer is required to submit with his tender a letter of intent from an approved insurer undertaking to provide the Performance Guarantee to the format included in Part T2.2.22 of this procurement document.
F.2.23	Certificates The tenderer is required to submit the following certificates with his tender: 1. Either a Certificate of Contractor Registration issued by the Construction Industry Development Board <i>OR</i> a copy of the Application Form for registration in terms of the Construction Industry Development Board Act (Form F006). 2. An original valid Tax Clearance Certificate issued by the South African Revenue Services. 3. Copies of company registration documents 4. Joint Venture Agreement and Power of Attorney in case of Joint Ventures 5. Copies of ID documents of Shareholders/Members/Directors of the business enterprises 6. Proof of Preference Points Claimed 7. VAT Registration Certificate and Pin 8. Skills Development Levy Certificate

Clause No	Description
	9. Workmen's Compensation Registration Certificate (or proof of payment of contributions in terms of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993) 10. a certificate certifying that the enterprise has no undisputed commitments to a municipality or other service provider in respect of which payment is overdue by more than 30 days (if greater than R10 million incl. VAT); 11. particulars of any contracts awarded by an organ of state during the last five years including particulars of any material non-compliance or dispute concerning their execution over this period (if >R10 000 incl. VAT); and 12. a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion or payment from the municipality or municipal entity is expected to be transferred out of the Republic (if greater than R10 million incl. VAT). 13. All other certificates as requested in T2.1
F.2.24	Add the following new clause: Canvassing and obtaining of additional information by tenderers Accept that no Tenderer shall make any attempt either directly or indirectly to canvass any of the Employers officials or the Employer's agent in respect of his tender, after the opening of the tenders but prior to the Employer arriving at a decision thereon. No Tenderer shall make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders."
F.2.25	Add the following new clause: Prohibitions on awards to persons in service of the state Accept that the Employer is prohibited to award a tender to a person - a) who is in the service of the state; or b) if that person is not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state; or c) a person who is an advisor or consultant contracted with the municipality or municipal entity. "In the service of the state" means to be - i) a member of:- • any municipal council; • any provincial legislature; or • the National Assembly or the National Council of Provinces; ii) a member of the board of directors of any municipal entity; iii) an official of any municipality or municipal entity; iv) an employee of any national or provincial department; v) provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999); vi) a member of the accounting authority of any national or provincial public entity; or vii) an employee of Parliament or a provincial legislature."

Clause No	Description
	In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in Section T2.2 must be completed.
F.2.26	Add the following new clause: Awards to close family members of persons in the service of the state “Accept that the notes to the Employer’s annual financial statements must disclose particulars of any award of more than R2000 to a person who is a spouse, child or parent of a person in the service of the state (defined in clause F.2.25), or has been in the service of the state in the previous twelve months, including a) the name of that person; b) the capacity in which that person is in the service of the state; and c) the amount of the award. In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 – Returnable Documents must be completed in full and signed.”
F.2.27	Add the following new clause: Tax Clearance Certificate In the case of a Joint Venture/Consortium the tax Compliance status Pin must be submitted for each member of the Joint Venture/Consortium.”
F.3.1.1	Replace the contents of the clause with the following: “Respond to a request for clarification received up to seven calendar days before the tender closing time stated in the tender data and notify all Tenderers who drew procurement documents”
F.3 F.3.4	EMPLOYERS UNDERTAKINGS Opening of Tender Submissions The time and location for opening of the tender offers are: Time : 12h00 Date : 08 August 2024 Location : Abaqulusi Local Municipality’s Boardroom c/o Mark and High Streets, Vryheid, 3100 Tenderers names and total prices, where practical will be read out.

Clause No	Description																				
F.3.11	The procedure for the evaluation of responsive tenders is Method 1: Financial Offer and Preference. a. Tenders will be evaluated as follows The 80/20 scoring method will apply in the evaluation of bids. The following points will be awarded during the evaluation: Price = 80 Preference: <table border="1"> <thead> <tr> <th>BBBEE Status Level Contributor</th><th>Number of Points (80/20 Principle)</th></tr> </thead> <tbody> <tr><td>1</td><td>20</td></tr> <tr><td>2</td><td>18</td></tr> <tr><td>3</td><td>14</td></tr> <tr><td>4</td><td>12</td></tr> <tr><td>5</td><td>8</td></tr> <tr><td>6</td><td>6</td></tr> <tr><td>7</td><td>4</td></tr> <tr><td>8</td><td>2</td></tr> <tr><td>Non-Compliant Contributor</td><td>0</td></tr> </tbody> </table> TOTAL = 100	BBBEE Status Level Contributor	Number of Points (80/20 Principle)	1	20	2	18	3	14	4	12	5	8	6	6	7	4	8	2	Non-Compliant Contributor	0
BBBEE Status Level Contributor	Number of Points (80/20 Principle)																				
1	20																				
2	18																				
3	14																				
4	12																				
5	8																				
6	6																				
7	4																				
8	2																				
Non-Compliant Contributor	0																				
F.3.13	Tender offers will only be accepted if: a) the tenderer submits an original valid Tax Clearance Certificate issued by the South African Revenue Services or has made arrangements to meet outstanding tax obligations; b) the tenderer is registered with the Construction Industry Development Board in the contractor grading designation of 5CE or higher;																				

Clause No	Description
	c) the tenderer or any of its directors/shareholders is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; d) the tenderer has not: i) abused the Employer's Supply Chain Management System; or ii) failed to perform on any previous contract and has been given a written notice to this effect; f) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the Employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract; g) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer; e) h) the Employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2003, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely; and f) the tenderer: i) has sufficiently substantiated his experience in this type work; and has the required and experienced key personnel;
C.3.17	Copies of Contract The employer will provide the successful tenderer with 1 (one) paper copy of the signed contract.
F.3.18	The number of paper copies of the signed contract to be provided by the Employer is one.
F.14	The commitment of the Employer to Government Policy concerning the empowerment of the SMMEs shall be noted and adhered to by the main contractor. It is against this background that, Abaqulusi Municipality has made provisions under this contract to ensure that the main contractor impart skills to the local SMMEs (to be employed as sub-contractors on this job) within the project area during the project implementation through the Main Contractor's 'Contractor Development programme'. It is the intention of Abaqulusi Municipality that the minimum targeted participation goal for the local SMMEs is up to 30% of the project value. The onus is upon the main contractor to handle and manage the procurement process of the sub-contractors and these once appointed, should be dealt with in accordance with the provisions of Clause 4.4 of the General Conditions of Contract for Construction Works 2015. Refer to PS3 (Procurement) for further details.

MBD 1: INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE ABAQULUSI LOCAL MUNICIPALITY
--

BID NUMBER:
CLOSING TIME:

CLOSING DATE:

DESCRIPTION
.....

The successful bidder will be required to fill in and sign a written Contract Form (MBD 7).

BID DOCUMENTS MAY BE POSTED TO:

.....
.....

OR

DEPOSITED IN THE BID BOX SITUATED AT (*STREET ADDRESS*)

.....
.....

Bidders should ensure that bids are delivered timeously to the correct address. If the bid is late, it will not be accepted for consideration.

The bid box is generally open 24 hours a day, 7 days a week.

ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS – (NOT TO BE RE-TYPED)

THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2011, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT

NB: NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE (as defined in Regulation 1 of the Local Government: Municipal Supply Chain Management Regulations)

THE FOLLOWING PARTICULARS MUST BE FURNISHED

(FAILURE TO DO SO MAY RESULT IN YOUR BID BEING DISQUALIFIED)

NAME OF
BIDDER.....

POSTAL ADDRESS

STREET ADDRESS
.....

TELEPHONE NUMBER
CODE.....NUMBER.....

CELLPHONE
NUMBER.....

FACSIMILE NUMBER CODE NUMBER

E-MAIL ADDRESS

VAT REGISTRATION
NUMBER.....

HAS AN ORIGINAL AND VALID TAX CLEARANCE CERTIFICATE BEEN ATTACHED? (MBD 2)
YES/NO

HAS A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE BEEN SUBMITTED? (MBD 6.1)
YES/NO

IF YES, WHO WAS THE CERTIFICATE ISSUED BY?

AN ACCOUNTING OFFICER AS CONTEMPLATED IN THE CLOSE CORPORATION ACT (CCA)
☐

A VERIFICATION AGENCY ACCREDITED BY THE SOUTH AFRICAN NATIONAL
ACCREDITATION SYSTEM (SANAS) ☐

A REGISTERED AUDITOR ☐

(Tick applicable box)

**(A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE 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)

SIGNATURE OF BIDDER

.....

DATE

CAPACITY UNDER WHICH THIS BID IS SIGNED

.....

TOTAL BID PRICE.....TOTAL NUMBER OF ITEMS OFFERED.....

ANY ENQUIRIES REGARDING THE BIDDING PROCEDURE MAY BE DIRECTED TO:

Municipality / Municipal Entity:

Department:

Contact Person:

Tel:

Fax:

ANY ENQUIRIES REGARDING TECHNICAL INFORMATION MAY BE DIRECTED TO:

Contact Person:

Tel:

Fax:

MBD 4: DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state*.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.

3 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

3.1 Full Name:

3.2 Identity Number:

3.3 Company Registration Number:

3.4 Tax Reference Number:

3.5 VAT Registration Number:

3.6 Are you presently in the service of the state* YES / NO

* MSCM Regulations: "in the service of the state" means to be –

(a) a member of –

- (i) any municipal council;
- (ii) any provincial legislature; or
- (iii) the national Assembly or the national Council of provinces;

(b) a member of the board of directors of any municipal entity;

(c) an official of any municipality or municipal entity;

3.6.1 If so, furnish particulars.

.....

.....

3.7 Have you been in the service of the state for the past
twelve months?

YES / NO

3.7.1 If so, furnish particulars.

.....

.....

3.8 Do you, have any relationship (family, friend, other) with persons
in the service of the state and who may be involved with **YES / NO**
the evaluation and or adjudication of this bid?

3.8.1 If so, furnish particulars.

.....

.....

3.9 Are you, aware of any relationship (family, friend, other)
between a bidder and any persons in the service of the

YES / NO

-
- (d) an employee of 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);
 - (e) a member of the accounting authority of any national or provincial public entity; or
 - (f) an employee of Parliament or a provincial legislature.

state who may be involved with the evaluation and or
adjudication of this bid?

3.9.1 If so, furnish particulars

.....

.....

3.10 Are any of the company's directors, managers, principal
shareholders or stakeholders in service of the state?

YES / NO

3.10.1 If so, furnish particulars.

.....

.....

3.11 Are any spouse, child or parent of the company's directors,
managers, principal shareholders or stakeholders in service
of the state?

YES / NO

3.11.1 If so, furnish particulars.

.....

.....

CERTIFICATION

I, THE UNDERSIGNED (NAME)

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

**I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE
TO BE FALSE.**

.....

Signature

.....

Date

.....

Position

.....

Name of Bidder

MBD 6.1: EMPOWERMENT AND PREFERENTIAL POINTS ALLOCATION

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- 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 **To be completed by the organ of state**

- a) The applicable preference point system for this tender is the **80/20** preference point system.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

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

2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable

- taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

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

80/20	or	90/10
$Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$	or	$Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$
Where		
Ps	=	Points scored for price of tender under consideration
Pt	=	Price of tender under consideration
Pmin	=	Price of lowest acceptable tender

3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.2.1. POINTS AWARDED FOR PRICE

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

80/20	or	90/10
$Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)$	or	$Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)$
Where		
Ps	=	Points scored for price of tender under consideration
Pt	=	Price of tender under consideration
Pmax	=	Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
- (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,
- then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

Item no.	The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system)	Number of points claimed (80/20 system) (To be completed by the tenderer)
1.	100% Black owned enterprises within the definition of the HDI	2	
2.	At least 30% women owned enterprises	2	
3.	At least 30% youth owned enterprises	2	
4.	At least 30% enterprises people living with disabilities	2	
5.	Enterprises regarded as EMEs located within the Abaqulusi	2	
6.	Enterprise who will sub-contract minimum of 30% of the contract value to EME's in the ward or local communities where the services to be rendered of works to be undertaken (Bidders shall list sub-contracting works or items)	2	
7.	Corporate Social Investment (CSI) Plan. (see notes below)	5	
8.	B-BBEE level 1 contribution (SANAS verified B-BBEE certificate for generic enterprise, and for EME and SME a sworn affidavit or CIPC issued certificate confirming annual turnover and level of Black Ownership)	3	

The Municipality will utilise the CSD report for the above-mentioned information

Corporate Social Investment (CSI)

NB: The minimum total value of the CSI should not be less than 2% of the total project value excluding vat and contingencies. The CSI project should be delivered concurrently with the project. The final product should be delivered prior to the issuing of completion certificate. The nature of the CSI project must benefit the community at large. (1 page, Arial font size 12) Prospective bidders will be expected to provide the Municipality with a written explanation on how to implement the Corporate Service Investment on that particular ward, community or region. The investment must benefit the community at large. In order to claim points, a detailed one page report must be included in the list of returnable documents. The corporate social investment initiatives must be implemented by the company/successful bidder. The final details of the CSI project will be finalized prior to the signing of the contract in consultations with relevant stakeholders.

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

4.4. Company registration number:

4.5. TYPE OF COMPANY/ FIRM

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Public Company
- ☐ Personal Liability Company
- ☐ (Pty) Limited
- ☐ Non-Profit Company
- ☐ State Owned Company

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I 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 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering 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 tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted 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, if deemed necessary.

Declaration

The tenderer declares that

- a) the tendering entity is a level contributor as stated in the submitted evidence of qualification as at the closing date for submissions
- b) the tendering entity has been measured in terms of the following code (tick applicable box)

☐ Generic code of good practice

☐ Other – specify

- c) the contents of the declarations made in terms of a) and b) above are within my personal knowledge and are to the best of my belief both true and correct

The undersigned, who warrants that he / she is duly authorized to do so on behalf of the tenderer, confirms that he / she understands the conditions under which such preferences are granted and confirms that the tenderer satisfies the conditions pertaining to the granting of tender preferences.

Signature:

Name:

Duly authorised to sign on behalf of:

Telephone:

Fax: Date:

Name of witness Signature of witness

Note:

1) Failure to complete the declaration will lead to the rejection of a claim for a preference. Supporting documentation of the abovementioned claim for a preference must be submitted with the tender submission to be eligible for a preference. (see Clause 5.11.8 in Tender Data)

.....
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:

MBD 6.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT

This Municipal Bidding Document (MBD) 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 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:201x.

1. General Conditions

- a. Preferential Procurement Regulations, 2011 (Regulation 9.(1) and 9.(3) make provision for the promotion of local production and content.
- b. 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.
- c. Regulation 9.(3) prescribes that where there is no designated sector, a specific bidding condition may be included, that only locally produced services, works or goods or locally manufactured goods with a stipulated minimum threshold for local production and content, will be considered.
- d. Where necessary, for bids referred to in paragraphs 1.2 and 1.3 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.
- e. 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.
- f. The local content (LC) as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 201x as follows:

$$LC = 1 - \left(\frac{x}{y} \right) \times 100$$

Where

- x imported content
- y bid price 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 the South African Reserve Bank (SARB) at 12:00 on the date, one week (7 calendar days) prior to the closing date of the bid as required in paragraph 4.1 below.

g. A bid will be disqualified if:

1. the bidder fails to achieve the stipulated minimum threshold for local production and content indicated in paragraph 3 below; and.
2. this declaration certificate is not submitted as part of the bid documentation.

2. Definitions

- a. **“bid”** includes advertised competitive bids, written price quotations or proposals;
- b. **“bid price”** price offered by the bidder, excluding value added tax (VAT);
- c. **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
- d. **“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;
- e. **“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).
- f. **“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, 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;
- g. **“local content”** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;
- h. **“stipulated minimum threshold”** means that portion of local production and content as determined by the Department of Trade and Industry; and
- i. **“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 for this bid is/are as follows:

Description of services, works or goods Stipulated minimum threshold

4. Does any portion of the services, works or goods offered

have any imported content?

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 1.6 of the general conditions must be the rate(s) published by the SARB for the specific currency at 12:00 on the date, one week (7 calendar days) prior to the closing date of the bid.

The relevant rates of exchange information is accessible on www.reservebank.co.za.

Indicate the rate(s) of exchange against the appropriate currency in the table below:

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

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 Municipality / Municipal Entity):
.....

NB 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.

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 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.
- (c) The local content has been calculated using the formula given in clause 3 of SATS 1286, the rates of exchange indicated in paragraph 4.1 above and the following figures:

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

If the bid is for more than one product, a schedule of the local content by product shall be attached.

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

(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, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

MBD 8: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by municipalities and municipal entities 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 rejected if that bidder, or any of its directors have:
 - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
 - b. been convicted for fraud or corruption during the past five years;
 - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 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? (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). The Database of Restricted Suppliers now resides on the National Treasury's website(www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐

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)? The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
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 of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
Item	Question	Yes	No
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		

4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)

**CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM
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

MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION

CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all bids¹ 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).² Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. take all reasonable steps to prevent such abuse;
 - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
- 4 This MBD 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 (MBD 9) must be completed and submitted with the bid:

¹ Includes price quotations, advertised competitive bids, limited bids and proposals.

² 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.

³ Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract

MBD 9

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 Municipality / Municipal Entity)

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

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 consortium³ 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

NATIONAL TREASURY CSD REGISTRATION

Provide the relevant information of registration on the National Treasury Central Supplier Database for the Main Bidder / s, JV Partner / s and or Sub-Contractors

	NT CSD Reference Number	SARS Pin
1. Main Bidder / s :		
2. JV Partner / s :		
3. Sub-Contractor / s :		

ATTACHED TO THIS PAGE A COPY OF PROOF OF CSD AND SARS

Municipal Account

(a) A copy of the bidder's and those of its directors municipal accounts (for the Municipality where the bidder pays his account) for the month preceding the tender closure date must accompany the tender documents. If such a certified copy does not accompany the bid document of the successful bidder, the Municipality reserves the right to obtain such documents after the closing date to verify that their municipal accounts are in order.

(b) Any bidder which is or whose directors are in arrears with their municipal rates and taxes or municipal charges due to any Municipality or any of its entities for more than three months and have not made an arrangement for settlement of same before the bid closure date will be unsuccessful.

(c) If a bidder rents their premises, proof must be submitted that the rental includes their municipal rates and taxes or municipal charges and that their rent is not in arrears.

ATTACHED TO THIS PAGE A COPY OF RECENT MUNICIPAL ACCOUNT OR RELEVANT PROOF OF RATES AND TAXES

Authorized Signatory

- (a) A copy of the recorded Resolution taken by the Board of Directors, members, partners or trustees authorizing the representative to submit this bid on the bidder's behalf must be attached to the Bid Document on submission of same.
- (b) A bid shall be eligible for consideration only if it bears the signature of the bidder or of some person duly and lawfully authorized to sign it for and on behalf of the bidder.
- (c) If such a copy of the Resolution does not accompany the bid document of the successful bidder, the Municipality reserves the right to obtain such document after the closing date to verify that the signatory is in order. If no such document can be obtained within a period as specified by the Municipality, the bid will be disqualified.

ATTACHED TO THIS PAGE A COPY OF RECORDED RESOLUTION FOR AUTHORISED SIGNATORY

B-BBEE CERTIFICATE

Insert a B-BBEE certificate issued by a Verification Agency accredited by a SANAS or a Registered Auditor approved by IRBA or a sworn affidavit.

LETTER OF GOOD STANDING FROM DEPARTMENT OF LABOUR (COID)

The Tenderer must attach hereto proof of compliance with the relevant requirements of the compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993).

CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB)

Only bidders with a Construction Industry Development Board category and classification grading as indicated in the tender advert will be considered for award.

Please attach a copy of proof of the bidder's CIDB grading to this page.

CERTIFICATE OF ATTENDANCE OF SITE INSPECTION MEETING

CONSTRUCTION OF EMARASTENI BRIDGE – WARD 11

(Please print)

It is hereby CERTIFIED that I, *(name)*

in my capacity as.....and a duly authorized

representative of..... *(the TENDERER)*

of *(address)*.....

in the company of.....*(the ENGINEER)*

attended the official Site Inspection on*(date)*

for and on behalf of the above-named Tenderer.

I hereby further DECLARE that I am satisfied with the description of the Works and the explanations given by the above-named Engineer.

Particulars of person(s) attending the meeting:

Name: Signature:

Capacity:

Name: Signature:

Capacity:

Attendance of the above person(s) at the meeting is confirmed by the Employer's representative, namely:

Name: Signature:

Capacity: Date and Time:



Municipality or Departmental Stamp

PART 1: AGREEMENT AND CONTRACT DATA

C1

Contractor

Employer

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C1.1 FORM OF OFFER (AGREEMENT)

C1.1.1 FORM OF OFFER

THE TENDERER IS TO COMPLETE AND SIGN THE FORM OF OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

CONTRACT - CONSTRUCTION OF EMARASTENI BRIDGE – WARD 11

The Tenderer, identified in the Offer signature block below, has examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the tenderer offers to perform all of the obligations and liabilities of the contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be

determined in accordance with the Conditions of Contract identified in the Contract Data.

The Contract shall be completed
within

Ten 10

months of the Commencement Date.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS:

.....

.....RAND (in words);

R (in figures)

This offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

THE OFFERED RATES ARE FIRM

C.1.1

Contractor

Employer

This offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

Signature(s)

Name(s)

Capacity

For the Tenderer

(Name and address of organisation)

**Name and
signature of
witness**

Date _____

C.1.2

Contractor

Employer

C1.1.2 FORM OF ACCEPTANCE

THE EMPLOYER IS TO COMPLETE AND SIGN THE FORM OF ACCEPTANCE

By signing this part of the Form of Offer and Acceptance, **the Employer** identified below accepts the Tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's Offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the Contract that is the subject of this Agreement.

The terms of the contract are contained in

- Part 1 Agreement and Contract Data, (which includes this Agreement)
- Part 2 Pricing Data
- Part 3 Scope of Work
- Part 4 Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The Tenderer shall within **twenty (28) days** after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the employer's agent (whose details are given in the Contact Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date of this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now the Contractor) within **five days** after the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute binding contract between the parties,

FOR EMPLOYER OFFICIAL USE ONLY

Signature(s)

Name(s)

Capacity

For the
Employer

*AbaQulusi Municipality, Main Office Building, c/o Mark & High Streets,
Vryheid 3100*

(Name and address of organisation)

Name and
signature of
witness

Date

C.1.3

Contractor

Employer

C1.1.3 SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the tender documents issued by the employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender;
2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid become the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here;
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here; and
4. Any change or addition to the tender documents arising from the above arrangements and recorded here shall also be incorporated into the final draft of the Contract.

1 **Subject** _____

Details _____

2 **Subject** _____

Details _____

3 **Subject** _____

Details _____

4 **Subject** _____

Details _____

5 **Subject** _____

Details _____

6 **Subject** _____

Details _____

7 **Subject** _____

Details _____

8 **Subject** _____

Details _____

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and the Employer during the process of offer and acceptance.

C.1.4

Contractor

Employer

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the Tenderer of a completed and signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

**For the Tenderer:
Signature(s)**

Name(s)

Capacity

**Name and
signature of
witness**

(Name and address of organisation)

Date

**For the Employer:
Signature(s)**

Name(s)

Capacity

**Name and
signature of
witness**

*AbaQulusi Municipality, Main Office Building, c/o Mark & High Streets,
Vryheid 3100*

(Name and address of organisation)

Date

C.1.5

Contractor

Employer

C1.2.1 PART 1: DATA PROVIDED BY THE EMPLOYER

The General Conditions of Contract for Construction Works Third Edition (2015), published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to this Contract and is obtainable from www.saice.org.za.

The following contract specific data are applicable to this Contract:

C.1.6

GCC Clause	Information
5.1.1 and 5.8.1	The non-working days are Sundays Special non-working days are: 1. All Public Holidays in terms of the Public Holidays Act as amended. 2. The year-end break as published by SAFCEC.
5.3.1	The documentation required before commencement with Works execution are: • Approved Health and Safety File (Clause 4.3) • Initial programme (Clause 5.6) • Guarantee from Bank or Insurance Company (Clause 6.2) • Insurance of Construction Machinery Plant (Clause 8.6) • Insurance of Motor Vehicle Liability (Clause 8.6) • Insurance of the works (Clause 8.6) • Signed Notification to the Department of Labour • Construction Permit were applicable
5.3.2	The time to submit the Contract documentation required before commencement of the Works is 14 days.
5.13.1	The penalty for failing to complete the Works is R1, 000.00 per day.
5.16.3	The latent defects period is 10 years.
6.2.1	The liability of the guarantee shall be 10% of the tendered sum
6.8.2	The effect of changes in prices or law on the amounts due shall be adjusted on the following basis: a) No price adjustment over the first 12-month period of the Contract. b) On the 12-month anniversary date of the signing of the agreement the rates shall be adjusted by twelve-month year on year CPI index (as published in the monthly bulletin PO141.1 of statistics South Africa) ruling on the 12-month anniversary date of the signing of the Agreement and fixed at this value for the following 12-month period. Subsequent 12-month periods shall be dealt with on a similar basis.
6.8.3	Price adjustments for variations in the costs of special materials are NOT allowed.
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%. Proof of ownership and idemnity is required.
6.10.3	The percentage retention on the amounts due to the Contractor is 10%.
6.10.3	The limit of retention money is 10% of the contract price
8.6.1.1.2	The value of plant and materials supplied by the Employer to be included in the insurance sum is Nil
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is R2 500 000 .
8.6.1.2	Following the introduction of legislation affecting the articles of the South African Special Risks Insurance Association (SASRIA) , insurance cover for loss or damage to the Works caused by any event defined as a risk in terms of the insurance offered by SASRIA, will be provided under a certificate issued by SASRIA.
8.6.1.3	Public Liability Insurance which will provide indemnity against legal liability in the event of accidental death of or injury to third party persons and/or loss or damage to third party property arising directly from the execution of the Contract and occurring during the period of Insurance with a limit of indemnity of R5million in respect of all claims arising from any one occurrence or

C.1.7

Contractor

Employer

GCC Clause	Information
	series of occurrences consequent on or attributable to one source or original cause.
10.5.3	The adjudication board shall consist of one member.
10.7.1	The determination of disputes shall be by arbitration

C1.2.1.1 Variations to General Conditions of Contract

Add the following Table:

3.2.4	Employer's Agent for Health and Safety Replace Clause 3.2.4 with the following: 'In terms of Clause 1.3.2, all parties to the Contract shall be subject to the relevant requirements of the Construction Regulations 2014 (as amended) of the Occupational Health and Safety Act, Act 85 of 1993 (as amended).' Add the following at the end of the above new replacement Clause 3.2.4: 'Where the Employer is obliged to appoint an Employer's Agent for Health and Safety in terms of the Construction Regulations 2014 (as amended) of the Occupational Health and Safety Act (Act 85 of 1993 as amended), and where such Employer's Agent for Health and Safety has complied with the registration requirements of a Construction Health and Safety Agent as a specified category in terms of section 18 (1) (c) of the Project and Construction Management Professions Act (Act 48 of 2000), the applicable clauses of the latest edition of the "Standard Scope Of Services for Construction Health and Safety Agents Registered In Terms Of Section 18(1)(c) of the Project And Construction Management Professions Act (Act No. 48 Of 2000)", including Clauses 2.2.5 "STAGE 5 - CONSTRUCTION DOCUMENTATION AND MANAGEMENT", and 2.2.6 "STAGE 6 - PROJECT CLOSE – OUT", and 2.2.7 "ADDITIONAL RELATED SERVICES", as published in "Registration Rules for Construction Health and Safety Agents in Terms of Section 18 (1) (c) of the Project and Construction Management Professions Act, 2000 (Act No. 48 of 2000)" by the South African Council for Construction and Project Management Professionals in terms of the Project and Construction Management Professions Act (Act 48 of 2000 as amended), shall also apply.'
5.3.3	Time to instruct commencement of the Works Delete Clause 5.3.3 and replace with the following: The Contractor shall commence with carrying out the Works upon written instruction from the Employer's Agent to commence with the Works.
6..10.4	Delivery, dissatisfaction with and payment of payment certificates Delete Clause 6.10.4 and replace with the following: Payment shall be made upon: • The Contractor will provide a payment certificate with quantities to the Employer's Agent before or on the 20th of every month. • After the payment certificate has been approved by Employer's Agent, the Contractor must issue an Original Tax Invoice compliant with SARS requirements for Valid Tax Invoice. The date of the Original Tax Invoice must be date the

C.1.8

Contractor

Employer

	Employer's Agent approved the Payment Certificate. The certificate will then be ready for handing in to the Employer. • Payment will be made end of the following month. Payment shall be subject to the Contractor submitting an Original Tax Invoice compliant with SARS requirements for Valid Tax Invoice to the Employer for the amount due. Any dissatisfaction in respect of such payment certificate shall be dealt with in terms of Clause 10.2.
6.10.5	Payment of Retention Money Amend Clause 6.10.5 as follows: In the third line, delete the word "when" and replace with "within 35 days after" In the sixth line, delete "14 days" and replace with "35 days" Add this paragraph at the end of the Clause, "Payment shall be subject to the Contractor submitting an Original Tax Invoice compliant with SARS requirements for Valid Tax Invoice to the Employer for the amount due."
6.11	Delete Clause 6.11. General items will not be adjusted should there be a decrease or increase of scope.
7.8.2	Cost of making good of defects Amend Clause 7.8.2.1 as follows: In the first line, correct the spelling of 'therefore'.
8.3.1	Excepted risks Amend Clause 8.3.1.11 as follows: In the second line, delete the words 'Employer or any of their' and substitute with 'or any of its'.
8.4.1.1	Add to the end of Clause 8.4.1.1 the following text: "hereby indemnifies the Employer against any liability in respect of damage or physical loss of property of any person or injury or death of any person due to non-compliance with the Occupational Health and Safety Act (Act 85 of 1993), "

C1.2.1.2 Additions to General Conditions of Contract

Add the following Table:

1.1	Definitions Add the following at the end of Sub-Clause 1.1.1:
1.1.1.34	"Client", as used in the Occupational Health and Safety Act and its Construction Regulations, means Employer.
1.1.1.35	"Principal Contractor", as used in the Occupational Health and Safety Act - Construction Regulations, means Contractor.
C1.1.1.2.2	Source of instructions The Contractor shall neither seek nor accept instructions from any authority external to the Employer's Agent or their authorized representatives in connection with the performance of his services under this Contract.

C1.2.1.2.3	Officials not to benefit The Contractor warrants that no official of the Employer has been or shall be admitted by the Contractor to any direct or indirect benefit arising from this Contract or the award thereof. The Contractor agrees that breach of this provision is a breach of the Contract.
C1.2.1.2.4	Prevention of corruption The Employer shall be entitled to cancel the Contract and to recover from the Contractor the amount of any loss resulting from such cancellation, if the Contractor has offered or given any person any gift or consideration of any kind as an inducement or reward for doing or intending to do any action in relation to the obtaining or the execution of the Contract or any other contract with the Employer or for showing or intending to show favor or disfavor to any person in relation to the Contract or any other contract with the Employer, if the like acts shall have been done by any persons employed by him or acting on his behalf whether with or without the knowledge of the Contractor in relation to this or any other Contract with the Employer.
C1.2.1.2.5	Confidential nature of documents All maps, drawings, photographs, mosaics, plans, reports, recommendations, estimates, documents and all other data compiled by or received by the Contractor under the Contract shall be the property of the Employer, shall be treated as confidential and shall be delivered only to the Employer's Agent or his duly authorized representative on completion of the Works; their contents shall not be made known by the Contractor to any person other than the personnel of the Contractor performing services under this Contract without the prior written consent of the Employer.
C1.2.1.2.6	Returns of labour, plant, equipment and material The Contractor shall provide a return in detail in the form and at such intervals as the Employer's Agent or his duly authorized representative may prescribe showing the supervisory staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting constructional plant, equipment and material as the Employer's Agent or his duly authorized representative may require.
C1.2.1.2.7	Date falling on public holiday or weekend Where under the terms of the Contract any act is to be done or any period is to expire upon a certain day and that day or that period fall on a day of rest or recognized holiday or weekend, the Contract shall have effect as if the act were to be done or the period to expire upon the working day following such day.
C1.2.1.2.8	Ambiguities and inconsistencies The Employer or the Contractor shall notify the other as soon as either becomes aware of an ambiguity or inconsistency in or between the documents, which are part of this Contract. Governed by the spirit and intention of the Contract, the Employer's Agent shall give a binding instruction resolving the ambiguity or inconsistency.
C1.2.1.2.9	False claims by the Contractor a) Failure, by the Contractor, to demonstrate or present any feature declared during the procurement stage shall constitute grounds for Contract termination or the market related equivalent price discount, if no market related value is available, the Employer shall give a final ruling on the amount. This shall be at the discretion of the Employer based on the implication of such omission. Should the Contractor refuse to accept the Employer's price, the Contract shall be terminated. b) Any false claims by the Contractor or his staff (with or without his knowledge), based on Works to be performed or completed per site stage shall constitute grounds for Contract termination and result in blacklisting on the Employer's database. The Contractor shall note that any of the above shall constitute non-performance on the part of the Contractor, further resulting in him forfeiting his full Contract Guarantee.

C1.2.2 PART 2: DATA PROVIDED BY THE CONTRACTOR

GCC Clause	Information
Clause 1.1.1.9	The name of the Contractor is
Clause 1.2.1.2	The address of the Contractor is: Physical Postal Tel: Fax: Email:

C.1.11

Contractor

Employer

PART 1: FORMS AND SECURITIES

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C1.ii

Contractor

Employer

C1.3 FORMS AND SECURITIES

FORMS FOR COMPLETION BY THE CONTRACTOR

THE FOLLOWING FORMS ARE TO BE COMPLETED BY THE CONTRACTOR AFTER THE TENDER HAS BEEN AWARDED TO THE SUCCESSFUL TENDERER

a) Form of Guarantee

The forms will be completed by the Contractor who will be instructed to do so in the Form of Acceptance. The completed forms will become part of the Contract.

The Form of Guarantee is a pro forma document. The Contractor will provide an original document, from a financial institution, with the same text within the time stated in the Contract Data. Only a Bank or approved Insurance Company or Guarantee Corporation is acceptable as Guarantor.

C1.3.1 Form of Guarantee

TO BE PRINTED ON THE OFFICIAL LETTERHEAD OF THE GUARANTOR.

PERFORMANCE GUARANTEE

WHEREAS Abaqulusi Municipality (hereinafter referred to as “the Employer” or “beneficiary”) entered into a Contract with

(hereinafter called “the Contractor”)

on the ____ day of _____ 20____ for the construction of

at _____

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of a guarantee for the due and faithful fulfilment of such Contract by the Contractor;

AND WHEREAS _____
has/have at the request of the Contractor, agreed to such guarantee;

NOW THEREFORE WE, _____
Do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to the Employer under renunciation of the benefits of division and excussion for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorised and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Completion Date of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alteration of the Completion Date which the Employer may make, give, concede or agree to under the said Contract.
2. This guarantee shall be limited to the payment of a sum of money.
3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.
4. This guarantee shall remain in force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
5. Our total liability hereunder shall not exceed the sum of _____

C1.2

Contractor

Employer

_____ (R _____)

6. The guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon the Guarantor's liability hereunder shall cease.

7. We hereby choose our address for the serving of all notices for all purposes arising here from as

IN WITNESS WHEREOF this guarantee has been executed by us at _____

on this _____ day of _____ 20__

As witnesses

1. _____

Signature

2. _____

Duly authorised to
sign on behalf of

Address

C1.4 AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993

THIS AGREEMENT is made between
(hereinafter called the Employer) of the one part, herein represented by:
.....
In his capacity as:
AND:
(hereinafter called the Contractor) of the other part, herein represented by:
.....
in his capacity as:
duly authorized to sign on behalf of the Contractor.

WHEREAS the Contractor is the Mandatory of the Employer in consequence of an agreement between the Contractor and the Employer in respect of

CONTRACT NO: 8/2/1/523 CONSTRUCTION OF EMARASTENI BRIDGE – WARD 11

for the construction and completion of the works;

AND WHEREAS the Employer and the Contractor have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHS Act Amendment Act No 181/1993 (hereinafter referred to as the Act);

NOW THEREFORE the parties agree as follows:

1. The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with all relevant provisions of the Act and the regulations promulgated in terms thereof.
2. The Contractor undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations: Provided that should the Employer have prescribed certain arrangements and procedures that same shall be observed and adhered to by the Contractor, his officials and employees. The Contractor shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The Contractor hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the Act and Regulations, and the Contractor expressly absolves the Employer and the Employer's Consulting Engineers from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. The Contractor agrees that any duly authorized officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the Contractor has complied with his undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or to take such steps it may deem necessary to remedy the default of the Contractor at the cost of the Contractor.
5. The Contractor shall be obliged to report forthwith to the Employer any investigation, complaint

C1.4

Contractor

Employer

or criminal charge which may arise as a consequence of the provisions of the Act and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Thus signed at for and on behalf of the **CONTRACTOR**

on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

Thus signed at for and on behalf of the **EMPLOYER** on this

the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

PART 2: PRICING DATA

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C2 PRICING DATA

C2.1 PRICING INSTRUCTIONS

C2.1.1 GENERAL PREAMBLE TO THE BILL OF QUANTITIES

- a) All items in the Bill of Quantities, except where otherwise specified in Clause 8 of a Standardised Specification or in the Project Specification, shall be measured and shall cover operations as recommended in the standard system of measurement of civil engineering quantities, published under the title “Civil Engineering Quantities”, by the South African Institution of Civil Engineering.
- b) The basis and principles of measurement and payment are described in this section (Pricing Instructions) and Clause 8 of each of the Standardised Specifications for Civil Engineering Construction. The applicable SANS 1200 Standardised Specifications are listed in the Scope of Work, Portion 1: Project Specification. Variations and amendments to the Standardised Specifications are contained in the Scope of Work, Portion 2: Variations and Additions to the Standardised Specifications.
- c) Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification or the Scope of Work, conflict with the terms of the Bill of Quantities, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.
- d) The clauses in a specification in which further information regarding the Schedule item may be found are listed in the “Payment Refers” column in the Schedule. The reference clauses indicated are not necessarily the only sources of information in respect of listed items. Further information and specifications may be found elsewhere in the Contract Documents. Standardised Specifications are identified by the letter or letters which follow SANS in the SANS 1200 series of specifications, e.g. G for SANS 1200G.
- e) Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- f) The quantities set out in the Bill of Quantities are the estimated quantities of the Contract Works, but the Contractor shall be required to undertake whatever quantities may be directed by the Engineer from time to time. The Contract Price for the completed Works shall be computed from the actual quantities of work done, valued at the relevant unit rates and/or prices.
- g) The rates and/or prices to be inserted in the Bill of Quantities are to be the full inclusive prices for the work described under the several items. Such rates and/or prices shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents, as well as overhead charges and profit. Reasonable charges shall be inserted as these shall be used as a basis for assessment of payment for additional work that may have to be carried out.
- h) A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Schedule.
- i) The units of measurement described in the Bill of Quantities are metric units. Alternatives used are as follows :

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
km	=	kilometre	t	=	ton (1000kg)
m ²	=	square metre	No.	=	number
m ² pass	=	square metre pass	sum	=	lump sum
ha	=	hectare	MN	=	meganewton
m ³	=	cubic metre	MN.m	=	meganewton-metre
m ³ km	=	cubic metre-kilometre	P Csum	=	Prime Cost sum
l	=	litre	Prov sum	=	Provisional sum
kl	=	kilolitre	%	=	percent
MPa	=	megapascal	kW	=	kilowatt

- j) For the purpose of this Bill of Quantities, where applicable, the following words shall have the meanings hereby assigned to them:

Unit : The unit of measurement for each item of work as defined in the COLTO Standard Specification for Road and Bridge Works for State Authorities (1998 edition).
Quantity : The number of units of work for each item.
Rate : The agreed payment per unit of measurement.
Amount : The product of the quantity and the agreed rate for an item.
Lump sum : An agreed amount for an item, the extent of which is described in the Bills of Quantities but the quantity of work of which is not measured in any units.

- k) Arithmetical errors in the Bill of Quantities shall be corrected in accordance with Clause F3.9 of the Conditions of Tender. Should there be any discrepancy between rates and/or prices written in the Assessment Schedule and the Bill of Quantities, the latter shall govern.
l) The Bill of Quantities shall be completed by hand in **BLACK PEN INK**.

C2.1.2 Special payment conditions

This clause shall be read in conjunction with the 'Penalties' clause(s). Where the penalty clause shall always receive precedence over this clause, should it be found that duplicative financial corrective measures exists.

C2.1.2.1 Provided previously

The Contractor shall not re-execute works under this Contract where he has successfully executed works for the Employer under a previous contract(s) that comply with the requirements of this Contract. However, where applicable the Contractor shall:

- a) clearly state this in his qualifications; and
- b) still provide the associated rates and prices in the schedule in the associated line item, but not calculate an associated amount.

The Employer shall at his sole discretion decide to re-execute such works.

C2.1.2.2 Materials and equipment

The Employer shall not provide any works material and equipment, as this shall be provided by the Contractor and deemed to have been included in his provided activity rates or prices.

C2.1.2.3 Confined space

The Contractor shall note that work activities shall be executed within confined spaces and it shall be deemed that allowance has been made in all activity pricing.

C2.1.2.4 Contract Price Adjustment

The effect of changes in prices or law on the amounts due shall be adjusted on the following basis:

- a) No price adjustment over the first 12-month period of the Contract.
- b) On the 12-month anniversary date of the signing of the agreement the rates shall be adjusted by twelve-month year on year CPI index (as published in the monthly bulletin PO141.1 of statistics South Africa) ruling on the 12-month anniversary date of the signing of the .

C2.1.2.5 Preliminary and General

Preliminary and General items shall be limited to a maximum of twenty five percent (20%) of the total Contract Value.

C2.1.2.6 Contractor Appointment

Contractors will only be appointed for value of work in their CIDB grading category only.

C2.1.2.7 Rates Negotiation

Rates will be negotiated with the short-listed Tenderers.

Reference	Clause	Insertion
6.1	Payment for the Labour-Intensive Component of the Works: Those parts of the works to be constructed using labour-intensive methods are marked in the bill of quantities with the letters LI either in a separate column or as a prefix or suffix against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a deviation from the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works. Where minimum labour intensity is specified in the design, the contractor is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity targets. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict	C2.1: Pricing Data; Preamble to Bill of Quantities
6.2	Linkage of Payment for Labour-Intensive Component of Works to Submission of Project Data The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframes stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted. The client may institute a penalty relating to outstanding labour information. The following information shall be maintained on site and submitted in electronic/hard copy formats: • Certified ID copies of all locally employed labour • Signed Contracts between the employer and the EPWP Participants • Attendance Registers for the EPWP Participants	

	• Proof of Payment of EPWP Employees • Monthly Reporting Template as per EPWP requirements	
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ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C1.2	GENERAL REQUIREMENTS AND PAYMENT					
C1.2.5	Safety & Environmental					
C1.2.5.1	Health and safety plan (risk assessments, safe work procedures, the project health and safety file, the health and safety plan and any other contractor deems necessary, including handing over records to the Employer.)	Lump Sum		1		
C1.2.5.2	Implementation of health and safety plan	month		10		
C.1.2.5.3	Monitoring of compliance with and reporting on the EMP	month		10		
PSC1.2.10	Compensation for Community Liaison Officer					
(a)	Provisional sum for the payment of the Community Liaison Officer (4500/month)	Prov Sum		1	R45 000,00	R 45 000,00
(b)	Handling cost and profit in respect of PSC1.2.10(a)	%		45000		
C1.2.8	Dayworks					
C1.2.8.1	Personnel					
(a)	Unskilled labourer	hour	LI	16		
(b)	Semi-skilled labourer	hour	LI	16		
(c)	Skilled labourer	hour	LI	16		
(e)	Foreman	hour	LI	16		
C1.2.8.2	Construction Equipment					
(e)	Excavator	hour		8		
(f)	Compressor	hour		8		
(h)	Other equipment (specify)					
(i)	Tipper truck, 6.0m3	hour		8		
(ii)	Generators 5KVA	Day		5		
C1.2.8.3	Vehicles					
(a)	Light delivery vehicle	km		3000		
C1.2	TOTAL CARRIED TO SUMMARY					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C1.3	CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS					
C1.3.1	The Contractor's general obligations					
C1.3.1.1	Fixed obligations	Lump Sum		1		
C1.3.1.2	Value-related obligations	Lump Sum		1		
C1.3.1.3	Time-related obligations	month		10		
C1.3.2	Contract sign boards	m ²		11,75		
C1.3	TOTAL CARRIED FORWARD TO SUMMARY					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C1.4	FACILITIES FOR THE ENGINEER					
C1.4.1	Site accommodation The provision of accommodation as specified, including roof, external and internal walls, windows complete with glazing, doors with locks and fittings, burglar proofing, painting, floors, fencing, the provision of 220/250 volt electrical installation with wiring, switchboards, etc. water and sewerage installation, and stores, complete, in accordance with the drawings and specifications, except for items scheduled elsewhere:					
C1.4.1.1	Offices and conference room	m ²		60		
C1.4.1.6	Car ports	No		4		
C1.4.1.7	Ablution unit (equipment as specified)	No		2		
C1.4.2	Items measured by area					
C1.4.2.8	Notice boards	m ²		2		
C1.4.3	Items measured by number					
C1.4.3.2	Office chair	No		8		
C1.4.3.5	Office desk with 3 drawers (at least one lockable drawer)	No		2		
C1.4.3.8	Conference table	No		1		
C1.4.3.9	Bookcase	No		1		
C1.4.3.10	Filling cabinet	No		1		
C1.4.3.11	General purpose steel cabinet with shelves	No		1		
C1.4.3.13	220/250 volt power outlet plug point	No		1		
C1.4.3.14	400/231 volt 2-phase power outlet plug point	No		1		
C1.4.3.17	11 watt compact fluorescent bulb ceiling light	No		2		
C1.4.3.19	Wash-hand basin	No		1		
C1.4.3.23	Fire extinguisher 9,0 kg, dry powder type	No		2		
C1.4.3.24	Air-conditioning unit	No		1		
C1.4.3.25	Heater	No		2		
C1.4.3.36	Measuring wheel	No		1		
C1.4.3.30	A4 colour printer, copier, scanner	No		1		
C1.4.4	Prime cost items					
C1.4.4.1	Cell phones costs, including pro-rate rentals, for calls made in connection with contract administration	PC Sum		1	R45 000,00	R 45 000,00
C1.4.4.2	Handling cost and profit in respect of item C1.4.4.1	%		R 45 000,00		
C1.4.4.5	The provision of internet connectivity and WIFI data for Engineer's site staff	PC Sum		1	R10 000,00	R 10 000,00
C1.4.4.6	Handling cost and profit in respect of item C1.4.4.5	%		R 10 000,00		
C1.4.4.7	The provision of paper and ink for a combination colour printer/copier/scanner	PC Sum		1	R15 000,00	R 15 000,00
C1.4.4.8	Handling cost and profit in respect of item C1.4.4.7	%		R 15 000,00		
C1.4.5	Services at site offices, laboratories and site accommodation					
C1.4.5.1	Fixed costs	Lump Sum		1		
C1.4.5.2	Running costs	month		10		
C1.4	TOTAL CARRIED FORWARD TO SUMMARY					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C1.5	ACCOMMODATION OF TRAFFIC					
C1.5.2	Accommodation of vehicular traffic	month		10		
C1.5.4	Construction of temporary deviations					
C1.5.5	Maintenance of temporary deviations					
C1.5.5.9	Grading of temporary deviations and existing roads used as detours	km		10		
C1.5.5.10	Watering of temporary deviations and existing roads used as detours	kl		300		
C1.5.5.11	Other road maintenance work ordered by the Engineer	Prov Sum		1	R100 000,00	R 100 000,00
C1.5.5.12	Handling cost, profit and all other charges in respect of item C1.5.5.12	%		100000		
C1.5.7	Temporary traffic control facilities					
C1.5.7.1	Delineators including mounting bases and ballast:					
(a)	Single sided, reversible left or right (DTG 50J)(TW401/TW402)(800mm x 200mm)	No		40		
(b)	Double sided, reversible left or right ((DTG 50J)(TW401/TW402)(800mm x 200mm)	No		40		
C1.5.7.2	Traffic cones, minimum height 750 mm	No		20		
C1.5.7.3	Flagmen	man-shift	LI	440		
C1.5.7.5	Provision of illuminated traffic signs					
(c)	Illuminated road sign - R & TR series (1200mm)	Month		8		
(d)	Illuminated road sign - TW series (1500mm)	Month		8		
C1.5.11	Provision of safety equipment for visitors					
C1.5.11.1	Provision of reflective safety vests for visitors	No		20		
C1.5.11.2	Provision of hard hats for visitors	No		20		
C1.5.12	Additional traffic accommodation facilities ordered by the Engineer:					
C1.5.12.1	Provision of additional traffic accommodation facilities	Prov Sum		1	R20 000,00	R 20 000,00
C1.5.12.2	Handling cost, profit and all other charges in respect of item C1.5.12.1	%		R 20 000,00		
C1.5	TOTAL CARRIED FORWARD TO SUMMARY					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C1.6	CLEARING AND GRUBBING					
C1.6.1	Clearing					
C1.6.1.1	Clearing with machines and some hand labour where necessary	ha		0,30		
C1.6	TOTAL CARRIED FORWARD					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C1.7	LOADING AND HAULING					
C1.7.1	Loading					
C1.7.1.1	Loading from stockpile using machines and some hand labour where necessary	m ³		500,00		
C1.7.2	Hauling					
C1.7.2.1	Hauling material for use in the Works and off-loading it on the site of the Works:					
(a)	Soil, gravel, crushed stone and pavement layer material	m ³ - km		12 500,00		
C1.7.2.2	Hauling material to spoil and off-loading it at a designated spoil or stockpile are:					
(b)	Soil and gravel material	m ³ - km		2 500		
(c)	Boulders, hard material and concrete	m ³ - km		1 134		
C1.7 TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C3.1	DRAINS					
C3.1.1	Excavation for open drains:					
C3.1.1.1	Excavating all material situated within the following depth ranges below the surface level using conventional methods :					
(a)	0m to 1.5m	m ³		400		
C3.1.1.2	Extra over sub-item C3.1.1.1 for excavation in hard and boulder material , irrespective of depth	m ³		75		
C3.1	TOTAL CARRIED FORWARD TO SUMMARY					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C3.3	CONCRETE KERBING AND CHANNELING, ASPHALT BERMES, CHUTES, DOWNPIPES, AS WELL AS CONCRETE, STONE PITCHED AND GABION LININGS FOR OPEN DRAINS					
C3.3.8	Linings for open drains:					
C3.3.8.1	Cast in situ concrete lining (20MPa concrete V-drain)	m³	LI	120		
C3.3.8.2	ClassU2 surface finish to cast in situ concrete (V-drain)	m³	LI	406		
C3.3.9.2	To sides with formwork on both internal and external faces (each face measured)	m³	LI	140		
C3.3.12.3	Welded steel fabric	kg	LI	1 950		
C3.3	TOTAL CARRIED FORWARD TO SUMMARY					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C4.2	CUT MATERIALS					
C4.2.3	Excavating of materials in cuttings, material obtained					
C4.2.3.1	Soft excavation	m3		4000		
C4.2.7	Removal of unsuitable stable cut material to spoil					
C4.2.7.1	In layer thicknesses of 200 mm and less	m3		2000		
C4.2	TOTAL CARRIED FORWARD TO SUMMARY					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C5.2	FILL					
C5.2.2	Fill construction					
C5.2.2.1	Normal fill material in compacted layer thicknesses of 200 mm and less:					
(a)	Compacted to 90% MDD	m3		4000		
C5.2	TOTAL CARRIED FORWARD TO SUMMARY					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C11.1	PITCHING, STONEMWORK, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION					
C11.1.2	Stone pitching					
C11.1.2.2	Grouted stone pitching with mortar	m²	LI	200		
C11.1.2.3	Grouted stone pitching on a concrete bed	m²	LI	100		
C11.1	TOTAL CARRIED FORWARD TO SUMMARY					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C11.2	NON-STRUCTURAL GABIONS					
C11.2.1	Foundation trench excavation:					
C11.2.1.1	Excavating all material situated within the following depth ranges below the surface level					
(a)	0 m to 1,5 m	m³	LI	300,00		
C11.2.2	Surface preparation for bedding the gabion boxes and mattresses	m²	LI	288,00		
C11.2.3	Gabion boxes and mattresses:					
C11.2.3.1	Galvanized gabion boxes (Length 2m, depth 1m, width 1m and nominal diameter of mesh wire 2.7mm, mesh size 80mm x 100mm)	m³	LI	240,00		
C11.2.3.3	Galvanized gabion mattresses (Length 2m, depth 1m, width 0.3m and nominal diameter of mesh wire 2.7mm, mesh size 80mm x 100mm)	m³	LI	70,00		
C11.2.4	Geotextile (Grade A4)	m²	LI	800,00		
C11.2 TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C11.8	LANDSCAPING AND PLANTING PLANTS					
C11.8.3	Preparing the areas for grassing:					
C11.8.3.3	Topsoiling within the road reserve where the following materials are used:					
(a)	Topsoil obtained from within the road reserve or borrow areas	m³	LI	300		
C11.8.4	Grassing					
C11.8.4.5	Hand sowing	m²	LI	2000		
C11.8	TOTAL CARRIED FORWARD TO SUMMARY					

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C13.1	FOUNDATIONS					
C13.1.2	Additional foundation investigations:					
C13.1.2.1	Provisional sum allowed for additional foundation investigations	Prov Sum		1	R90 000,00	R 90 000,00
C13.1.2.2	Handling costs and profit in respect of item C13.1.2.1	%		90 000		
C13.1.3	Excavation:					
C13.1.3.1	Excavating soft material situated within the following successive depth ranges:					
	(a) 0 m up to 1,5 m	m³		750		
	(b) > 1,5 m and < 3,0 m	m³		300		
C13.1.3.2	Extra over subitem C13.1.3.1 for excavation in hard material irrespective of depth	m³		100		
C13.1.3.3	Extra over subitem C13.1.3.1 for additional excavation required by the Engineer after excavation is complete	m³		80		
C13.1.6	Access and drainage:					
C13.1.6.1	Access	Prov Sum		1	R100 000,00	R 100 000,00
C13.1.6.2	Drainage	Prov Sum		1	R100 000,00	R 100 000,00
C13.1.7	Backfill to excavations utilising:					
C13.1.7.1	Material from excavation	m³		800		
C13.1.7.2	Imported material	m³		400		
C13.1.9	Fill within a restricted area (extra over item C5.2.2)	m³		200		
C13.1.14	Foundation fill consisting of:					
C13.1.14.1	Rock fill using 100mm-300mm dump rock and fines, covered with a heavy filter fabric (U44)	m³		1 200		
C13.1.14.5	Concrete blinding (75mm minimum thickness and class 15/19)	m³		80		
C13.1 TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C13.2	FALSEWORK, FORMWORK AND CONCRETE FINISH					
C13.2.2	Vertical formwork to provide					
	(a) Class F1 surface finish to :					
	(i) Concealed vertical faces of Abutments, Return Walls and Apron slab	m²	LI	230		
	(ii) Foundation Slab	m²	LI	100		
	(b) Class F2 surface finish to:					
	(i) Exposed vertical faces of Abutments and Return Walls	m²	LI	180		
	(ii) Exposed vertical faces of Piers and Deck	m²	LI	700		
	(c) Class F3 surface Finish:					
	(i) Exposed vertical faces of the Bollards	m²	LI	120		
C13.2.3	Horizontal formwork to provide class F2 surface finish to:	m²				
	(a) Deck soffit	m²	LI	500		
C13.2 TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C13.3	STEEL REINFORCEMENT					
C13.3.1	Reinforcement for:					
C13.3.1.1	Foundation slab, Piers, Deck slab and Abutments					
(a)	Mild-steel bars	t	LI	1		
(b)	High yield stress steel bars	t	LI	66		
C13.3 TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C13.4	CONCRETE					
C13.4.1	Cast in situ concrete.					
C13.4.1.1	Strength concrete (class 30/19):					
	(a) Piers and Deck slab including Bollards	m³	LI	120		
	(b) Abutments and Return Walls including Approach slab	m³	LI	35		
	(c) Foundation slab	m³	LI	85		
C13.4 TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C13.8	ANCILLARY STRUCTURAL ELEMENTS					
C13.8.10.2	Weep holes:					
	(a) 12mm dia. PVC	No		36,00		
C13.8.12	Synthetic-fibre filter fabric (type indicated and	m2		50		
C13.8 TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C13.10	PAINTING OF MINOR STRUCTURES					
C13.10.1	Painting:					
C13.10.1.1	(a) Waterproofing all exposed surfaces of structure using Dynasylan BH or similar approved	m2	LI	600		
	(b) Bituminous coating to all surfaces in contact with earth fill	m2	LI	50		
C13.10 TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C14.3	DEMOLITION AND REMOVAL OF STRUCTURAL CONCRETE AND STEELWORK					
C14.3.1	Demolition of concrete members or elements					
C14.3.1.1	Full member or element (Existing Structure)	m ³		45		
C14.3 TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C20.1	TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP					
C20.1.2	Special tests requested by the Engineer					
C20.1.2.2	Employer’s contribution to other special tests					
(a)	Specify test	Prime Cost		1	R90 000,00	R 90 000,00
(a.i)	Handling costs and profit in respect of item C20.1.2.2(a)	%		R 90 000,00		
C20.1	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS - SUMMARY			
CHAPTER	DESCRIPTION	FROM PAGE	AMOUNT
C1.2	GENERAL REQUIREMENTS AND PAYMENT		
C1.3	CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS		
C1.4	FACILITIES FOR THE ENGINEER		
C1.5	ACCOMMODATION OF TRAFFIC		
C1.6	CLEARING AND GRUBBING		
C1.7	LOADING AND HAULING		
C3.1	DRAINS		
C3.3	CONCRETE KERBING AND CHANNELING, ASPHALT BERMS, CHUTES,		
C4.2	CUT MATERIALS		
C5.2	FILL		
C11.1	PITCHING, STONEMWORK, CAST IN SITU CONCRETE FOR PROTECTION		
C11.2	NON-STRUCTURAL GABIONS		
C11.8	LANDSCAPING AND PLANTING PLANTS		
C13.1	FOUNDATIONS		
C13.2	FALSEWORK, FORMWORK AND CONCRETE FINISH		
C13.3	STEEL REINFORCEMENT		
C13.4	CONCRETE		
C13.8	ANCILLARY STRUCTURAL ELEMENTS		
C13.10	PAINTING OF MINOR STRUCTURES		
C14.3	DEMOLITION AND REMOVAL OF STRUCTURAL CONCRETE AND		
C20.1	TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP		
TOTAL SCHEDULE A: ROADWORKS			

C2.3 SUMMARY OF BILL OF QUANTITIES		
SCHEDULE	FROM PAGE	AMOUNT
TOTAL SCHEDULE A: ROADWORKS		R -
SUBTOTAL 1		
CONTINGENCIES (10% of Subtotal 1)		
SUBTOTAL 2		
CONTRACT PRICE ADJUSTMENT AND RISE & FALL (5.0% of Subtotal 2)		
SUBTOTAL 3		
VAT (15% of Subtotal 3)		
TOTAL CARRIED FORWARD TO FORM OF OFFER		

Signed on behalf of the Tenderer: (Signature)

Date:

Tenderer's Name: (Company Name)

DISCLAIMER

Kindly note that the responsibility lies with Tenderer to check the tender document and the tender addenda (if issued) to verify that all the information is correct and all changes have been incorporated as no claims will be entertained in this regard afterwards. Accordingly, we confirm that the hard copies of the original tender document and the tender addenda are to be regarded to contain the correct items and quantities.

Person Compiling/ Pr. Techni Eng
Name:
Signature.....
Date.....

Approved by BSC Chairperson
Name:
Signature.....
Date.....

PART C3 SCOPE OF WORKS

	DESCRIPTION	Page(s)
C3.1	DESCRIPTION OF THE WORKS	
C3.1.1	Employer's Objectives	C3.2
C3.1.2	Overview of the Works	C3.2
C3.1.3	Extent of the Works	C3.2
C3.1.4	Temporary Works	C3.2
C3.1.4	Construction Program and Method	C3.2
C3.1.5	Location of the Works	C3.3
C3.1.6	Temporary Works	C3.3
C3.2	ENGINEERING	C3.4
C3.2.1	Design	C3.4
C3.2.2	Employer's Design	C3.4
C3.2.3	Contractor's Design	C3.4
C3.2.4	Drawings	C3.4
C3.2.5	Design Procedure	C3.4
C3.3	PROCUREMENT	C3.5
C3.3.1	Preferential Procurement	C3.5
C3.3.2	Subcontracting	C3.5
C3.4	CONSTRUCTION	C3.6
C3.4.1	Work Specification	C3.6
C3.4.2	Site Establishment	C3.7
C3.4.3	Plant and Materials	C3.26
C3.4.4	Construction Equipment	C3.26
C3.4.5	Existing Services	C3.27
C3.4.6	Variations and additions to the SANS Standardized Specification and Particular Specifications	C3.27
C3.5	MANAGEMENT	C3.128
C3.5.1	Management of the Works	C3.128
C3.6	HEALTH AND SAFETY	C3.133
C3.6.1	Health and Safety Requirements	C3.133
C3.6.2	Protection of the Public	C3.134
C3.6.3	Barricades and Lighting	C3.134
C3.6.4	Traffic Control on Roads	C3.134
C3.6.5	Measures Against Disease and Epidemics	C3.134
C3.6.6	Aids Awareness	C3.134

STATUS

The standard specifications on which this contract is based are the **COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998 edition**.

In the event of any discrepancy between the Scope of Works and a part or parts of the SANS 1200 Standard Specifications, the Bill of Quantities or the Drawings, the Project Specification shall take precedence and prevail in the Contract.

C3.1 DESCRIPTION OF THE WORKS

C3.1.1 Employer's Objectives

Construction of Emarasteni Bridge is to ease the crossing of community during the flooding seasons and to prevent the deviation of motorist during the overflow of the bridge.

Road Class is R4 (Class R4 rural collector road as per TRH 26)

The project must provide employment opportunities to the many unemployed people in the communities.

C3.1.2 Overview of the Works

The entails the construction of 2400mm x 2400mm cast insitu bridge 25.6m length and 6m wide.

C3.1.3 Extent of the Works.

The scope of works for the project includes the following:

- Accommodation of traffic and maintaining of By-passes,
- Excavations of materials including coffer dam and by-pass
- Backfilling of materials using excavated and imported materials
- Cast in-situ Concrete and Formwork: in 250mm floor slabs for concrete cast in-situ including formwork, joints and Class U2 finish for (i) Class 25/19 concrete
- Cast in-situ Concrete and Formwork: in 150mm top slabs including formwork, joints and Class U2 finish for (i) Class 25/19 concrete
- 2400mm x 2400mm cast in-situ concrete structure
- Cast in-situ Concrete and Formwork: in inlet and outlet structures, skewed ends, catchpits, manholes, wing walls, thrust and anchor blocks including Class U2 finish: (i) Class 25/19 concrete
- Reinforcing Steel using: (a) Welded Steel Fabric - Mesh Ref. No. 880 (b) Welded Steel Fabric - Mesh Ref. No. 395
- Stone Pitching: Grouted stone pitching
- Gabions (a) Galvanized gabion boxes (i) Length 1m, depth 1m width 2m and nominal diameter of mesh wire 2.7 mm, mesh size 80 mm x 100 mm
- (c) Galvanized gabion mattresses (i) 0,3 mm deep, width 1 m, length 2 m mesh size 80 mm x 100 mm nominal diameter of mesh size 2,2 mm, and 1 m diaphragm spacing
- (d) Filter fabric (kaytech grade A4 or similar)

- Guardrails and necessary bridge signage Guardrails on timber posts: (a) Galvanized (b) Bridge adaptors
- MASS EARTHWORKS (a) Pavement layers constructed from gravel taken from cut or borrow, including free-haul up to 6,0 km (a) Gravel sub base layer compacted to: (i) 93% of modified AASHTO density, compacted layer thickness 150mm (c) Gravel base (un-stabilized gravel) compacted to: (ii) 95% of modified AASHTO density, compacted layer thickness 150 mm

C3.1.4 Temporary works

The following items shall generally form the majority of temporary works required under this Contract, however shall not be limited to such, and might be expanded or changed by the Employer's Agent should circumstances on site validate such decisions. These works will be as follows:

- Clearing site and surroundings to create accessible working areas as required;
- Provide Contractor's Camp site and Contractor's site office;
- Provide site and administrative personnel, including security staff etc as required;
- Setting out of the works by the contractor;
- Monitor and report levels as construction progresses;
- Manage all site staff, CLO and local labourers, plant, equipment and materials etc
- Manage all required quality control procedures as specified and as instructed by Employer's Agent;
- Provide all personnel, equipment, clothing, accessories etc. in order to adhere to the OHS Act;
- Attend official Site Meetings scheduled and chaired by the Employer's Agent, and managed sufficient additional meetings on site with all personnel and CLO to ensure compliance with the OHS Act and to ensure progress on site according to the accepted Construction programme

The description of the Works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract. All works are envisaged to be constructed by labour-based techniques wherever practicable,

C3.1.5 Construction Programme and Method

Early completion of the works is of prime importance.

Immediately after the handing over of the site, the Employer's Agent and the Contractor shall discuss the order of procedure and methods in which the Contractor shall carry out the works, in order to give priority to certain parts of the works and to avoid delays with the contract, and ensure that the existing works operate continuously during the construction period, after which the Contractor shall compile and submit to the Employer's Agent, within (2) two weeks, a Gantt chart showing the construction program.

The Contractor shall use excavation methods, which will prevent damage to existing structures and pipe work. Any costs for the repair of damages due to the Contractor's activities shall be borne by the Contractor.

The compilation of the construction program and any amendments thereto during the course of construction shall be at the cost of the Contractor and shall not be measured elsewhere in this contract.

Sufficient photos of the existing infrastructure must be taken by the Contractor and handed over to the Employer's Agent before such operations commence. No payment will be made in this regard and it shall be deemed covered in the preliminary and general items.

C3.1.6 Location of the Works

The project location is in ward 11 of Abaqulusi Local Municipality, Zululand District Municipality in the province of KwaZulu-Natal. The GPS co-ordinates are as follows: START (S 27° 47' 15.80" E 30° 49' 25.79") END (S 27° 47' 25.79" E 30° 49' 26.3")

C3.1.7 Temporary Works

No specific temporary work is required by the Employer.

C3.2 ENGINEERING

C3.2.1 Design

- a) The Employer is responsible for the design of the permanent works as reflected in the Contract Documents unless otherwise stated.
- b) The Contractor is responsible for the design of the temporary Works and their compatibility with the permanent Works.
- c) The Contractor shall supply all details necessary to assist the Employer's Agent in the compilation of the as-built drawings.

C3.2.2 Employer's Design

The design of the Works was done on behalf of the Employer by Professional Consulting Agents.

C3.2.3 Contractor's Design

Not applicable

Where the Contractor is to supply the design of designated plans of the permanent or temporary Works he shall supply full working drawings supported by a professional Employer's Agent'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 required by the Employer's Agent. The Employer's Agent 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 updated by the Contractor. This information; shall be supplied to the Employer's Agent's Representative on a regular basis.

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

The Drawings prepared by the Employer for the permanent Works are listed at the back of this volume. The Employer reserves the right to issue amended and/or additional drawings during the Contract.

C3.2.5 Design Procedure

Not applicable.

C3.3 PROCUREMENT

C3.3.1 Preferential Procurement

C3.3.1.1 Requirements

Preferential procurement requirements apply as set out in the Preference Schedules of Abaqulusi Local Municipality and in accordance with the resource standard pertaining to targeted procurement.

C3.3.1.2 Resource standard pertaining to targeted procurement

The edition of the document pertaining to the Municipality Supply Chain and Procurement Management, current at the time of close of tender shall apply.

C3.3.2 Subcontracting

C3.3.2.1 Scope of mandatory subcontract works

Unless specified elsewhere, the total value of subcontract works shall not exceed 30% of the contract value

C3.3.2.2 Preferred subcontractor's/suppliers

Subject to approval by the Employer's Agent prior to the appointment of the subcontractor

C3.3.2.3 Subcontracting procedures

Subject to approval by the Employer's Agent prior to the appointment of the subcontractor

C3.3.2.4 Attendance on subcontractors

Subject to approval by the Employer's Agent prior to the appointment of the Contractor

C3.3.2.4 Labour Workforce

On this Contract, it is the intention that work is provided for Targeted Labour, namely Local Labourers of the local communities during the excavation of the Works. Labourers and workers of the local communities required by the Contractor shall be targeted, recruited and appointed for work.

C3.3.2.4 Labour Workforce

Where practical and economically feasible, construction work should be undertaken using labour-intensive methods. The Contractor shall employ labourers, artisans and sub-contractors for the execution and completion of this work.

Some of the activities, which may be considered as being suitable to be undertaken by labour-intensive methods, include the following:

- excavations
- bedding of pipelines

- laying of pipelines
- backfilling of pipelines
- loading of material into trucks
- Loading and spreading of materials
- Grass cutting
- Physical eradication of undesirable vegetation
- Removal of existing paving
- Relaying of paving blocks
- Brickwork
- Painting

The Contractor and his subcontractors shall ensure that they enter into a Contract of Employment with each employee engaged on the labour-intensive aspects of this Contract. The Engineer shall require copies of the contracts with the Employees or Subcontractor's Employees.

Personal & Other Protective Equipment (Sections 8/15/23 or the OHS Act)

The Contractor is required to identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal Protective equipment (PPE) should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of PPE is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the said equipment be maintained by the Contractor, that he instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use/wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition/s for which the equipment was prescribed but an alternative solution has to be found that may include relocating or discharging the employee.

The Contractor may not charge any fee for protective equipment prescribed by him/her but may charge for equipment under the following conditions:

- Where the employee requests additional issue in excess of what is prescribed
- Where the employee has patently abused or neglected the equipment leading to early failure
- Where the employee has lost the equipment

All employees shall, as a minimum, be required to wear the following PPE on any ### projects:

- Protective overalls
- Protective footwear

- Protective headwear
- Eye/face protection

All PPE provided to local labour working on the Expanded Public Works Programme shall be branded in accordance with the EPWP CI Manual. Typical elements which shall be branded include:

- Protective overalls
- Reflective vests
- Protective headwear

The rate for local labour shall include for the supply of EPWP branded PPE in accordance with the Provincial EPWP specifications. The rate shall include the additional cost of the specified colours for the PPE and branding in accordance with CI manual.

MEASUREMENT AND PAYMENT

Add the following:

ITEM	UNIT
B ### Extra over sub-item for branding of EPWP PPE	Lump Sum

Measurement shall be as specified for pay item ##.## of the standard specifications.

THE TENDERED RATE SHALL INCLUDE FULL COMPENSATION FOR BRANDING THE PPE AS DETERMINED IN THE RISK ASSESSMENTS AND AS REQUIRED FOR FULL DURATION OF THE CONTRACT.

Contractor

Employer

C3.4 CONSTRUCTION

C3.4.1 Work Specification

C3.4.1.1 Applicable Standardized Specification

PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS

B1 Project Specifications Relating to the Standard Specifications and Other Additional Specifications

Section	1100	Definitions
Section	1200	General Requirements and Provisions
Section	1300	Contractor's Site Establishment on Site and General Obligations
Section	1400	Housing, Offices and Laboratories for the Engineer's Site Personnel
Section	1500	Accommodation of Traffic
Section	1600	Overhaul
Section	1700	Clearing and Grubbing
Section	2100	Drains
Section	2200	Prefabricated Culverts
Section	3100	Borrow Materials
Section	3300	Mass Earthworks
Section	3400	Pavement Layers of Gravel Material
Section	3500	Stabilisation
Section	3600	Crushed Stone Base
Section	4100	Prime Coat
Section	4200	Asphalt Base Surfacing
Section	5100	Pitching, Stonework and Protection Against Erosion
Section	5200	Gabions
Section	5500	Fencing
Section	5600	Road Signs
Section	5900	Finishing the Road and Road Reserve
Section	8100	Testing Material For Workmanship
Section	8400	Painting
C10.01	8100	Dayworks

The standard specifications on which this contract is based are the **COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998 edition**.

The following SANS specifications are also referred to in this document and the Contractor is advised to obtain them from Standards South Africa (a division of SABS) in Pretoria.

SANS 10396: 2003: Implementing Preferential Construction Procurement Policies using Targeted Procurement Procedures

SANS 1914-1 to 6 (2002) : Targeted Construction Procurement

SANS 1921 – 1 (2004): Construction and Management Requirements for Works Contracts Part 1: General Engineering and Construction Works and where accommodation of traffic is involved:

SANS 1921-2 (2004): Construction and Management Requirements for Works Contracts; and
Part 2: Accommodation of Traffic on Public Roads Occupied by the Contractor.

**PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER
ADDITIONAL SPECIFICATIONS**

In certain clauses in the standard, standardised and particular specifications, allowance is made for a choice to be specified in the project specifications between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract. Details of such alternative or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains the necessary additional specifications required for this particular contract.

The number of each clause and each payment item in this part of the project specifications consists of the prefix B followed by a number corresponding to the relevant clause or payment item in the standard specification.

The number of a new clause or payment item, which does not form part of a clause or a payment item in the standard specifications and which is included here, is also prefixed by B, but followed by a new number which follows on the last clause or item number used in the relevant section of the standard specifications.

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

B1202 SERVICES

Delete and replace the words:

“Clause 15 of the general conditions of contract” in the first sentence of the eleventh paragraph with Clause 12 of the General Conditions of Contract for construction works 2004 edition.

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following:

Quality control (Scheme 1) as detailed in Section 8200 will be used for determining the acceptance levels with respect to the properties of the materials and workmanship executed by the contractor.

B1206 THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

Delete the entire contents of the first paragraph and the following words in the first sentence of the sixth paragraph.

“and of clause 14 of the general conditions of contract.”

Add the following:

The contractor will be responsible for verifying all dimensions of existing structures before preparing fabrication shop drawings or setting out the works.

The Engineer’s approval of shop drawings or dimensions does not remove the responsibility for the work from the Contract.

Where services are to be connected to, the Contractor will verify the dimensions of these services before preparing shop drawings or ordering of materials.

B1209 PAYMENT

Amend sub clause (e) Materials on site by deleting and replacing the words :

“Clause 6 of the general conditions of contract” in the first sentence of the first paragraph with Clause 6 of the General Conditions of Contract for construction works 2015 edition.

B1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS

Delete and replace the words in the first paragraph :

“Clause 5.14.2 of the general conditions of contract” in the forth line of the first sentence with Clause 5.14.2 of the General Conditions of Contract for construction works 2015 edition.

B1212 ALTERNATIVE DESIGNS AND OFFERS

Add the following to the end of sub clause (m) :

"The provision for contract price adjustment in the original tender summary must not under any circumstances be altered in an alternative tender"

B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

Delete and replace the words in the first paragraph:

“Clause 5.12 of the general conditions of contract” in the first line of the first sentence with Clause 5.12 of the general conditions of contract for construction works 2015 edition.

Add the following after the first paragraph:

Method (ii) (Critical-path method) shall be used on this contract.

Method (ii) (Critical-path method)

Delete and replace the words in the second paragraph with the following:

Replace the word "five-day" in the second paragraph with "six-day".
The value of "n" is zero (0).

B1217 PROTECTION OF THE WORKS AND REQUIREMENTS TO BE MET BEFORE CONSTRUCTION OF NEW WORK ON TOP OF COMPLETED IS COMMENCED

Delete and replace the words in the first paragraph:

“Clause 8.1 of the general conditions of contract” in the second line of the first sentence with Clause 8.1 of the General Conditions of Contract for construction works 2015 edition.

B1224 THE HANDING-OVER OF THE ROAD RESERVE

Add the following:

The full extent of the road reserve will be handed over to the Contractor at the beginning of the contract. He shall be responsible for the maintenance along this portion of the road until completion of the contract.

B1229 SABS CEMENT SPECIFICATIONS

The standard cement specifications SABS 471, SABS 626, SABS 831 and SABS 1466 have been withdrawn and are replaced by the new SANS 50197-1 and -2: Common cements, and SANS 50413-1 and -2: Masonry cement. These specifications will be applicable to this contract, and the descriptions and types of cements specified, will be based on the designations as defined in these specifications.

B1230 ENVIRONMENTAL IMPACT CONTROL

Respect for the environment is an important aspect of this contract. The environmental control of the site shall be governed by the Environmental Management Plan (EMP) included in Particular Specification C3.3 of this document, which provides, inter alia for:

- (a) The Contractor must allow for the satisfactory combating of dust and noise nuisance throughout the contract length during construction.
- (b) The Contractor must make provision for the prevention of excessive erosion and siltation throughout the Contract and in particular on adjacent land. Should excessive erosion and/or siltation take place outside the road reserve as a direct result of the Contractor's construction activities it will be the Contractor's responsibility to make good the erosion/siltation to the satisfaction of the landowner and the Engineer.
- (c) No littering by construction workers shall be allowed. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer.
- (d) Adequate provision shall be made for temporary toilet requirements in construction areas. Use of the veld for this purpose shall not, under any circumstances be allowed.
- (e) Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants, such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate tailings, wash water, organic materials and bituminous products. In the event of spillage, prompt action shall be taken to clear the affected area. Emergency measures in the event of spillage must be set out and the responsible person made aware of the required action. The construction of temporary and or permanent dams must be done with the

necessary approvals from the Department of Water Affairs and Forestry and Environmental Affairs and Tourism.

- (f) Bituminous and/or other hazardous products shall not be spoiled on site and may only be disposed of in licensed authorised disposal facilities.
- (g) Control of invader species of plants.
- (h) Clearing shall be limited to the road prism and, where applicable, detours, which shall be sited in consultation with the Engineer and the local communities.

No separate payment will be made for observing these requirements as it is deemed to be included in the amount tendered for Item 13.01(c) but any avoidable non-compliance with these rules may be considered sufficient grounds for withholding payment of part or all of the amounts to be paid for the above item.

B1231 WORKMEN'S COMPENSATION ACT

All labour employed on the site shall be covered by the Workmen's Compensation Act. The Contractor shall pay in full, including the payment of the necessary levies, such amounts as are due in terms of the Act.

The manner in which Workmen's Compensation shall be handled shall be resolved by the Contractor at the commencement of the contract.

B1232 CARE OF WORKS, DAMAGE, INJURY AND INSURANCE

Compliance with Road Traffic Act:

When a service necessitates vehicles or plant travelling or working on a public road the following shall apply:

- The vehicles and plant shall be licensed in terms of the National Road Traffic Act 1996 (Act No. 93 of 1996) as amended.
- Every driver and operator of a vehicle or an item of plant shall be in possession of a valid permit in respect of the class of vehicle or item of plant he is driving or operating.

The contractor shall provide, erect and maintain sufficient road signs, barricades, fencing and guarding as may be necessary or required by the Engineer or by any act, regulation or statutory authority in order to minimise the danger and inconvenience caused to vehicle and pedestrian traffic.

The Contractor by accepting this contract shall be deemed to have indemnified the Employer and the Engineer against any claims, damages and / or costs that may arise in this regard.

SECTION 1300 : CONTRACTOR'S SITE ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

B1302 PAYMENT

Add the following at the end of Item 13.01(1).

"..... and provided the Contractor has fulfilled his obligations as far as the Engineer's office, laboratory and housing accommodation is concerned".

Add the following new pay item:-

Item	Unit
B13.02(a) Services for Community Liaison Officer	
Prov Sum	
The CLO will be paid R4500/pm . Contractor will only claim Handling fee under item B13.02 (b)	
B13.02(b) Handling cost and profit in respect of sub-items B13.02(a)	
%	
B13.03 Information Board	
Supply, transport to site and erect contract signboard (No.)	Number
as indicated on drawing	

**SECTION 1400 : HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S
SITE PERSONNEL**

B1402 OFFICES AND LABORATORIES

(a) General

Delete the fourth sentence in the first paragraph of Sub-clause 1402 (a) and replace with:

Office buildings shall have timber or concrete floors covered with edge-to-edge foam-backed needle-punched carpeting, and laboratory buildings shall have concrete floors.

Add the following new paragraph at the end of this sub-clause:

The offices, laboratory and stores shall, unless otherwise agreed, be erected in close proximity to the contractor's offices and laboratory, and the entire area shall be fenced with security fencing and provided with a gate. The contractor shall take all reasonable precautions to prevent unauthorised entry to the Engineer's offices and laboratories and to ensure the general security of the offices and laboratories.

B1401 MEASUREMENT AND PAYMENT

Amend the following pay items under item:

B14.11 Electronic Equipment rental

Item	Unit
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14.11 The contractor shall provide an internet connection for the sole use of Engineer's Representative.

B14.12 Civil Engineering Student Technician

Item	Unit
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SECTION 1500 : ACCOMMODATION OF TRAFFIC

B1501 SCOPE

Add to Clause 1501 the following:

The scope of this section shall also include the preparation and submission to the Engineer for approval of traffic management plans. The traffic management plans shall demonstrate how the Contractor intends accommodating and controlling traffic through the site. The plans must incorporate all the requirements of the specifications in respect of the accommodation of traffic, including the traffic control devices and the personnel involved. A traffic safety officer shall be specifically named in the Plan together with 24 hr contact details. Copies of the plans shall be made available to the Engineer, the Employer, Local Authorities, the Police and Emergency Services.

The accommodation of traffic shall generally be undertaken in the following manner:

- (a) Via gravel diversions, where practical in terms of space and the terrain.
- (b) By dealing with traffic under construction where no diversions are possible.
- (c) By diverting traffic along the existing road where the route is being realigned.

B1502 GENERAL REQUIREMENTS

(a) Safety

Add to Sub-clause 1502(a) the following:

Information in respect of intersections, accesses, bus stops, traffic volumes, pedestrians etc is given in Part B of these Project Specifications.

(b) Providing Temporary Deviations

Add to Sub-clause 1502(b) the following :

The contractor shall keep the provincial traffic police, the municipal traffic departments and the engineer fully informed with regard to any changes in the normal traffic flow and obtain their approval for these changes.

During the non-working hours, all unnecessary obstructions to the traffic shall be removed and all signs no longer applicable to the situation shall be removed or effectively covered.'

It is a condition of this contract that not more than 1.5 km of deviation should be open to public traffic at any one time, and that not more than three separate deviations should be open at any one time. No additional payments will be made where situations arise that the contractor has deviations cross over the roadway under construction.

(i) **Traffic Safety Officer**

Add to Sub-clause 1502(i) the following :

The Contractor shall submit a CV of the candidate to the Engineer for approval before the Traffic Safety Officer is appointed. The Traffic Safety Officer shall be made available to discuss road safety and traffic accommodation matters whenever required by the Engineer.

Delete Sub-clause 1502(i), sub-sub-clauses (ii) and (iii) and replace with the following:

- (ii) Record on neat and dimensioned sketches and submit to the Engineer the position and sign reference number where applicable of each sign, barricade, delineator, cone, amber flicker light, guardrail and permanent or temporary painted road marking feature. The position of each unit shall be adequately referenced to identifiable permanent features located along the site of the works.

These records shall also show the date and time at which the recorded traffic accommodation features are certified correct by the Traffic Safety Officer, and shall be signed by the Traffic Safety Officer before being submitted to the Engineer.

The records shall be amended whenever changes are made in the field and the revised detailed sketches shall be submitted to the Engineer. This shall include the recording of the position of flagmen and stop/go control men and their associated traffic accommodation equipment wherever they are used."

- (iii) Personally inspect the position and condition of each traffic accommodation feature on the whole site of works twice each day by 9:30 and by 16:30, to record all irregularities discovered and the remedial action taken, and to sign off as correct and submit to the Engineer such record sheets by 10:00 and by 17:00 each day. The traffic Safety Officer shall keep a duplicate book for this specific purpose.

The Traffic Safety Officer shall also submit to the Engineer by 10:00 each morning, a record of all matters pertinent to site safety and traffic accommodation throughout the site of works the previous day. He shall also record the daily labour returns of flagmen, stop/go and traffic signal control men employed.

The traffic safety officer shall be equipped with a cellular telephone and shall have a vehicle and 3 labourers at his disposal 24 hrs a day and he shall be directly answerable to the Contractor's Site Agent. The Traffic Safety vehicle shall be a truck with a capacity of 5 tons and shall be equipped with a high visibility rear panel as shown on Figure 24 of Road Signs Note No.13. The traffic Safety Officer shall have a direct line of communication at all times with the police and traffic officers responsible for the area within limits of the Contract. The provision of the Road Safety Vehicle, driver, three labourers and the cost of the cellular telephone shall

be deemed to be included in the rates tendered for the Contractor's establishment on site.

Add to Sub-clause 1502(i) the following new sub-sub-clauses:

- (ix) Ensure that all obstructions, soil and gravel heaps, related to the Contractor's activities be removed before nightfall where applicable and as instructed by the Engineer and that the roads are safe for night traffic.
- (x) The Traffic Safety Officer shall, in addition to the duties listed in Clause 1502 (i), also be responsible for removal of broken down vehicles off the roadway and implementing actions requested by the traffic authorities with regard to the work to be carried out, and shall be responsible for the erection and maintenance of all traffic signs necessary for the accommodation of traffic."

Add the following new Sub-clauses to Clause 1502 :

(j) Public traffic

The contractor must plan and conduct his activities so as to bring about the least possible disruption to the traffic on the road. All halting of traffic will require the prior approval of the engineer and must be pre-arranged with the appropriate traffic authorities.

In all dealings with the public the Contractor shall bear in mind the public's right to enjoy the use of the road, and the Employer's desire to interfere as little as possible with this right. At all points of contact with the public, the Contractor shall deal with deliberate courtesy and understanding in any discussions or disputes.

(k) Failure to comply with provisions

The failure or refusal of the Contractor to provide barricades or traffic signs at the proper time, or to take the necessary precautions for the safety and convenience of public traffic as specified or instructed by the Engineer, shall be sufficient cause for the suspension of all

work under this Contract without any additional compensation to the Contractor until the required accommodation of traffic has been completed to the satisfaction of the Engineer. The above shall be sufficient cause for the Engineer to deduct penalties as follows:

- A fixed penalty of R5 000,00 per occurrence shall be deducted for each and every occurrence of non-compliance with any of the requirements of Section 1500 of the standard specifications and section B1500 of the Project Specifications.
- In addition a time-related penalty of R500,00 per hour over and above the fixed penalty shall be deducted for non-compliance to rectify any defects in the accommodation of traffic within the allowable time after an instruction to this effect has been given by the Engineer. The Engineer's instruction shall state the allowable time, which shall be the time in hours for

reinstatement of the defects. Should the Contractor fail to adhere to this instruction, the time-related penalty shall be applied from the time the instruction was given.

The penalties shall be deducted from the payment certificate for the month in which the non-compliance occurs.

Payment will also be deducted in accordance with Payment Item B15.01 of these Project Specifications.

(l) Access to work area

Construction traffic will only be permitted to enter or leave the work area at points approved by the Engineer and as clearly indicated on the traffic management plans. When any access point is in use, flagmen shall be provided for each such point. At least two flagmen shall be stationed at the access point to control the movement of construction traffic, and to warn public traffic on both lanes of the existing road. It is not the purpose of these flagmen to stop public traffic flow.

(m) Extension of time for completion

Accommodation of public traffic on the works or any delays caused thereby, as well as any suspensions due to failure by the Contractor to comply with the provisions for the accommodation of traffic, will not be regarded as special circumstances for an extension of time.

B1503 TEMPORARY TRAFFIC-CONTROL FACILITIES

Replace the first sentence of the first paragraph of Clause 1503 with the following:

The Contractor shall provide, erect and maintain the necessary traffic-control devices, road signs, channelization devices, barricades, warning devices and road markings (hereinafter referred to as traffic-control devices) in accordance with these special provisions and as shown on the drawings and in the South African Road Traffic Signs Manual in conjunction with the latest edition of Road Signs Note No.13 Roadworks, and remove them when no longer required. It shall be incumbent upon the Contractor to see to it that the abovementioned traffic-control devices are present where required at all times and are functioning properly, and he shall replace any that have been damaged, lost, stolen or obliterated at his own cost.

Replace the third paragraph of Clause 1503 with the following:

The type of construction, spacing and placement of traffic-control devices shall be in accordance with the latest edition of Road Signs Note No.13, Roadworks, these special provisions, the drawings and the South African Road Signs Manual. The recommended arrangements of the traffic control devices illustrated in Appendices 1 to 6 of Road Signs Note No.13 and/or drawings shall not be departed from without prior approval of the Engineer. Typical arrangements expected to be used in the Contract are given on the tender drawings.

However, this shall not absolve the Contractor of his obligations in preparing traffic

management plans as per this Project Specification.

The details shown for spacing and placement of traffic-control facilities may however, be revised at the discretion of the Engineer where deemed necessary to accommodate local site geometry and traffic conditions

(b) Road signs and barricades

Add to Sub-clause 1503(b) the following:

The Contractor shall be responsible for the protection and maintenance of all signs, and shall at his own cost replace any that have been damaged, or lost, or stolen.

All temporary road signs shall be mounted on portable supports for the easy moving of signs to temporary positions. The only permitted method of ballasting the sign supports shall consist of durable sandbags filled with sand of adequate mass to prevent signs from being blown over by wind. The cost of the sandbags shall be included for in the tendered rates for the various types of temporary road signs.

The traffic-control devices, temporary signs and devices required in the Contract are those designated in Road Signs Note No.13.

The covering of permanent road signs, if applicable, shall be by utilising a hessian bag, which shall be pulled over the sign in the form of a hood and fastened to the sign posts. Plastic bags or other materials and fastening by means of adhesive tape shall not be permitted. The cost of covering of permanent road signs shall be deemed to be covered by the tendered rates of items B15.03.

No work may proceed on any section where accommodation of traffic is required until such time as the relevant requirements with regards to signposting are met and written approval of the Engineer is obtained. The Contractor shall keep sufficient surplus signs, delineators and barricades on the site to allow for the immediate replacement of damaged or missing items, in any case, within three hours of instructions having been given by the Engineer. Delineators shall be of the flexible plastic reversible variety and not of the rigid metal variety.

Should the Contractor fail to respond to an instruction to re-erect a road sign within the designated time or fail to comply to the requirements, the work on that section will be suspended without any compensation to the Contractor.

(c) Channelisation devices and barricades

Add to Sub-clause 1503(c) the following:

Delineators shall be of plastic and shall be capable of withstanding winds caused by passing traffic in typical working conditions without falling over. To achieve this, the base shall be ballasted using sand bags.

Traffic cones manufactured in a fluorescent red-orange or red plastic material shall be used only at short term lane deviations during daylight. Cones used on all

deviations shall be 750 mm high. Lane closures which continue into the night time shall be demarcated by delineators only.

The use of steel drums as channelization devices will not be allowed on this Contract unless instructed by the Engineer. Channelization shall be effected by the use of delineators or cones as detailed in Road Signs Note No. 13 - Roadworks.

(e) **Warning devices**

Add to Sub-clause 1503(e) the following:

All construction vehicles and plant used on the works shall be equipped with rotating amber flashing lights and warning boards as specified. All vehicles and plant shall obtain a clearance permit from the Engineer before being allowed onto the site.

Rotating lights shall have an amber lens of minimum height of 200 mm and shall be mounted to ensure clear visibility from all directions. The lights on construction vehicles shall not be switched on while vehicles are being operated on unrestricted sections of a public road, but shall be switched on while construction vehicles are operating within the accommodation of traffic area, as the vehicles decelerate to enter a construction area, and as the vehicles accelerate to the general speed when entering the road from a construction area. Lights on plant shall operate continuously while the plant is working alongside sections of road open to public traffic.

All LDV's and cars operating on site shall also be equipped with rotating amber flashing lights which shall be placed so as to be clearly visible and operated continuously while the vehicles are manoeuvring in or out of traffic or are travelling or parked alongside roads open to public traffic.

Rotating lights and the "Construction Vehicle" signs on the Contractor's vehicles and plant shall not be paid for separately but shall be included in the rates covering the use of the vehicles.

The Contractor shall apply and maintain lights together with temporary mounting brackets, to the approval of the Engineer. Vehicles and plant that do not comply with these requirements shall be removed from the site.

The Contractor shall ensure that all his personnel, excluding those who are permanently office bound, are equipped with reflective safety jackets and that these are worn at all times when working on or near to the travelled way. Any person found not wearing a reflective jacket under these circumstances shall be removed from the site until such time as he is in possession of and wearing a reflective jacket. Reflective safety jackets shall be kept in good condition and any jackets that are, in the opinion of the Engineer, ineffective shall be immediately replaced by the Contractor.

Add the following New Sub-clauses to Clause 1503 :

(g) Other signs and facilities

The Engineer may instruct the Contractor to provide any other road sign, reflective tape, etc not measured in standard pay items. The road signs shall conform with the requirements of the South African Traffic Signs Manual, Road Note 13 or specification provided by the Engineer.

The Contractor shall inform the general public of the intended road works, construction period and accommodation of traffic proposal through press releases in local and provincial newspapers.”

Cones shall be manufactured and positioned in accordance with the details specified on the drawings.

All traffic cones and road signs shall be kept clean and visible at all times. All bituminous or other foreign material shall be removed by the Contractor, or the dirty traffic cones and road signs shall be replaced with new ones at the cost of the Contractor, as directed by and to the satisfaction of the Engineer.

(h) Safety jackets

The Contractor will be responsible to ensure that all construction workers, staff of the Engineer and visitors shall wear safety jackets when moving around on site. The jackets shall be of an approved type, orange in colour and shall be to the approval of the Engineer. The Contractor shall provide the Engineer with two jackets. Payment for Engineer’s jackets will be as deemed to be included in rates for accommodation of traffic item 15.01

B1513 ACCOMMODATION OF TRAFFIC WHERE THE ROAD IS CONSTRUCTED IN HALF WIDTHS

Amend Clause 1513 as follows :

In the third line of the third paragraph, delete “4 km” and replace with “1 km”.

In the second line of the fourth paragraph, delete the word “four” and replace with “three”. Also, delete “2 km” and replace with “3 km”.

SECTION 2200 : PREFABRICATED CULVERTS

B2217 Manhole, Catchpits

Should be constructed as per standard detail:

B2229 Demolition existing catchpits

Should be demolished as per instruction:

B2230 Removing existing pipes

Should be removed as per instruction.

SECTION 6200 : FALSEWORK, FORMWORK AND CONCRETE FINISH
B 6205 CONSTRUCTION

(b) Formwork

(i) General

Add the following:

All form ties and other temporary ties through exposed concrete faces shall be provided with recoverable chamfered cones between tube ends and formwork faces to ensure that tube ends are not exposed on concrete surfaces. The cones shall have a minimum depth of 15 mm.

(ii) Formwork to exposed surfaces

Add the following:

The formwork at construction joints shall have moulding strips 25mm x 25mm neatly butted and set at the height of the construction joint.

B 6207 FORMED SURFACES: CLASSES OF FINISH

Add the following new sub clause to clause 6207 of the Specifications:

(g) Making good tie holes

All tie holes and other temporary holes shall be made good in an approved manner such that the colour matches that of the adjoining concrete, there is no shrinkage or slumping and the finished surface is flush with the adjoining concrete. The procedure shall be proven by the Contractor submitting a sample completed hole of each type for approval which shall then be regarded as the minimum acceptable standard for all other holes.

SECTION 6300: STEEL REINFORCEMENT FOR STRUCTURES

B 6302 MATERIALS

(a) Steel bars

Add the following after the first paragraph of sub clause 6302(a) of the specifications:

The engineer may from time to time require the testing of additional samples of reinforcing steel for compliance with the specifications, and in addition with the requirements of Clause 22 of BS 4449/1978 in respect of the rebend test.

B6306 PLACING AND FIXING

Delete the second paragraph and replace with the following:

Prior to fixing the steel, samples of the proposed spacers shall be submitted to the engineer along with a written statement for in-situ manufacture, if applicable, for approval.

Overlap of steel reinforcement bars shall be such that the bars lie in a plane parallel to the

nearest side of the concrete element and not perpendicular to it.

B6307 COVER AND SUPPORT

Replace the second sentence in the second paragraph with:

Where no cover is indicated, the Contractor shall inform the engineer who shall after consultation with the design engineer indicate the required cover in writing and the construction record drawings shall indicate such cover.

Add the following to the end of the fifth paragraph:

Concrete cover blocks shall be made using the same cement and aggregate type as the main concrete with the same water/ cement ratio so that differences in colour, shrinkage, thermal movements and strain are minimised. Cover blocks shall be cured by submersion in water for a minimum of 7 days and thereafter kept submerged in water until immediately before fixing onto reinforcing steel. Where cover blocks, subsequent to fixing, have visually dried out they shall be remoistened by an appropriate method so that they are damp before the placing of concrete.

SECTION 6400: CONCRETE FOR STRUCTURES

B6402 MATERIALS

(a) Cement

Remove the colon at the end of the first paragraph, replace it with a comma, and add the following:

“taking into account the adaption of the new SABS ENV 197-1 code for cements:”

Add the following new paragraph:

The type of cement to be used in any concrete element shall take into account the environmental conditions and durability requirements at the location of the site of the Works and shall be selected according to Table B6402/1.

Table B6402/1: Selection of Cement Type

Condition of Exposure	Placing Temperature of Concrete	Type of Cement*
1. MODERATE Concrete surfaces above ground level and protected against alternately wet and dry conditions caused by water, rain and sea-water spray	< 20°C	CEM II A – S CEM II B – S
	20°C - 30°C	CEM II A – S CEM II B – S CEM II A – V (or W) CEM II B – V (or W) CEM III A
2. SEVERE Concrete surfaces exposed to	< 20°C	CEM II A – S CEM II B – S

hard rain and alternatively wet and dry conditions	20°C - 30°C	CEM II A – S CEM II B – S CEM II A – V (or W) CEM II B – V (or W) CEM III A
3. VERY SEVERE Concrete surfaces exposed to aggressive water, sea-water spray or a saline atmosphere	< 20°C	CEM II B – S 42.5 CEM III A CEM II B – V 32.5
	20°C - 30°C	CEM II B – S CEM III A CEM II B – V
4. EXTREME Concrete surfaces exposed to the abrasive action of sea water or very aggressive water	< 20°C	CEM II B – S CEM III A
	20°C - 30°C	CEM II B – S CEM III A

Notes*

1. CEM I cements shall only be used in environments where concrete is not prone to chloride attack i.e. in inland drier environments.
2. Where a strength class of 42,5 or greater is required, and the placing temperature of concrete is between 20°C to 30°C, a set and hydration retarding admixture shall be used where required so as not to exacerbate bleeding.

Cement types CEM I, II and III may be blended, provided that the final product conforms to the requirements of SABS ENV 197-1 for the proportion of extender used and provided that the proportion of extender in the original unblended cement is known.

The Environmental Condition of Exposure for this site is SEVERE.

(b) Aggregates

Add the following new subclause:

(vi) The maximum chloride ion content of fine aggregate shall be 0,03% by mass of aggregate as measured by SANS 1083:2002. Where concrete is situated in a chloride environment the value shall be reduced from 0,03% to 0,01%.

(vii) The grading of the fine aggregate shall comply with the following table:

Sieve size	<u>Cumulative % passing sieve</u>	
4 750µm	90 – 100	
2 360µm	75 – 100	
1 180µm	60 – 90	
600µm	40 – 60	
	300µm	20 – 40
	150µm	10 – 20
	75µm	5 – 10

(d) Water

Delete the second sentence and substitute:

Water from rivers or from boreholes may only be used if tests conducted by an approved laboratory prove the suitability of the water for concreting purposes. Tests shall be repeated as often as may be deemed expedient by the Engineer.

(e) Admixtures

Add the following subsubclauses:

(v) Admixtures, which have a retarding effect on the rate of hydration of the cement, may not be used when the concrete temperature is below 20° C.

(vi) A retarding admixture shall be used if temperatures of concrete mixes using cements of strength class 42.5R or 42.5 are between 20 to 30° C or where the ambient temperature is between 20 to 30° C .

B6404 CONCRETE QUALITY

(e) Bleeding

Delete the existing paragraph and replace with the following:

The concrete shall be proportioned with suitable materials that total bleeding does not exceed 0,3mm/cm² as measured by ASTM C232-92.

B6408 CONSTRUCTION JOINTS

(a) General

Add the following:

No construction joints other than those indicated on the drawings will be permitted without the written approval of the engineer. In all cases the proposed method of forming the joint shall be discussed and agreed with the engineer.

B6409 CURING AND PROTECTION

Add the following to the end of subclause 6409(f):

Only a curing compound consisting of approved water based low viscosity clear wax emulsion applied in accordance with the manufacturer's instructions may be used.

Add the following new paragraphs to the end of the clause:

Where curing by retention of formwork is used as the only method of curing the concrete, it must be left in place for the minimum period specified in Table 6206/1 but in no instance shall it be less than 7 days.

The materials used for formwork shall take into account properties such as thermal insulation and moisture absorption when assessing the suitability of the material, to the approval of the engineer.

If impermeable curing membranes are to be used as a curing method, they shall be installed at the same time as formwork is removed and no portion of a concrete surface may be left unprotected for a period in excess of 2 hours. If the surface is an unformed finish e.g. top of deck slab, then the surface must be protected immediately by appropriate methods approved by the Engineer after it is finished, without damage to that surface, since it is vulnerable to plastic shrinkage cracking due to high rates of evaporation while the concrete is still in a plastic state. Plastic shrinkage and settlement shall not be permitted on any of the structural elements since it compromises the durability of the concrete.

All concrete shall be cured for the equivalent moist curing periods as shown in table B6409/1 below:

Table B6409/1
EQUIVALENT MOIST CURING PERIODS

Weather	Minimum moist curing Period (Days)
Normal: 18 to 22°C, 65% RH, Low wind speeds	5
Hot: With drying winds	7
Cold: 5 to 12° C	9

For all deck, piers, parapets and abutment concrete, curing shall be excluded from the make-up of rates for measurement under items B64.01 and 64.02 and paid for separately under pay item B64.07. Where the application of a curing compound is instructed by the Engineer, the type and nominal application rate thereof shall be as specified in the schedule of quantities or to the manufacturer's nominal specified rates.

B6410 ADVERSE WEATHER

Add the following new subclause:

(d) Temperature and hydration of concrete

Site batched concrete: The temperature of concrete at point of delivery shall be within the range 10° C to 30° C. Concrete which has a temperature outside of this range shall not be placed in the structure.

Ready mix concrete: In the case of ready mix concrete the temperature limits at point of delivery shall be as specified in SANS 878 2004 unless the engineer has specified other limits due to specific design requirements. If slump loss occurs at concrete temperatures of

over 30° C and more than two hours after mixing, the concrete shall be rejected. Also if after addition of allowed water the concrete begins to stiffen again such as to place in doubt that full compaction and finishing can be achieved, the concrete shall be rejected.

Care must also be taken not to cast concrete onto hot steel shutters as this might induce cracking.

The rate of hydration of the cement in the concrete shall be such that the concrete can be placed and properly compacted within 2hours after the addition of water to the mix ingredients. The initial set of the concrete shall not be unduly delayed due to inappropriateness of admixtures or cement type, which could promote bleeding.

Article I.

SECTION 6600: NO FINES CONCRETE, JOINTS, BEARING, BOLT GROUPS FOR ELECTRIFI-CATION, PARAPETS AND DRAINAGE FOR STRUCTURES

B6606 DRAINAGE FOR STRUCTURES

(c) Synthetic-fibre filter fabric:

Replace the last paragraph with the following:

Synthetic-fibre filter fabric shall be:

- manufactured from a polymeric material processed into a continuous, permeable, homogeneous, non-woven sheet, which shall be mechanically, heat or chemically bonded;
- made from polyester, polypropylene or polyethylene.

It shall show no detectable reduction of the specified properties when subjected to chemical and biochemical conditions found in soils or in saline solution, specifically:

- soil and ground water with a pH in the range 4 to 12 (pH to be determined by Method A20, TMH1)
- soil (as paste) and ground water containing salts with a conductance of up to 1,0 Siemens per metre (S/m) (conductivity to be determined by Method A20T, TMH1).

It shall not be attractive to rodents or termites, shall be rot-proof, not support the growth of algae and shall maintain at least 80% of the original tensile strength after direct exposure of 1500 hours to sunlight.

Synthetic-fibre fabric shall be classified according to the following:

Grade	Penetration Load (kN)	Elongation At rupture (%)		Permeability (litre/sq.m/s)
		min	max	
A	4,5	10	50	20
B	3,0	20	50	20
C	2,5	20	--	20
D	2,0	20	--	20
E	1,5	20	--	20

The above properties shall be measured in accordance with the test methods of SABS 0221-

1988.

Add the following subclause:

(d) Synthetic fibre filter fabric backing with Netlon pipes and strips

The drainage shall consist of M65 Netlon drainpipes, DN 1 Netlon drainage strips and Grade B filter fabric placed against the rear faces of the abutments and walls and wrapped around the Netlon pipe as detailed on the drawings.

The filter fabric shall be suitably hung or fixed by approved means to the wall to prevent displacement during backfilling. The drainage pipe shall be placed on a mortar wedge or other impervious material and the bottom of the pipe shall line up with the inverts of the weep holes.

B6608 MEASUREMENT AND PAYMENT

Add the following new pay items:

Item

Unit

**B66.27 Synthetic fibre filter fabric backing with Netlon pipes and strips
metre (m)**

The unit of measurement for synthetic filter fabric backing with Netlon pipes and strips behind barrel walls and wingwalls shall be the square metre measured along the length and height of drained walls.

The tendered rate shall be full compensation for supplying, cutting and installing the filter fabric, drainpipes and drainage strips as specified including overlaps and wastage as well as the 300mm x 75mm concrete bedding strip.

B6115 MEASUREMENT AND PAYMENT

Item

Unit

**B61.08 Rock fill using dump rock and fines, covered with a heavy duty filter fabric
(U44) m³**

The tendered rate shall include full compensation for procuring and furnishing all the materials, equipment and labour necessary to construct the rock fill. The rock fill consist of dump rock and fines to fill the voids while being lightly compacted. Compaction must stop immediately if the rock fill starts heaving

SECTION 6100: FOUNDATIONS FOR STRUCTURES

B6106 FOUNDING

Add the following at the end of the last paragraph:

Where foundation slabs or pile caps are cast directly against the face of the excavations, the volume of concrete measured for payment shall be the total volume of concrete placed or the volume based on the plan dimensions detailed on the drawings plus a 100mm allowance for over break on each applicable side whichever is the lesser. No formwork to the footing shall be measured when the concrete is cast against the face of the excavations.

B6108 BACKFILL AND FILL NEAR STRUCTURES

(d) Fill within restricted area

In the second paragraph replace “93%” with “95%”.

Add the following:

In narrow widths where it is difficult or impossible for appropriate mechanical compaction equipment to be used, the fill material may be substituted with soil Crete with the approval of the engineer.

B6109 FOUNDATION FILL

In the 5th paragraph, 7th line delete “60” substitute “45”.

Add the following after the 6th paragraph:

Concrete blinding shall extend 100mm all rounds beyond the horizontal dimensions of all formed footings to facilitate placing of the formwork, unless otherwise directed by the Engineer.

In the case of structures where excessive ground water is encountered, the blinding layer shall extend over the full plan area of the base of the excavation and beyond the edge of the foundation where required.. Payment shall be made for the quantity of concrete calculated as the product of the specified thickness of blinding layer and the actual area of blinding placed subject to a maximum distance of 500mm beyond the edge of the foundation.

C3.3 PARTICULAR SPECIFICATIONS

In addition to the Standardised and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

PART C ENVIRONMENTAL MANAGEMENT PLAN

PART C : ENVIRONMENTAL MANAGEMENT PLAN

C.1 General

In order to ensure that the construction works is carried out in an environmentally sensitive matter, strict compliance to the Environmental Management Plan (EMP) guidelines is required. The purpose of the EMP is to:

- Encourage good management practices through planning and commitment to environmental issues,
- Provide rational and practical environmental guidelines to:
 - i. Minimise disturbance of the natural environment,
 - ii. Prevent pollution of land, air and water,

- iii. Prevent soil erosion and facilitate re-vegetation.
- Adopt the best practicable means available to prevent or minimise adverse environmental impact,
- Develop waste management practices based on prevention, minimisation, recycling, treatment or disposal of wastes,
- Train employees and contractors with regard to environmental obligations.

C.2 Training and Induction of Employees

- The Contractor has a responsibility to ensure that all those people involved in the project are aware of and familiar with the environmental requirements for the project (this includes sub-contractors, casual labour, etc.). The EMP shall be part of the terms of reference for all contractors, sub-contractors and suppliers.

C.3 Complaints Register and Environmental Incident Book

Any complaints received by the project team from the public will be recorded. The complaint should be brought to the attention of the site manager, who will respond.

The following information must be recorded:

- Time, date and nature of the complaint,
- Type of communication (telephone, letter etc),
- Name, contact address and telephone number of the complainant,
- Response and investigation undertaken and
- Actions taken and by whom.

All complaints received will be investigated and a response given to the complainant within 14 days.

All environmental incidents occurring on the site will be recorded. The following information will be provided:

- Time, date, location and nature of the incident,
- Actions taken and by whom.

C.4 Site Cleanliness and Neatness

- Location of a construction camp is to be approved by the Engineer and is to be restored to its previous condition after completion of construction.
- The construction camp should preferably be fenced with a 1.8m bonnox fence or similar approved.
- All materials, equipment, plant and vehicles must be stored within the construction camp.
- A dedicated area must be made available for construction staff to change and store their personal belongings.

C.5 Access

Access to existing roads, schools, buildings, shops and residential properties must not be impeded during construction.

Access roads utilised by the Contractor must be maintained in good condition.

C.6 Borrow Pits

- Mining authorisations (permits) for borrow pits must be obtained from the Department of Minerals and Energy (DME) in consultation with the Department of Water Affairs (DWA).
- Spoil dumps resulting from borrow pits must not interfere with any natural surface drainage.
- Borrow pits must be rehabilitated after use in accordance with the requirements of DME and DWA.

C.7 Dust Control / Air Quality

- Dust suppression measures must be implemented during construction by ensuring that all surfaces prone to dust generation are kept damp (e.g. use of water tanker).
- Ensure that vehicles and equipment are in good working conditions and that emissions are not excessive.
- Ensure that vehicles and equipment are in good working conditions and that emissions are not excessive.
- Special care must be taken in areas where the route passes close to schools and residential areas.
- The speed of construction vehicles must be reduced.

C.8 Fauna

- Contractor staff may not chase, catch or kill animals encountered during construction.

C.9 Fire Prevention and Control

- Smoking is prohibited in the vicinity of flammable substances.
- The contractor must ensure that fire-fighting equipment is available on site, particularly where flammable substances are being stored or used, and that construction staff are aware of where it is kept and how it is operated.
- Fires started for comfort (warmth) are prohibited, due to the risk of veld fires and risk to adjacent property owner's lands.

C.10 Grave Sites

- Gravesites in close proximity to the road must not be disturbed during construction.

C.11 Materials Handling and Spills Management

- Any hazardous materials to be used during construction (e.g. lime, fuel, paint, etc) are to be stored in a designated area at the campsite.
- The storage containers/facilities (including any diesel/petrol tanks) must be placed on an impermeable surface and surrounded by a bund wall, in order to ensure that accidental spillage does not pollute the environment.
- Workers must at all times be made aware of the health and safety risks

associated with any hazardous substances used (e.g. smoking near fuel tanks), and must be provided with appropriate protective clothing/equipment in case of spillages or accidents.

- Ensure all staff and contractors undergo relevant training in the maintenance of equipment to prevent the accidental discharge or spill of fuel, oil, lubricants and other chemicals.
- Any spill of potentially hazardous materials must be cleaned up immediately (Potentially hazardous materials on site include paint, oil, grease, fuel, turpentine, etc).
- The area of contaminated soil or spill must be deposited into the hazardous waste container(s).
- The contractor should keep Peat Sorb or a similar absorbent on site to clean up any spills. The absorbent must be stored in a designated area and be available for inspection.
- All spills are to be recorded in the environmental incident book.

C.12 Noise

- Noise generating activities must be restricted to between 07h00 and 17h00 Monday to Friday, unless otherwise approved by the appropriate competent person in consultation with adjacent landowners/affected persons.
- All equipment, vehicles and machinery must be in good working condition and be equipped with sound mufflers if necessary.
- Construction staff must be trained and made aware of not creating unnecessary noise such as hooting and shouting.

C.13 Pollution Control

- Soil and water pollution through usage of fuel, oil, paint, bitumen or other hazardous substances must be avoided.
- All construction vehicles are to be maintained in good working order so as to prevent soil or water pollution from oil, fuel or other leaks, and to reduce noise pollution.

C.14 Rivers and Streams

- Excavated material must not be stockpiled on or near riverbanks, in order to prevent sedimentation occurring.
- Erosion control measures must be employed both during and after construction.
- No impediments to natural surface water flow, other than approved erosion control measures, must occur.

C.15 Safety

- Safety measures, such as detour signs, must be implemented during construction to ensure the safety of workers, pedestrians and drivers/passengers in vehicles in the vicinity of construction work.
- Special care must be taken in the vicinity of schools to ensure the safety of children wishing to cross the road under construction.
- The relevant signage (e.g. speed control signs) must be erected alongside

the road during the operation phase in order to control traffic.

- Accommodation must be made for pedestrian pathways alongside the road during the construction and operation phases.

C.16 Soil Management

- Stormwater drainage pipes must be installed alongside the road in all areas susceptible to soil erosion.
- Erosion should be minimised by the construction of meadow drains and the planting of indigenous vegetation on the side slopes and drains to reduce flow velocity of stormwater.
- Spoil from cuts may be used in existing erosion galleys.
- Stone pitching and gabions should be constructed at pipe culvert outlets.
- Accidental spills of contaminants onto the ground e.g. oil, concrete, fuel and chemicals should be removed together with the contaminated soil.
- If necessary an absorbent such as Peat Sorb should be used the aid in cleaning up the spill. The contaminated soil should be disposed of in an appropriate container, depending on its classification.
- Servicing and re-fuelling of vehicles must only be carried out at construction camp.

C.17 Worker Conduct

Code of Conduct for Construction Personnel:

- Do not leave the construction site untidy and strewn with rubbish which will attract animal pests.
- Do not set fires.
- Do not cause any unnecessary, disturbing noise at the construction camp/site or at any designated worker collection/drop off points.
- Do not drive a construction-related vehicle under the influence of alcohol.
- Do not exceed the national speed limits on public roads or exceed the recommended speed limits on the site.
- Do not drive a vehicle which is generating excessive noise or gaseous pollution (noisy vehicles must be reported and repaired as soon as possible).
- Do not litter along the roadsides, including both the public and private roads.
- Do not pollute any water bodies (whether flowing or not).
- No member of the construction team is allowed to enter the areas outside the construction site.

C.18 Traffic Disturbances and Diversions

- Any traffic diversions must be undertaken with the approval of all relevant authorities and in accordance with all relevant legislation.
- Wherever possible, traffic diversion must only take place on existing disturbed areas and remain within the existing road reserve.
- Traffic diversion routes must be rehabilitated after use.

C.19 Vegetation

- Only vegetation falling directly on the route must be removed where

- necessary.
- Alien vegetation within the road reserve must be eradicated, and management measures must be implemented for future control of these species.
- Vegetation that has been removed from large areas (e.g. on traffic diversion routes) during construction must be replaced with indigenous vegetation after construction has been completed.

C.20 Waste Management

- All general, non-hazardous waste must be placed in a skip container and disposed of at a registered waste disposal site.
- The contractor is to ensure that the portable toilet facilities at the campsite are properly maintained and in working order.
- No disposal, or leakage, of sewage must occur on or near the site.
- All hazardous waste (e.g. oil, paint, empty lime bags, contaminated wash water, etc) must be stored in leak proof containers and disposed of at a registered hazardous waste disposal site.
- The contents of waste storage containers must, under no circumstances, be emptied to the surrounding area. In general, littering, discarding or burying of any materials is not allowed on site or along the route.
- Adequate waste receptacles must be available at strategic points around the construction camp and site for all domestic refuse and to minimise the occurrence of littering.
- Concrete rubble must be collected and disposed of as directed by the Project Manager.
- Each working area must be cleared of litter and building waste (e.g. rubble, wood, concrete packets etc) on completion of the day's work.
- Any spill around the container(s) should be treated as per Section C11 and C16.

EPWP REQUIREMENTS

Personal & Other Protective Equipment (Sections 8/15/23 or the OHS Act)

The Contractor is required to identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal Protective equipment (PPE) should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of PPE is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the said equipment be maintained by the Contractor, that he instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use/wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition/s for which the equipment was prescribed but an alternative solution has to be found that may include relocating or discharging the employee.

The Contractor may not charge any fee for protective equipment prescribed by him/her but may charge for equipment under the following conditions:

- Where the employee requests additional issue in excess of what is prescribed
- Where the employee has patently abused or neglected the equipment leading to early failure
- Where the employee has lost the equipment

All employees shall, as a minimum, be required to wear the following PPE on any projects:

- Protective overalls
- Protective footwear
- Protective headwear
- Eye/face protection

All PPE provided to local labour working on the Expanded Public Works Programme shall be branded in accordance with the EPWP CI Manual. Typical elements which shall be branded include:

- Protective overalls
- Reflective vests
- Protective headwear

The rate for local labour shall include for the supply of EPWP branded PPE in accordance with the Provincial EPWP specifications. The rate shall include the additional cost of the specified colours for the PPE and branding in accordance with CI manual.

MEASUREMENT AND PAYMENT

Add the following:

ITEM	UNIT
B ### Extra over sub-item for branding of EPWP PPE	Lump Sum

Measurement shall be as specified for pay item ###.## of the standard specifications.

THE TENDERED RATE SHALL INCLUDE FULL COMPENSATION FOR BRANDING THE PPE AS DETERMINED IN THE RISK ASSESSMENTS AND AS REQUIRED FOR FULL DURATION OF THE CONTRACT.

B 13.03 EPWP signboard

The Contractor will be required to erect a signboard displaying the EPWP logo, indicating that this project is part of the EPWP. All costs related to the provision, erection and subsequent removal of the signboard shall be refunded to the Contractor through the provisional sum included in the Schedule of Quantities for this purpose.

B1231 COMMUNITY LIAISON OFFICER (CLO)

The contractor or his appointed agent will appoint a Community Liaison Officer (CLO) after

consultation with the local communities, the engineer and the employer. The contractor shall direct all his liaison efforts with the local communities through the appointed officer. The contractor shall, however, accept the appointed as part of his management personnel.

(a) Duties of the Community Liaison Officer

The Community Liaison Officer's duties will be:

- (i) To be available on site daily between the hours of (insert time) and at other time as the need arises. His normal working day will extend from morning until (insert time) in the afternoon.
 - (ii) To determine, in consultation with the contractor, the needs of the temporary labour for relevant skills training. He will be responsible for the identification of suitable trainees and will attend one of each of the training sessions.
 - (iii) To communicate daily with the contractor and the engineer to determine the labour requirements with regard to numbers and skill, to facilitate in labour disputes and to assist in their resolution.
 - (iv) To assist in and facilitate in the recruitment of suitable temporary labour and the establishment of a "labour desk".
 - (v) To attend all meetings in which the community and/or labour are present or are required to be represented.
 - (vi) To assist in the identification, and screening of labourers from the community in accordance with the contractor's requirements.
 - (vii) To inform temporary labour of their conditions of temporary employment and to inform temporary labourers as early as possible when their period of employment will be terminated.
 - (viii) To attend disciplinary proceedings to ensure that hearings are fair and reasonable.
 - (ix) To keep a daily written record of his interviews and community liaison.
 - (x) To attend monthly site meetings to report on labour and RDP matters.
 - (xi) All such other duties as agreed upon between all parties concerned.
 - (xii) To submit monthly returns regarding community liaison as illustrated in Part C5.1 of this document (form RDP 12(E)).
-
- (b) "employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on a EPWP;
 - (c) "worker" means any person working in an elementary occupation on a EPWP;
 - (d) "elementary occupation" means any occupation involving unskilled or semi- skilled work;
 - (e) "management" means any person employed by a department or implementing agency to administer or execute an EPWP;
 - (f) "task" means a fixed quantity of work;
 - (g) "task-based work" means work in which a worker is paid a fixed rate for performing a task;
 - (h) "task-rated worker" means a worker paid on the basis of the number of tasks completed;
 - (i) "time-rated worker" means a worker paid on the basis of the length of time worked.

C3.1.7.4 Terms of Work

- (a) Workers on an EPWP are employed on a temporary basis or contract basis.

C3.1.7.5 Normal Hours of Work

- (a) An employer may not set tasks or hours of work that require a worker to work–
a. more than forty hours in any week

- b. on more than five days in any week; and
- c. for more than eight hours on any day.
- (b) An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.
- (c) A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

C3.1.7.6 Meal Breaks

- (a) A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.
- (b) An employer and worker may agree on longer meal breaks.
- (c) A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.
- (d) A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

C3.1.7.7 Special Conditions for Security Guards

- (a) A security guard may work up to 55 hours per week and up to eleven hours per day.
- (b) A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

C3.1.7.8 Daily Rest Period

- (a) Every worker is entitled to a daily rest period of at least twelve consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

C3.1.7.9 Weekly Rest Period

- (a) Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

C3.1.7.10 Sick Leave

- (b) Only workers who work for more than 24 hours have the right to claim sick-pay in terms of this clause
- (c) A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.
- (d) A worker may accumulate a maximum of twelve days' sick leave in a year
- (e) Accumulated sick-leave may not be transferred from one contract to another contract.
- (f) An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- (g) An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
- (h) An employer must pay a worker sick pay on the worker's usual payday.
- (i) Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
- (j) absent from work for more than two consecutive days; or
- (k) absent from work on more than two occasions in any eight-week period.
- (l) A medical certificate must be issued and signed by a medical practitioner, a qualified nurse

or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.

- (m) A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

C3.1.7.11 Maternity Leave

- (a) A worker may take up to four consecutive months' unpaid maternity leave.
- (b) A worker is not entitled to any payment or employment-related benefits during maternity leave.
- (c) A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- (d) A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- (e) A worker may begin maternity leave –
- (f) four weeks before the expected date of birth; or
- (g) on an earlier date –
- a. if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
- b. if agreed to between employer and worker; or
- c. on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- (h) A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

C3.1.7.12 Family responsibility leave

Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -

- (a) when the employee's child is born;
- (b) when the employee's child is sick;
- (c) in the event of a death of –
- (d) the employee's spouse or life partner;
- (e) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

C3.1.7.13 Statement of Conditions

An employer must give a worker a statement containing the following details at the start of employment –

- (a) the employer's name and address and the name of the EPWP;
- (b) the tasks or job that the worker is to perform; and
- (c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
- (d) the worker's rate of pay and how this is to be calculated;
- (e) the training that the worker will receive during the EPWP.
- (f) An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- (g) An employer must supply each worker with a copy of these conditions of employment.

C3.1.7.14 Keeping Records

Every employer must keep a written record of at least the following –

- (a) the worker's name and position;
- (b) Certified ID copies of all locally employed labour
- (c) Signed Contracts between the employer and the EPWP Participants
- (d) Attendance Registers for the EPWP Participants
- (e) Monthly Reporting Template as per EPWP requirements
- (f) in the case of a task-rated worker, the number of tasks completed by the worker;
- (g) in the case of a time-rated worker, the time worked by the worker;
- (h) Proof of payments made to each worker.
- (i) The employer must keep this record for a period of at least three years after the completion of the EPWP.

COMMUNITY PARTICIPATION.

2.1 Purpose

In order to give effect to the need for participation and transparency in the process of appointing labour, the community should participate in the decision-making process throughout the life of a project. This shall be achieved through structured engagement between those responsible for the delivery of the project and the community.

2.2 Structure and Composition

A Project Liaison Committee (PLC) may be formed from representatives of the Employer, the Engineer, the Contractor and the Community if the project is such that a specific community can be identified.

2.3 Procedures

2.3.1 The PLC deals with labour and SMME involvement on the project and shall meet at least once every month until such time as it is of the opinion that it could fulfil its tasks by meeting less frequently.

2.3.2 The PLC shall make recommendations by consensus. If consensus cannot be reached, the decision of the Employer will be final in cases that have no financial implications for the Contractor or where payment is to be made from PC items. Where the financial responsibility for the successful completion of the works rests with the Contractor, the Contractor's decision shall be final. In fulfilling its tasks, the PLC shall be guided by the relevant sections of this specification and the supplementary documents.

C3.1.7.1 Payment for the Labour-Intensive Component of the Works:

Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

C3.1.7.2 Applicable Labour Law

The Ministerial Determination 4: Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment act of 1997 by the Minister of Labour in Government Notice NR347 of 4 May 2012, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers. An EPWP contract shall be signed between the contractor and the EPWP participant using the template appended. The contracts shall expire on earlier of (i) 31 March, (ii) at the end of the project; or (iii) completion of the works allocated.

C3.1.7.3 Introduction

This document contains the standard terms and conditions for workers employed in elementary occupations on an Expanded Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of an EPWP.

In this document –

- (a) “department” means any department of the State, implementing agent or contractor;
- (b) “employer” means any department, implementing agency or contractor that hires workers to work in elementary occupations on a EPWP;
- (c) “worker” means any person working in an elementary occupation on a EPWP;
- (d) “elementary occupation” means any occupation involving unskilled or semi- skilled work;
- (e) “management” means any person employed by a department or implementing agency to administer or execute an EPWP;
- (f) “task” means a fixed quantity of work;
- (g) “task-based work” means work in which a worker is paid a fixed rate for performing a task;
- (h) “task-rated worker” means a worker paid on the basis of the number of tasks completed;
- (i) “time-rated worker” means a worker paid on the basis of the length of time worked.

C3.1.7.11 Maternity Leave

- (a) A worker may take up to four consecutive months’ unpaid maternity leave.
- (b) A worker is not entitled to any payment or employment-related benefits during maternity leave.
- (c) A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- (d) A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- (e) A worker may begin maternity leave –
- (f) four weeks before the expected date of birth; or
- (g) on an earlier date –
 - a. if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
 - b. if agreed to between employer and worker; or
 - c. on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- (h) A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

C3.1.7.12 Family responsibility leave

Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -

- (a) when the employee’s child is born;
- (b) when the employee’s child is sick;
- (c) in the event of a death of –
- (d) the employee’s spouse or life partner;
- (e) the employee’s parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

C3.1.7.13 Statement of Conditions

An employer must give a worker a statement containing the following details at the start of employment –

- (a) the employer's name and address and the name of the EPWP;
- (b) the tasks or job that the worker is to perform; and
- (c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
- (d) the worker's rate of pay and how this is to be calculated;
- (e) the training that the worker will receive during the EPWP.
- (f) An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- (g) An employer must supply each worker with a copy of these conditions of employment.

C3.1.7.14 Keeping Records

Every employer must keep a written record of at least the following –

- (a) the worker's name and position;
- (b) Certified ID copies of all locally employed labour
- (c) Signed Contracts between the employer and the EPWP Participants
- (d) Attendance Registers for the EPWP Participants
- (e) Monthly Reporting Template as per EPWP requirements
- (f) in the case of a task-rated worker, the number of tasks completed by the worker;
- (g) in the case of a time-rated worker, the time worked by the worker;
- (h) Proof of payments made to each worker.
- (i) The employer must keep this record for a period of at least three years after the completion of the EPWP.

C3.1.7.15 Payment

- (a) An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
- (b) A worker may not be paid less than the minimum EPWP wage rate of R##.## per day or per task. This will be adjusted annually on the 1st of November in-line with inflation (available CPI as provided by StatsSA six (6) weeks before implementation).
- (c) A task-rated worker will only be paid for tasks that have been completed.
- (d) An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
- (e) A time-rated worker will be paid at the end of each month.
- (f) Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
- (g) Payment in cash or by cheque must take place –
 - a. at the workplace or at a place agreed to by the worker;
 - b. during the worker's working hours or within fifteen minutes of the start or finish of work;
 - c. in a sealed envelope which becomes the property of the worker.
- (h) An employer must give a worker the following information in writing –
 - a. the period for which payment is made;
 - b. the numbers of tasks completed or hours worked;
 - c. the worker's earnings;
 - d. any money deducted from the payment;
 - e. the actual amount paid to the worker.
- (i) If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.

-
- (j) If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

C3.1.7.16 Deductions

- (a) An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
- (b) An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- (c) An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.
- (d) An employer may not require or allow a worker to –
- repay any payment except an overpayment previously made by the employer by mistake;
 - state that the worker received a greater amount of money than the employer actually paid to the worker; or
 - pay the employer or any other person for having been employed.

C3.1.7.17 Health and Safety

- (a) Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
- (b) A worker must –
- work in a way that does not endanger his/her health and safety or that of any other person;
 - obey any health and safety instruction;
 - obey all health and safety rules of the EPWP;
 - use any personal protective equipment or clothing issued by the employer;
 - report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

C3.1.7.18 Compensation for Injuries and Diseases

- (a) It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on an EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- (b) A worker must report any work-related injury or occupational disease to their employer or manager.
- (c) The employer must report the accident or disease to the Compensation Commissioner.
- (d) An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

C3.1.7.19 Termination

- (a) The employer may terminate the employment of a worker for good cause after following a fair procedure.
- (b) A worker will not receive severance pay on termination.
- (c) A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.
- (d) A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

- (e) A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

C3.1.7.20 Certificate of Service

On termination of employment, a worker is entitled to a certificate stating –

- (a) the worker's full name;
- (b) the name and address of the employer;
- (c) the EPWP on which the worker worked;
- (d) the work performed by the worker;
- (e) any training received by the worker as part of the EPWP;
- (f) the period for which the worker worked on the EPWP;
- (g) any other information agreed on by the employer and worker.

C3.1.7.21 Contractor's default in payment to Labourers and Employees

- (a) Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.
- (b) The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

C3.1.7.22 Provision of Handtools

- (a) The Contractor shall provide his labour force with hand tools of adequate quality, sufficient in numbers and make the necessary provisions to maintain the tools in good and safe working conditions

C3.1.7.23 Reporting

The Contractor shall submit monthly returns/reports as specified below:

- (a) Signed Master rolls/pay sheets of temporary workers and permanent staff detailing the number, category, gender, rate of pay and daily attendance.
- (b) Certified ID copies of all locally employed labour
- (c) Signed Contracts between the employer and the EPWP Participants
- (d) Attendance Registers for the EPWP Participants
- (e) Monthly Reporting Template as per EPWP requirements
- (f) Plant utilization returns

Progress report detailing production output compared to the programme of works

UNEMPLOYMENT INSURANCE FUND

The contractor will be responsible for payment or contribution of UIF for all labour employed under the project. Proof of payment of UIF shall be available upon request.

B1233 WORKMEN'S COMPENSATION ACT

All labour employed on the site shall be covered by the Workmen's Compensation Act. The contractor shall pay in full, including the payment of the necessary levies, such amounts, as are due in terms of the Act. The contractor at the commencement of the contract shall resolve the manner in which Workmen's Compensation will be handled. Amounts paid by the contractor shall not be included in the wage rates but shall be an extra payment allowed for by the contractor.

Labour-intensive construction methods

Labour-intensive construction shall mean the economically efficient employment of as great a portion

of labour as is technically feasible to produce a standard of construction as demanded by the specifications with completion by the Due Completion Date, thus bringing about the effective substitution of labour for plant and equipment.

Appropriate portions of the Works included in the Contract shall be executed using labour-intensive construction methods.

Except where the use of plant is essential in order, in the opinion of the Engineer, to meet the specified requirements by the Due Completion Date, or where the use of plant is essential as a result of occupational health and safety considerations, the Contractor shall use only hand tools and equipment in the construction of those portions of the Works that are required in terms of these Project Specifications to be constructed using labour-intensive construction methods.

These portions of the Works shall be constructed utilizing only locally employed labour and/or the labour of local subcontractors, supplemented by the Contractor's key personnel to the extent necessary and unavoidable, unless otherwise instructed by the Engineer and in accordance with the further provisions of the relevant sections of Portion B of the Project Specifications.

Subject to considerations of occupational health and safety, the portions of the Works to be executed using labour-intensive construction methods are:

- ☐ Clearing and grubbing of the Site;
- ☐ Excavation for structures up to 1,5 m deep;
- ☐ Bedding, selected fill, backfilling and compaction of all pipe trenches irrespective of depth, but assisted by mechanical compaction equipment in order to achieve the specified densities;
- ☐ Transportation and spoiling of all trench materials, where the disposal site is located within 20 metres of the source;
- ☐ Dismantling and re-erection of fences;
- ☐ Mixing and placing of concrete;
- ☐ Construction of all brickwork required for structures; and
- ☐ Cleaning and tidying up of the Site.

Material

Where possible, the contractor shall source material from within ## km of the site utilizing local labour. The material which may be sourced from site includes:

- Rock for gabions and stone pitching.

Task Based Activities

Labour Intensive activities are to be planned as task based works where required. Task based refers to a specific amount of work to be performed which is clearly defined by a quantity and quality. Typically, a particular task can be completed within a working day.

REQUIREMENTS OF EXPANDED PUBLIC WORKS PROGRAMME EPWP Project Specification

As much as is economically feasible, all work shall be implemented by employing Labour Intensive Construction methods. Over and above the normal Building and Allied works to be implemented by employing skilled and unskilled labour the works specified in the “Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP)” shall be undertaken using Labour Intensive Construction

methods.

EMPLOYMENT OF UNSKILLED AND SEMI-SKILLED WORKERS IN LABOUR INTENSIVE WORKS

Requirements for the sourcing and engagement of labour.

C.1.1. Unskilled and semi-skilled labour required for the execution of all labour intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

C.1.2. The rate of pay set for the EPWP is R per task or per day.

C.1.3. Tasks established by the contractor must be such that:

a) the average worker completes 5 tasks per week in 40 hours or less; and b) the weakest worker completes 5 tasks per week in 55 hours or less.

C.1.4. The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.1.3.

C.1.5. The Contractor shall, through all available community structures, inform the local community of the labour intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

- a) where the head of the household has less than a primary school education;
- b) that have less than one full time person earning an income;
- c) where subsistence agriculture is the source of income.
- d) those who are not in receipt of any social security pension income

C.1.6. The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:

- a) 55 % women;
- b) 55% youth who are between the ages of 18 and 35; and
- c) 2% on persons with disabilities.

B2204 CONSTRUCTION METHODS

Add the following:

"in all cases where soft founding materials is classified as suitable for culvert beddings construction, the in-situ material shall be ripped, moistened and compacted to 90% to 93% modified aashto density. The depth of preparation and compaction of founding materials shall be indicated on drawings as specified by the engineer. Allowance for measurement and payment for this work is made in the bill of quantities under this section"

The generic labour-intensive specification below is the same as SANS 1921-5, construction and management requirement for works contracts- part 5: earthworks activities which are to be performed by hand and should be included in the scope of works without amendment or modification as set out below.

SCOPE

This specification establishes general requirements for activities which are to be executed by hand involving the following:

- a. Trenches having a depth of less than 1.5 metres
- b. Stormwater drainage
- c. Low-volume roads & sidewalks

C3.40

Contractor

Employer

PRECEDENCE

Where this specification is in conflict with any other standard or specification referred to in the scope of works to this contract, the requirements of this specification shall prevail.

HAND EXCAVATEABLE MATERIAL

Hand excavateable material is material:

- a. granular materials:
 - i. whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or
 - ii. where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;
- b. cohesive materials:
 - i. whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
 - ii. where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.

2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle

of 60° with respect to the horizontal) into the material being used.

Table 1: Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in upto 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation.	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

Trench excavation

All hand excavateable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers

- to 90% Proctor density;
- such that in excess of 5 blows of a dynamic come penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or
- such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

Excavation

All hand excavateable material including topsoil classified as hand excavateable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand.

The excavation of any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

MEASUREMENT AND PAYMENT

C3.42

Contractor

Employer

Add the following:

ITEM	UNIT
B22.01 (C) Extra over sub-item for excavation by hand using hand tool	cubic metre (m ³)

Measurement shall be as specified for pay item 22.01 of the standard specifications.
The tendered rate shall include full compensation for carrying out the excavation by hand where circumstances prevent the use of mechanical excavators. Va

PROVISION OF STRUCTURED TRAINING

CONTENTS

1 SCOPE

2 GENERIC TRAINING

3 ENTREPRENEURIAL SKILLS TRAINING

4 INSERVICE TRAINING

5 MEASUREMENT AND PAYMENT

1 SCOPE

This specification covers the requirements for the provision of structured training to be arranged by the contractor over the period of this contract.

2 GENERIC TRAINING

2.1 The contractor shall, from the commencement of the contract, implement a structured progressive training programme.

2.2 The generic training will inter alia comprise, but not be limited to the following subjects:

Course Description	Estimated No. Of Trainees	Estimated Duration (Days)
1. Road safety for construction workers		
2. Flagmen		
3. Concrete handling, placing and finishing		

4. Guardrails		
5. Gravel Road Layer		

2.3 Training shall be at or by an approved accredited organisation and shall be delivered by suitably qualified and experienced trainers.

2.4 The tenderer shall provide with his tender full details of the structured training programme he intends to implement, which details shall include the following:

- (a) The name of the training institution and programme
- (b) The manner in which the training is to be delivered.
- (c) The numbers and details of the trainers

Such details shall be entered on or attached to Form ##### included herein.

2.5 The contractor shall be responsible for the provision of everything necessary for the delivery of the generic training programme, including the following:

- (a) A suitable venue with sufficient furniture, lighting and power.
- (b) All necessary stationery consumables and study material
- (c) Transport of the students (as necessary)
- (d) Payment of wage to all trainees during the classroom training at a rate equal to the minimum wage as set in the Ministerial Determination for the Expanded Public Works Programme on an annual basis.
- (e) relevant PPE required for the project works
- (f) Additional supervision of learners during the practical learning stages of the works. Wage for the learners during this stage of the training will be paid through the outputs.

2.6 Generic training courses shall commence within one month of possession of site and be completed before the end of the contract period.

2.7 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.

2.8 The contractor shall keep comprehensive records of the training given to each student and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each student shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor.

3 ENTREPRENEURIAL SKILLS TRAINING

3.1 Small contractors and subcontractors will be entitled to receive a structured training programme, which will comprise both management skills as well as business development skills.

3.2 The contractor shall closely monitor the performance of all small subcontractors in the execution of their contracts and shall identify all such subcontractors who, in his opinion, display the potential to benefit from structured training as may be provided for in the contract and where required by the

engineer, shall make recommendations in this regard. The final list of candidates will be decided between the contractor and the engineer.

3.3 The training will be delivered by trainers who are accredited by the Civil Engineering Training Scheme (CEITS) or other institutions recognised by the Department of Labour. Accredited training refers to both the trainers as well as to the training material.

3.4 The contractor shall facilitate in the delivery thereof, by instructing and motivating the subcontractor regarding attendance and participation therein.

3.5 The contractor shall further make all reasonable efforts to co-ordinate the programming of the subcontractor.

3.6 The structured training will comprise out of the following as decided by the Employer:

Course Description	Estimated Duration (Days)
1. Basic Business Principles	
2. Basic Supervision	
3. Running A Business	
4. Legal Principles	
5. Achieving Standards	

3.7 The contractor shall provide with his tender, full details of the structured training programme, which he intends to implement, which details shall include the following:

- The name of the training institution and programme
- The various aspects of each type of training comprised in the programme
- The manner in which the training is to be delivered
- The numbers and details of the trainers to be utilised.

Such details of the proposed entrepreneurial training programme shall be entered on schedule of training to be completed by the tenderer.

3.8 The contractor shall be responsible for the provision of everything necessary for the delivery of the entrepreneurial training programme, including the following:

- A suitably furnished venue (if required) with lighting and power.
- All necessary consumables, stationery and study material
- Transport of the subcontractors (as necessary)

3.9 All entrepreneurial training shall take place within normal working hours.

3.10 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.

3.11 The contractor shall keep comprehensive records of the training given to each subcontractor and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each subcontractor shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor.

4. IN SERVICE TRAINING

4.1 The contractor shall in addition to the structured (accredited) training as provided for in Part C of this document implement an in-service training programme, from the commencement of the contract, in which the various skills required for the execution and completion of the works are imparted to the labourers engaged thereon, in a programmed and progressive manner. Labourers shall be trained progressively throughout the duration of the contract, in the various stages of a particular type of work.

4.1.1 Details of in-service training

(i) The contractor shall attach to applicable returnable form the basic details of his proposed in- service training programme, which details shall inter alia include the following:

- the details of training to be provided
- the manner in which the training is to be delivered
- the number and details of trainers to be utilised.

(ii) The in-service training programme shall be submitted with the initial works programme. The progress in relation to this programme will be recorded monthly and attached to the site meeting minutes and payment certificate.

(iii) The contractor shall provide on site, sufficient skilled and competent trainers to train all labourers engaged on the contract, in the various skills required for the execution and completion of the works.

(iv) All labourers shall be remunerated in respect of all time spent undergoing training.

(v) Every worker engaged on the contract shall on the termination of his participation on the contract, be entitled to receive from the contractor, a certificate of service in which the following information shall be recorded:

- the name of the contractor
- the name of the employee
- the name of the project/contract
- the nature of the work satisfactorily executed by the worker and the time spent thereon
- the nature and extent of training provided to the worker
- the dates of service.

(vi) The cost of the above obligations shall be deemed to be covered by the sums and rates tendered for items B13.01(a), (b) and (c) in the bill of quantities. The performance of the contractor in providing in-service training, shall be taken into consideration should the contractor fail to reach his CPG at the completion of the project.

4.1.2 Lead time for training

The training of labour as specified shall, as far as possible, take place before commencement of each activity and the contractor shall take into account in his programme the lead-time he requires for such training. All training herein specified shall be deemed to be a construction activity and a non-negotiable condition of the contract”.

All formal training is to be documented in terms of the National/Provincial submission forms, and accompanied by an attendance register for the applicable days.

5 MEASUREMENT AND PAYMENT

	ITEM	UNIT
	E12.05 Provision for training	
(a)	Generic skills Provisional (list training courses)	sum
(b)	Entrepreneurial skills Provisional	sum
(c)	Handling cost and profit in respect of sub-item E12.05(a) and (b) above	percentage (%)
(d)	Training venue (only if required)	lump sum
(e)	Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site. (provisional sum)	sum
(f)	Additional supervision during practical training	lump sum

The prime cost sums are provided to cover the actual costs (including wages, tools and PPE) for attendance of accredited training courses as agreed with the engineer and shall be expended in accordance with the provisions of sub-clause 48(2) of the general conditions of contract. The tendered percentage in sub-item 4.1(c) is a percentage of the amount actually spent under sub-items 4.1(a) and (b) which shall include full compensation for the contractor's handling cost, profit, mentoring, record keeping, reporting and all other costs in connection therewith.

The lump sum tendered for 4.1(d) shall include full compensation for the provision of the training venue, for all necessary lighting, power, furniture, stationery, consumables and study material and for transportation of the students to and from the training venue. Payment of the lump sum will be made in two instalments as follows:

(i) The first instalment, 75% of the lump sum, will be paid after the contractor has met all his obligations regarding the provision of the training venue as specified.

(ii) The second and final instalment, 25% of the lump sum, will be paid after the provision of all the accredited training as specified in the document.

The lump sum tendered for 4.1 (e) shall include full compensation for the provision of additional supervisory staff to manage the output generated from the learners during practical training.

F4. JOB CREATION REPORTING FOR EPWP

In order to assist the Employer in complying with the goals of creating EPWP job opportunities, the Contractor must provide the following information for reporting purposes:

F4.1 Type of project data required per project

Every EPWP project shall collect and keep specific project data for the purpose of EPWP progress reporting. ***The data that is required to be kept and maintained for each project includes:***

F4.1.1 Beneficiary data

A beneficiary list must be maintained for every project. The data required in this beneficiary list is indicated below. This data shall be recorded, checked and signed off by the Contractor on a weekly basis, and shall be submitted to the Employer at each monthly site meeting. The beneficiary list shall contain the following data and shall be kept and maintained on site for audit purposes:

- (a) Beneficiary identity – name, surname, initials, date of birth and identity number (or other unique identifier) plus certified copy of ID book (or other unique identifier).
- (b) Beneficiary profiles – nationality, gender, age, education level and disability status.
- (c) Monthly work data for beneficiaries – daily wage to be received, number of calendar days training attended and number of calendar days worked.

F4.1.2 Project work data

This generally seeks to confirm the number of people at work daily on the project. The following data must be recorded and maintained on site by the Contractor, in order that it can be provided by the Employer to the National Department of Public Works upon request when the latter is undertaking sample auditing. The documentation that should be kept includes:

- (a) Daily attendance register – register for each day showing all the workers that were registered as being at work on that day. Attendance registers shall be completed on site on a daily basis and signed off by the Contractor on a weekly basis.
- (b) Summary of monthly attendance.

F4.1.3 Project payment data

This generally seeks to confirm what was paid, for how much work and to whom. It is required that the Contractor adopt one of the following methods as standard procedure for recording and maintaining this information:

- (a) Payment register – this is a list of the workers showing the wages paid to each worker, and signed off by each worker as proof of receipt and acceptance of payment. Information on this register must include the name of the worker, either an identity number or other unique identifier, the number of calendar days that the pay period covers, the wage rate and the total wages paid.

Alternatively,

- (b) Bank records showing the transfers to each worker account, signed off by the Contractor as proof of payment – these bank records must specifically show the name of the worker, either an identity number or other unique identifier, the period which the pay covers and the total wages paid.

The project payment data, as recorded and maintained by the Contractor in terms of either (a) or (b) above, must be available and applicable for the entire period for which the Employer claims an incentive reward for person-days of work created in terms of the project.

F4.1.4 Employment output data

The Contractor shall submit to the Employer at each monthly site meeting the data necessary to enable the Employer to calculate the following employment output data:

- (a) Number of work opportunities created (where one work opportunity = paid work created for one individual on an EPWP project, for any period of time).
- (b) Number of person-days of work created (where one person-day = one day of work carried out by one individual). The total number of person-days of work created on a particular EPWP project shall be obtained by summing the total number of person-days worked by each individual employed during the course of that EPWP project.
- (c) Number of Full Time Equivalents (FTEs) created (= total number of person-days of work created on the EPWP project divided by 230 working days). In terms of EPWP policy, one year of work created for one individual is assumed to comprise a total of 230 days of paid work carried out by that individual.
- (d) Average duration of work opportunities created (= total number of person-days of work created on the EPWP project divided by the number of work opportunities created on that EPWP project).
- (e) Average daily wage rates paid (= accumulated total of the wages paid to all individuals employed on an EPWP project divided by the total number of person-days of work created on that EPWP project).

The employer's objectives are to deliver public infrastructure and services using labour-intensive methods in accordance with EPWP Guidelines

Labour-intensive works

Labour-intensive works comprise the activities such as those described in SANS 1921-5, Earthworks activities which are to be performed by hand, and its associated specification data. Such works shall be constructed using local workers who are temporarily employed in terms of this Scope of Work.

C3.4.6 VARIATIONS AND ADDITIONS TO STANDARDISED SPECIFICATIONS

SANS 1200 A: GENERAL

PSA 1 SCOPE

Replace the content of sub clause 1.1 including the note, with the following:
This specification cover requirements, principles and responsibilities of a general nature which are generally applicable to civil Employer's Agenting construction and building work contract, as well the requirements for contractor's establishment on the site."

PSA 2 INTERPRETATIONS

PSA 2.3 Definitions (sub clause 2.3)

In the opening phrase between the words "Specification" AND "the following", insert the words "the definitions given in the Conditions of the Contract and".

a. General

"General conditions and Conditions of contract: The General Conditions of the contract, together with the special conditions of contract as applicable.

"Specified": As specified in the standardized specifications, the Drawings or the project Specifications. Specifications shall have the corresponding meaning."

b. Measurement and Payment

Replace the definition for "Fixed charge", Time related charge" and "Value – related charge" with the following:

Fixed charge: a charge that is not subject to adjustment on account of variations in the value of the contract Price or the time allowed in the contract for the completion of the work.

Time related charge: A charge, the amount of which varies in accordance with the time for Completion of the work, adjusted in accordance with the provisions of the contract.

Value related charge: A charge the amount of which varies pro rata with the final value of the measured work executed and valued in accordance with the provisions of the contract.

PSA 3 MATERIALS

PSA 3.1 Quality (sub-clause 3.1)

Add the following:

"All manufactured materials supplied shall be new materials unless the contrary is specified. All materials specified in accordance with SABS Specifications shall bear the SABS mark, whether so specified or not.

The Contractor shall arrange for all necessary process control tests for soil properties, density, etc, and concrete cube tests and is responsible for the cost of all testing to ascertain that the materials do comply with the relevant minimum requirements and all such costs shall be deemed to be included in the tendered rates. The cost of acceptance control tests done by the Employer's Agent, of which the results do not comply with the minimum requirements, shall be for the Contractor's account. The tests must be carried out by an independent laboratory approved by the Employer's Agent.

The Contractor shall inform the Employer's Agent of any process control testing to be done at least 48 hours before such test are required and must allow in his programme for the time necessary for the tests and the processing of the results thereof."

Add the following sub-clauses to Clause 3 :

PSA 3.3 Ordering of Materials

The quantities set out in the Schedule of Quantities have been carefully determined from calculations based on data available at the time and should therefore be considered to be only approximate quantities. The liability shall rest entirely and solely with the Contractor to determine before ordering, the required types and quantities of the various materials required for completion of the Works in accordance with the Specifications and the Drawings issued to the Contractor for construction purposes.

Any reliance placed by the Contractor on the estimated quantities stated in the Schedule of Quantities issued for tendering purposes, or measurements made by the Contractor from the drawing issued for tendering purposes, shall be entirely at the Contractor's risk, and the Employer accepts no liability whatever in respect of materials ordered by the Contractor on the basis of Tender Documents."

PSA 3.4 Materials Supplied by the Employer

Material designated in the contract documents to be supplied by the Employer shall not be obtained by the Contractor from any other source than from the Employer. Requisitions for materials to be supplied by the Employer shall be submitted timeously by the Contractor in writing and shall be signed by the Contractor or his authorized representative and countersigned by the Employer's Agent.

The Contractor or his authorized representative shall, upon delivery of all such materials, sign a receipt only for such defects and deficiencies as may have been recorder by the Contractor, such material will, expect only for such defects and deficiencies as many have been recorded by the Contractor in writing on the said receipt, be deemed to be in a sound and satisfactory condition and will then be deemed to be his sole responsibility, as such materials has been supplied by the Contractor himself.

The onus shall be entirely on the contractor to ensure that he accepts only sound materials from the employer, and notwithstanding the supply of material on the Site of the Work which, in his option, is unsound, defective or in any way not in compliance with the specifications. The Contractor shall immediately remove such rejected from the site of the works and shall replace them at his own expense, with new and sound materials which are in accordance with the specifications to the satisfaction of the Employer's Agent.

In the event of circumstance arising which necessitate the replacement of any materials which were supplied by the Employer, the Contractor shall, unless otherwise instructed in writing by the Employer's Agent, obtain such replacement materials only from the employer. In such circumstances, the contractor shall be liable to and pay to the Employer, all costs incurred by the Employer in supplying such replacement materials, irrespective of whether the Contractor could have obtained the said replacement materials from another source at lesser cost than the Employer.

The aforesaid shall always apply, provided the Contractor will not be held liable for the costs of replacement by the employer of unsound materials which were not accepted by the Contractor as aforesaid.

PSA 4 PLANT

PSA 4.2 Contractor's Office, Stores and Services (sub-clause 4.2)

Add the following paragraph before the existing first paragraph:

The Contractor's building, sheds and other facilities erected or utilized on the site for the purposes of the Contract shall be fenced off and shall contain all offices, store, workshop, testing laboratories, toilet facilities, etc, as may be required by the Contractor. The facilities shall always be kept in the neat and orderly condition.

No personnel may reside on the Site. Only night watchmen may be on the Site after hours."

Delete "and first-aid services" in the second paragraph and add the following: The Contractor shall provide on the Site and close proximity to the actual locations where the work is being executed, one toilet per 10 workmen, which toilets shall be relocated from time to time as the location of the work being executed changes, so as to ensure that easy access to the toilets is maintained.

The Contractor shall, where applicable, make all necessary arrangements and pay for the removal of night soil."

Neither housing nor shelters are available for the Contractor's employees, and

the Contractor shall make his own arrangement to house his employees and transport them to the site.

PSA 5 CONSTRUCTION

PSA 5.1 Survey

PSA 5.1.1 Setting Out of the Works (sub-clause 5.1.1)

Add the following

The Contractor will be required to set out the various sections of the Works in the order that he proposes to undertake the work as per his programme, at least one week prior to commencing work on these sections, to enable the Employer's Agent to check the design proposals in the field and thereafter to make any minor changes which he may deem necessary. Any additional survey work or setting out required as a result of these changes shall be undertaken on a daywork basis."

Setting out of the works is the sole responsibility of the Contractor and shall be done from the layouts given to him. The proposed network pipes must be placed as indicated on the typical drawings away from the erf boundaries. Any discrepancy shall immediately be reported in writing to the Employer's Agent. Any costs or subsequent costs arising from discrepancies, which had not been reported to the Employer's Agent, shall be the sole responsibility of the Contractor.

The Employer's Agent may alter any part of the works to suit local conditions. The Contractor must therefore contact the Employer's Agent immediately after the preliminary setting out of any part of the works before starting with detail setting out, or construction. Only after the Employer's Agent has approved a specific site or part of the works, may the detail setting out and construction commence.

PSA 5.1.2 Preservation and replacement of beacons and pegs subject to Land Survey Act (sub-clause 5.1.2)

Cadastral stand pegs and any other survey or reference pegs indicated on site, and on plan, and/or recorded in writing during any stage of construction of the works remain the responsibility of the Contractor until completion of the works.

These pegs have to be verified before commencement of the works and all disturbed pegs noted in writing and submitted to the Employer's Agent.

Should any pegs be disturbed during the contract by the Contractor, the pegs must be replaced by a registered land surveyor at the Contractor's cost.

On completion of the Contract a letter from a registered Land Surveyor, certifying that all cadastral stand pegs have been checked and found correct, must be submitted to the Employer's Agent. A pay item has been included for this verification of stand pegs.

PSA 5.2 Watching, Barricading, Lighting and Traffic Crossings (Subsclause 5.2)

Add the following:

The road crossings of existing bitumen surfaced roads and gravel roads must be done in half widths, while the total traffic is accommodated in the other lane.

Road traffic signs shall comply with the requirements of the "South African Road Traffic Signs Manual" and shall be approved by the Employer's Agent before construction commences.

PSA 5.4 Protection of Overhead and Underground Services (sub-clause 5.4)

Add the following sub-clauses.

PSA 5.4.1 Location of existing services

The Contractor shall make the necessary arrangements with the statutory authority (Municipality, Eskom and Telkom) concerned for the timely relocation of all overhead and underground public services. No claim for extension of time will be considered due to any delay to earthworks operations as a result of obstructions caused by existing services.

Any existing manholes which fall within the road formation area shall be reset to the design road levels and be provided with a heavy duty manhole cover.

Before commencing with any work in an area, the Contractor shall ascertain the presence and actual position of all services which can reasonably be expected by an experienced and competent contractor to be present on, under over or within the Site.

Without in any way limiting his liability in terms of the Conditions of Contract in relation to damage to property and inference with services, The Contractor shall, in collaboration with the Employer's Agent, obtain the most up to date plans as are available, showing the positions of services existing in the area where the intends to work. Neither the Employer nor the Employer's Agent offers any warranty as to the accuracy or completeness of such plans and because services can often not be reliably located from plans, the Contractor shall ascertain the actual location of services depicted on such plans by means of careful inspection of the Site.

Thereafter the Contractor shall by the use of appropriate methodologies, carefully expose the services at such positions as are agreed to by the Employer's Agent, for the purposes of verifying the exact location and position of the services. Where the expose of verifying the exact location and position of the services. Where the exposure of existing services involves excavation to expose underground services, the further requirements of subclauses 4.4 and 5.1.2.2 of SABS 1200 D (as amended) shall apply.

The aforesaid procedure shall also be followed in respect of services not shown on the plans but which may reasonably be anticipated by an experienced Contractor to be present or potentially present on the site.

All services, the positions of which have been determined as aforesaid at the critical points, shall henceforth be designated as known services and their positions shall be indicated by the Contractor on a separate set of drawings, a copy of which shall be furnished to the Employer's Agent without delay.

As soon as any service which has not been identified and located as described above is encountered on, under over or within the site, it shall henceforth be deemed to be a known service and the aforesaid provisions pertaining to locating, verifying and recording its position on the balance of the site shall apply. The Contractor shall notify the Employer's Agent immediately when any such service is encountered or discovered on the Site.

Whilst he is in possession of the Site, the Contractor shall be liable for all loss of or damage as may occur to.

- a) Known services, anywhere along the entire lengths of their routes, as may reasonably be deduced from the actual locations at which their positions were verified as aforesaid, due cognizance being taken of such deviations in line and level which may reasonably be anticipated, and
- b) Any other service which ought reasonably to have been a known service in accordance with the provisions of this clause,

The Contractor shall also be liable for consequential damage in regard to (a) and (b), whether caused directly by the Contractor's operations or by the lack of proper protection.

No separate payment will be made to the Contractor in respect of his cost of providing, holding available on the Site and utilising the said detecting and testing equipment, nor for any costs incurred in preparing and submitting to the Employer's Agent the Drawings as aforesaid. These costs shall be deemed included in the Contractor's other tendered rates and price included in the Contractor.

Payment to the Contract in respect of exposing services at the positions agree by the Employer's Agent and as Described above will be made under the payment items (if any) as may be provided for in the respective sections of the specifications pertaining to the type of work involved.

PSA 5.4.2 Protection during Construction

The Contractor shall take all reasonable precautions and arrange its operations in such a manner as to prevent damage occurring to all known

services during the period which the contractor has occupation and / or possession of the Site.

Services left exposed shall be suitably protected from damage and in such a manner as will eliminate any danger arising therefrom to the public and/ or workmen, all in accordance with the requirements of the prevailing legislation and related regulations.

Unless otherwise instructed by the Employer's Agent, no services shall be left exposed after its exact position has been determined and all excavations carried out for the purpose of exposing underground services shall be promptly backfilled and compacted. In roadways, the requirements of subclause 5.9 of SABS 1200 DB should be observed. In other areas compaction is to be to 90% modified AASHTO density.

PSA 5.4.3 Alterations and Repairs to Existing Services

Unless the contrary is clearly specified in the contract or ordered by the Employer's Agent, the Contractor shall not carry out alterations to existing services. When any such alterations become necessary, the Contractor shall promptly inform the Employer's Agent, who will either make arrangement for such work to be executed by the owner of the service, or instruct the Contractor to make such arrangements himself.

Should damage occur to any existing services the Contractor shall immediately inform the Employer's Agent, 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 appropriate steps to minimize damage to and interruption of the service. No repairs of telecommunication cables or electric power lines and cable shall be attempted by the Contractor.

PSA 5.4.4 Protection of Structures

Where work is carried out in proximity of buildings, tanks or other structures the Contractor shall take the necessary precautions required, including shoring, to ensure the safety of structures that are at risk.

PSA 5.4.5 Hand Tools

The contractor shall provide and maintain all hand tools required for the execution of the Works.

Add the following sub clauses to clause 5

PSA 5.5 Site Meetings

The Contractor or his authorized agent will be required to attend regular site meetings, which shall normally be held once a month on dates and at times determined by the Employer's Agent, but in any case whenever reasonably

required by the Employer's Agent. Unless otherwise indicated in the contract or instructed by the Employer's Agent, such meetings shall be held at the Contractor's office on the site. At such monthly meetings, matters such as general progress on the work, quality of work, problems, claims, payments, and safety shall be discussed, but not matters concerning the day to day running of the contract.

PSA 5.6 Training

Structure training shall be provided to temporary personnel involved with the Contractor in accordance with the prior approval of the Employer's Agent. The Contractor's selection of candidates to be trained shall be subject to the approval of the Employer's Agent and subject to the required entrance levels. All the training courses and venues with sufficient lighting, electric power point and furniture must be offered through approved accredited training organizations.

The Contractor shall provide the following for the training:

- a) All the necessary stationery , consumables and study material:
- b) Transport and from the training venue if the training is not delivered on site
- c) Wage not less than the statutory minimum for non-qualified labour for candidates attending Employer's Agenting (technical) skills training during working hours
- d) Payment to approved training organisations for the provision of training.

NB: Only technical skills and entrepreneurial training may take place during normal working hours. Generic training may only take place after hours. All training courses shall commence within one month of handing over the site and be complete before the end of the Contract period.

PSA 5.7 Employer's Agenting Surveys and Investigations

The Employer's Agent may order or conduct testing, surveys, investigations or any other actions for obtaining additional information about the site , or for facilitating services in connection with the execute of any work in terms of the Contract, or for investigating or facilitating the design of the works. Such testing may include but shall not be limited to:

- Testing of Boreholes
- Land Surveys
- Geotechnical Investigations
- Environmental impact assessments
- Provision of OHS specifications"

PSA 5.9 EPWP LABOUR FORMS

Labour Forms and the "Local Labour – person days – Schedule" bound into

the document in the appendices, are to be completed as part of the contractual requirements. Correct completion and submission by the contractor or original "Contractor's Monthly Report" as bound into the Bid Document with Payment Certificates, will be a pre-requisite to payment.

Should forms not be completed correctly, or submitted, processing of the Payment Certificate by the Engineer will be delayed until the forms are correctly attended to and resubmitted, with no effect on the time of the Employer's obligation to pay as per sub-clause 6.10.4 of the 2015 "General Conditions of Contract". The 7-day period allowed for the Engineer will only commence upon receipt of correctly completed labour forms.

PSA 6 TOLERANCES

PSA 6.2 Degrees of Accuracy (sub-clause 6.2)

Degree of accuracy II shall be applicable throughout the works unless as specified on the drawings which shall take precedence.

Add the following sub clause to clause 6:

PSA 6.4 Use of Tolerances

No guarantee is given that the full specified tolerance will be available independently of each other, and the contractor is cautioned that the liberal or full use of any one or more of the tolerance may deprive him of the full or any use of tolerances relating to other aspects of the work.

Except where the contrary is specified, or when clearly not applicable, all quantities for measurement and payment shall be determined from the authorized, dimensions. These are specified dimensions or those shown on the Drawings or if changed as finally prescribed by the Employer's Agent, without any allowance for the specified tolerances. Except if otherwise specified, all measurements for determining quantities for payment will be based on the authorized' dimensions.

If the work is constructed in accordance with the authorized dimensions plus or minus the tolerance allowed, the calculation of quantities will be based on the authorized dimensions, regardless of the actual dimensions to which the work has been constructed.

When the work is not constructed in accordance with the authorized dimensions plus or minus the tolerance allowed, the Employer's Agent may nevertheless, at his sole discretion, accept the work for payment, In such cases no payment shall be made for quantities of work or material in excess of these calculated for the authorized dimensions minus the tolerance allowed, quantities for payment shall be calculated based on the actual dimensions as constructed.

PSA 8 MEASUREMENT AND PAYMENT

PSA 8.1.2 Fixed-Charge and Value-Related Items

The tendered amounts for fixed-charge and value-related items will not be increased, if extension of time for the completion of the works is awarded.

PS A 8.2.1 Fixed–Charge and Value-Related Items

“Payment of fixed charge” will be made as follow:

- a) EIGHTY PER CENT (80%) of the sum tendered will be paid when the facilities have been provided and approved:
- b) The remaining TWENTY PER CENT (20%) will be paid when the works have been completed, the facilities have been removed and the site of the Contractor’s establishment has been cleared and cleaned to the satisfaction of the Employer’s Agent.

No adjustment will be made to the sum tendered in respect of item 8.3.1 should the value of the works finally executed or the time for completion vary in any way from that specified in tender.

No value related payments shall be applicable.

PSA 8.2.2 Time-Related Items

The tendered amount for a time-related item will be increased; if an extension of time for the completion of the works is awarded on the condition that the activity related to the item tendered for must be sustained during the extended period.

The ratio between the increased amount for a time-related item and the tendered amount must be the same as the ratio between the extension of the time period for the completion of the works and the original time period allowed for completion of the works.

If the works is completed before the end of the original time period allowed for completion of the works, the tendered amount of a time related item that is influenced by the earlier completion would be reduced similarly.

Subject to the provisions of sub clauses 8.2.3 and 8.2.4 payment under item 8.4.1 (time related item) will be made monthly in equal amount, calculated by dividing the sum tendered for the item by the tendered contract period in months, provided always that the total of the monthly amount so paid for the item is out of proportion to the value of the progress of the work as a whole.

PSA 8.2.5 Adjusted Payment for Time-related Items

The payment to the Contractor for time-related items shall be adjusted in accordance with the following formula in the event of the contract being extended by means of a variation order:

$$\frac{\text{Sum of Tendered amounts for time-related items}}{\text{Extended contract period as X}} \times \frac{\text{Tendered contract period}}{\text{authorised by variation order}}$$

The above-mentioned adjustment of the payment for time-related items shall be made in the Completion Payment Certificate and shall be the only payment for additional time-related costs.

PSA 8.3 Scheduled Fixed-Charge and Value-Related Items

PS A 8.3.3 Other Fixed-Charge Obligations

This item as listed under Section 1 of the bill of quantities is as specified in the standardised specification SABS 1200 A.

PSA 8.4 Scheduled Time Related Items

PSA 8.4.5 Testing (Sub clause 8.4.5)

Add the following:

The cost of all sampling and testing executed by the Contractor or approved laboratory must be included in the amount for other time related items and no separate payment shall be made for this. This condition also relates to the placing, curing and testing of concrete cubes.

PSA 8.5 Sums Stated provisionally by the Employer's Agent (Sub clause 8.5)

Add the following:

PSA 8.5.1 Testing

A provisional sum is allowed for testing of soils and materials by the Employer's Agent, and the cost of transporting samples to the testing laboratory. It should be noted that this is completely unconnected with the general testing of materials in accordance with clause 7 of the standardized specifications, for which the Contractor is solely responsible, and the cost of which is included in the scheduled rates.

The cost of all sampling and testing executed by the Contractor or approved laboratory must be included in the amount for other time related items and no separate payment shall be made for this. This condition also relates to the placing, curing and testing of concrete cubes.

PSA 8.6 Prime Cost Items (sub clause 8.6)

C3.40

Contractor

Employer

Replace sub clause 8.6 with the following:

PSA 8.7 Dayworks (Sub clause 8.7)

Replace the last contents of sub clause 8.7 with the following:

“Measurement and payment shall be in accordance with the provisions of sub clause 37(2) of the General Conditions of Contract

PSA 8.8 Temporary Works

PSA 8.8.4 Existing Services (sub-clause 8.8.4)

In the related sections of the Schedule of Quantities, rates are to be listed for the detection and exposing of existing services.

Excavate in all materials for the detection of existing services per specified depth category. (Category to be stated) Unit: m³

These rates shall cover all costs including time and machinery (if necessary) involved in the detection of existing services and different depth classifications. The rate shall cover the Contractor's costs of excavating by hand in all materials to expose or locate existing services and shall include the backfilling and compaction thereof.

Add the following to sub clause 8.8

PSA 8.8.7 Setting Out of the Works

The costs for the setting out of the works and level control shall be deemed to be covered by the rate for the particular item.

The Contractor shall set out the works in accordance with the drawings

PSA 8.8.8 Compliance with OHS Act and Regulations including the construction regulations 2003.....Unit Sum

The tendered sum shall include full compensation to the Contractor for compliance with all the requirements of the OHS Act and Regulations (including the Construction Regulations 2014) all times for the full duration of the Contract, as described in the Project Specifications. The successful tenderer shall provide the Employer's Agent with the complete breakdown of this tendered sum.

This sum will be paid to the Contractor in equal monthly amount subject to proper/ substantial compliance.

PSA 8.9 Testing of Materials and Workmanship

When instructed to do so by the Engineer, the Contractor shall arrange with an approved SANAS accredited laboratory to carry out various tests on materials or elements submitted by the Contractor for testing. Tests shall be carried out strictly in accordance with the relevant SABS specification. The Engineer will be afforded open access to the laboratory concerned and will be allowed to inspect the laboratory's premises and methods of testing, if so desired.

Tests that fail will be for the Contractor's account. Re-imbursement will only be made for tests that are successful and in accordance with the project specifications.

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 AB: EMPLOYER'S AGENT'S OFFICE

PSAB 3 MATERIALS

PSAB 3.1 Nameboards (sub-clause 3.1)

The Contractor shall supply, erect where directed, maintain and remove on completion (1 No.) project name board of substantial construction, with the project description, and names of the Employer, Employer's Agent and Contractor printed on, in accordance with the Employer's Agent's detail or as approved. The board shall be mounted 3m above the ground level on two steel supports or suitable gumpoles firmly set in the ground.

PSAB 3.2 *Office Buildings (sub-clause 3.2)*

Office space for the Employer's Agent or his representative is required. The Contractor must allow for an office for the Resident Employer's Agent whose office must be accessible to the Employer's Agent or his representative. The office shall have 2 windows and a minimum floor space of 12m². Furniture required is a desk of 1.2m², three chairs, a plan table of 2m² and at least one lock-up cabinet for the Employer's Agent or his representative.

The office shall be equipped with a suitable air conditioning unit and be well insulated.

PSAB 5 CONSTRUCTION

PSAB 5.5 Survey Assistants (sub-clause 5.5)

The Contractor shall at all times make available to the Employer's Agent two suitably trained labourers for use on and about the site on survey and other work as directed by the Employer's Agent at all reasonable times.

PSAB 8 MEASUREMENT AND PAYMENT

Add the following

PSAB 8.1 One Standard Name Board Unit : Sum

The rate shall cover all fixed and time-related costs pertaining to the supply, erection and dismantling of the name board as prescribed in PSAB 3.1.

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 C: SITE CLEARANCE

PSC 3 MATERIAL

PSC 3.1 DISPOSAL OF MATERIAL

Substitute the first sentence of 3.1 with the following:

Material obtained from clearing and grubbing shall be disposed of at a suitable site approved by the Employer's Agent. The Contractor shall obtain his own dumping site for the disposal of material and all transport costs shall be included in the rates for site clearance.

No overhaul will be paid for any spoil materials from the "clear and grubbing" operation. All costs relating to this activity shall be deemed to be included in the rates tendered for site clearance.

PSC 5 CONSTRUCTION

PSC 5.1 AREAS TO BE CLEARED AND GRUBBED

Substitute the first sentence of 5.1 with the following:

Unless otherwise indicated by the Employer's Agent, clearing and grubbing are limited to be cleared to a distance of 1.5m on both sides of the pipeline centre line or a width as indicated on the applicable drawing along the designated route.

An area 2.0m wider on all sides of reservoirs and pump stations shall be cleared

Measurement and payment for clearing and grubbing shall only occur for areas as required in writing by the Employer's Agent. Such works shall be undertaken in compliance with Environmental report.

Route pegs or markers shall not be destroyed or damaged during clearing operations.

The Contractor may proceed with clearing and grubbing after the handing over of the site.

PSC 5.2 Cutting of Trees

PSC 5.2.3.2 Individual trees (sub clause 5.2.3.2)

Add the following:

Trees outside the pipe route or road prism must be left standing and undamaged, except where otherwise ordered in writing by the Employer's Agent. Those trees falling within the designated area for clear and grubbing may only be removed on instruction of the Employer's Agent. Such works shall be undertaken in compliance with Environmental report

A penalty of R2 500, 00 per tree for trees damaged and/or removed will be charged.

PSC 5.5 Re-clearing of Vegetation (sub clause 5.5)

Add the following

When areas have to be re-cleared on the written instructions of the Employer's Agent, such re-clearing shall be carried out at the Contractor's own cost and the Contractor is therefore advised not to clear the areas too soon.

Add the follow sub clause to clause 5

PSC 5.9 Existing Fencing

The fencing parallel to the proposed route must be maintained and repaired where it was damaged. The fencing must only be removed and re-erected at the positions indicated and approved by the Employer's Agent. When the pipeline crosses fencing or gates, temporary wire gates must be provided that must be kept closed.

PSC 8 MEASUREMENT AND PAYMENT

PSC 8.1 Basic Principals

Add the following:

No separate item will be made for removal of topsoil along the pipe routes or road prism. The contractor is to excavate in such a manner that the top 100mm of materials is kept separate from other excavations for replacement upon completion of the backfill operations or finishing of the road prism. All costs related to the excavation of this topsoil shall be deemed to be included in the tendered rates for the related excavation works.

PSC 8.2 Scheduled Items

PSC 8.2.1 Clear and Grub

Replace the first line with the following:

The area designated by the Employer's Agent to be cleared and grubbed will be the nearest square meter or hectare,"

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 D: EARTHWORKS

PSD 2 DEFINITIONS

Replace the definition “Borrow” with the following:

“Borrow Material: Materials, other than materials obtained from excavations required for the works, obtained from sources such as borrow pits or the authorized widening of cuttings”.

PSD 3 MATERIALS

PSD 3.1.2 Classes of Excavation (Sub clause 3.1.2)

The excavation of material for the purposes of measurement and payment on this Contract will not be classified as intermediate excavation nor as Boulder excavation Class A or Class B. Soft excavation will be held to include material classified in Subclause 3.1.2 as intermediate excavation

PSD 3.2

PSD 3.2.3 Materials Suitable for Backfill or Fill against Structures. (Sub clause 3.2.3)

Replace the contents of this sub clause with the following:

“Material used for backfill behind structures shall generally be the material excavated, subject to the following conditions:

- a) The materials shall not contain an excessive number of stones retained on the 50mm sieve
- b) The materials shall not contain large clay lumps that do not break up under the action of the compaction equipment; and
- c) The liquid limit of the material shall not exceed 40, neither shall the PI exceed 18”

PSD 3.3 Selection

PSD 3.3.1 General (sub clause 3.3.1)

Substitute the second paragraph with the following:

The Contractor shall deal selectively with material from general excavation. Any imported material in road reserves that do not comply with the minimum requirements for the respective layers, shall be removed, and replaced with suitable material, all at the Contractor's expense.

The Contractor shall deal in such a way with materials from all excavations for 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 suitable 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.

All unsuitable material shall be removed prior to importing fill material in such areas.

PSD 5 CONSTRUCTION

PSD 5.1 Precautions

PSD 5.1.1 Safety

PSD 5.1.1.1 Barricading and lighting (sub clause 5.1.1.1)

Replace "Machinery and Occupational Safety Act, 1983 (Act 6 of 1983)" with "Occupational Health and Safety Act, 1993 (Act 85 of 1993)"

PSD 5.1.1.2 Safeguarding of excavations (sub clause 5.1.1.2)

Replace "Machinery and Occupational Safety Act, 1983 (Act 6 of 1983)" with "Occupational Health and Safety Act, 1993 (Act 85 of 1993)"

PSD 5.1.1.3 Explosives (sub clause 5.1.1.3)

Replace the contents of this sub clause with the following:

The Contractor will generally be permitted to use explosives for breaking up hard material during excavations, for demolishing existing structures and for other purposes where explosives are normally required, subject to the following conditions.

The Employer's Agent may prohibit the use of explosives in cases where, in his option, the risk of injury to persons or damage to property or to adjoining structures is too high.

Such action by the Employer's Agent does not entitle the Contractor to additional payment for having to resort to less economical methods of construction

- a) The Employer's Agent's prior written approval shall be obtained for each and every blasting operation. This approval may be withheld if the Contractor does not use explosives responsibly and carefully.
- b) The Contractor shall comply fully with the requirements of the Explosives Act, 1997 (Act No 83 of 1997) and all other legislation and regulations as may be applicable to blasting and use of explosives.

- c) Before blasting is undertaken, the Contractor shall satisfy the Employer's Agent that he has established whether or not the insurers concerned require pre and post blasting inspections of buildings and structures within certain radius of proposed blasting.
- d) Should such inspections be required, the contractor shall together with the Employer's Agent and the insurer, examine and measure the buildings, houses or structures in the vicinity of the proposed blasting site and establish and record together with the owner, lessee or occupier, the extent of any existing cracking or damage before blasting operations commence.
- e) When there is possibility of damage to power and telephone lines or any other services or property, the Contractor shall adapt his method of blasting and the size of the charges and shall use adequate protective measures (eg cover blasting) to reduce the risk of damage.
- f) All accidents, injury to persons and animals and damage to property shall be reported to the Employer's Agent in detail and in writing as soon as is practicable.
- g) The Employer's Agent shall be given 24 Hours notice by the Contractor before each blasting operation is carried out.
- h) When the blasting to specified profiles, the Contractor shall so arrange the holes and charges that the resulting exposed surfaces are as the nature of the material permits. The Contractor shall make good at his own expense, any additional excavation necessitated by the shattering of rock in excess of any over break allowance specified in the Project Specifications or given on any Drawing.

Notwithstanding the Contractor's compliance with the above provisions, the Contractor shall remain liable for any injury to persons and animals and loss of or damage to property occurring as a result of blasting operations.

PSD 5.1.2 Existing services

PSD 5.1.2.2 Detection, location and exposure (sub clause 5.1.2.2)

Add the following to:

If existing services are not shown on the drawings, but the existence thereof can be reasonably expected, the Contractor shall, in conjunction with all relevant authorities, determine the exact depth and location of such services before the commencement of construction. After locating the exact position of services, whether indicated on the drawings or not, such services shall be deemed to be known services and the Contractor shall be liable for all costs and subsequent costs arising from the damage thereof as a result of the Contractor's activities. These services must also be indicated on the "As Built" drawings.

A minimum of three trial cross trenches per street block must be excavated by hand perpendicular to the pipeline route to establish the position of existing services and the final portion of the network pipeline.

All services must be located and opened for inspection by the Employer's Agent before commencing trench excavation. Any costs or losses suffered by the Contractor as a result of not abiding by this specification will be for the Contractor's account.

PSD 5.1.3 Stormwater and Groundwater (sub clause 5.1.3)

Add the following:

The Contractor shall, where applicable and at the earliest practicable opportunity, install the permanent drainage specified or shown on the Drawings and shall at his own cost provide the temporary drainage required to protect the works.

PSD 5.1.4.1 Dust Nuisance (sub clause 5.1.4.1)

Add the following:

The Contractor is responsible for dust control and is liable for all claims that may result from dust nuisance on all parts of the site and at all times from the date of handing over of the site to the completion date of the contract. No payment regarding the above-mentioned will be made and all costs shall be deemed to be covered by the tendered rates.

PSD 5.1.6 Road Traffic Control (sub clause 5.1.6)

Add the following:

- a) Sufficient road signs must be erected in such a way that motorists will be warned in time of works, eg. at the closing of a street sufficient signs to direct traffic must be erected at the preceding intersection.
- b) Bypasses and/or road signs shall be provided and/or erected at all locations where the free flow of traffic is obstructed and shall be approved by the Employer's Agent before the commencement of construction. Where main roads are crossed, detours and temporary traffic signs must be provided as shown on the attached drawings.
- c) Where a trench crosses a street or any place where a trench crosses the direction of traffic flow, drums must be placed in the street and not just along the sides of the street with danger tape in between.
- d) Danger tape must be put up between drums and tied around the drums.
- e) Drums may not be filled with stones. The spacing of drums must be in such a way (maximum 5 m) that they are visible from all directions.
- f) Sufficient safety measures must be utilised for pedestrians.
- g) Vehicular and pedestrian access must be maintained to all stands, businesses, etc at all times.

The Contractor's attention is drawn to the fact that pipelines must be constructed under main roads and access roads. The Contractor must

arrange his work in such an order to assure free flow of traffic. No additional payment for any discomfort, extra costs, or delaying as a result of the provision of this facility will be made except for the item as allowed under PSA 8.8.2

PSD 5.2 Methods and Procedures

PSD 5.2.2 Excavation (sub clause 5.2.2)

Add the following:

Hand Excavation

The Employer's Agent may order that excavation be done by hand, using shovels only, in the vicinity of underground services. A special item for such hand excavation has been measured in the Bill of Quantities.

PSD 5.2.2.1 Excavation for General Earthworks and for structures (sub clause 5.2.2.1)

Add the following:

The contractor shall be required to provide working space around all structures. The excavation, backfilling and compaction of this materials shall be deemed to be included in the tendered rates for particular the structure.

PSD 5.2.2.2 Borrow Pits (sub clause 5.2.2.2)

Add the following

The contractor must construct and maintain at his own cost the necessary access roads and borrow pits. The position of borrow pits must be approved by the Employer's Agent before opening up the borrow pits.

It is to be noted that no extra over payment will be affected for intermediate or hard rock excavations on mmaterials obtained from borrow pits and commercial off-site sources. The contractor is to allow for this in his rates.

PSD 5.2.2.3 Disposal (sub clause 5.2.2.3)

Substitute the second sentence with the following:

All surplus and unsuitable material shall be dumped and neatly finished off in the area pointed out by the Employer's Agent within the freehaul distance.

PSD 5.2.5 Transport of earthworks

PSD5.2.5.1 Freehaul (sub clause 5.2.5.1)

Add the following:

C3.50

Contractor

Employer

The transport of all excavated materials, irrespective of the distance and source, shall be deemed to be freehaul, the costs of which is included in the Contractor's tendered rates and prices for the excavation of the materials. No separate compensation shall apply for the transportation of excavated materials.

Free haul of material on site from borrow pit areas, as well as to dumping areas within 10km will be regarded as freehaul. This freehaul distance is applicable to the whole of the contract.

PSD 8.3 Scheduled Items

PSD 8.3.3 Restricted excavation

The excavation of valve chambers, stand posts etc. Is not measured separately and is included in the tariff of the chambers.

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 DB: EARTHWORKS (PIPE TRENCHES)

PSDB 3 MATERIALS

PSDB 3.1 Classes of Excavation (Sub clause 3.1)

Substitute 3.1 the following:

The Employer's Agent shall classify excavated materials as Soft excavation. Rock will be measured individually as an extra-over item.

TABLE 1: CLASSIFICATION OF MATERIALS

CLASSIFICATION	DESCRIPTION
Soft	All material other than rock
Rock	Material which cannot be economically fragmented and loosened for removal by hand implements and pneumatic tools, except by drilling and blasting or the use of rock breaking equipment.

In the first instance, the classification shall be based on the descriptions given in Table 1. In the event of disagreement between the Contractor and the Employer's Agent, the Employer's Agent shall reclassify the material in accordance with relevant specifications and without being unreasonable to the Contractor. The decision of the Employer's Agent on the classification shall then, subject to the provisions of the Contract, be final and binding.

The Contractor shall notify the Employer's Agent of the presence of what he considers to be rock immediately upon discovery thereof. The Employer's Agent will inspect the material and decide whether or not it warrants the use of pneumatic tools or rock breaking equipment. In the case of isolated boulders set in a soil matrix, the Employer's Agent may order the Contractor to either widen the excavation or roll the boulders sideways or lift the boulders out from the trenches.

In the event that the Employer's Agent decides that the use of pneumatic tools, rock breaking equipment, or blasting is necessary, he will classify the material accordingly and arrange for the quantity thereof to be measured. The Contractor will supply the necessary pneumatic equipment and arrange for others to break up rock into manageable pieces.

PSDB 3.5 Backfill Materials

- a) Substitute "from trenches" in 3.5 (a) with "from trenches and street excavations".

Add the following to 3.5(c):

- c) Road crossings, access to services, farms and camps and any section that fall within the road prism shall be classified as areas subject to loads from road traffic and must be compacted accordingly to the top of the trench (natural ground level).

Add the following paragraph to sub clause 3.5

- d) Cement – Stabilized Backfilling

Backfilling shall, where directed by the Employer's Agent, be stabilized with 5% cement. The aggregate shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed with 5% cement and shall be compacted in layers of 100 mm thick to 90% of modified AASHTO density.

- e) Solcrete Backfilling

The aggregate for soilcrete shall be mixed with 5% cement and shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed in a concrete mixer with the cement and enough water to acquire a consistency that allows the mixture to be placed with vibrators to fill all voids between the pipe and the sides of the trench. Shuttering shall be used where necessary.

PSDB 3.7 Selection

Replace the words "If he so wishes: in the first line of the second paragraph with the words "at his own cost"

If the excavation of a pipeline damages an existing road surface, the Contractor must stockpile material from the top 200mm of such a road surface in order to reuse it as sub base for the repairing of the road crossing.

If necessary gravel material that is suitable for the reparation of road surfaces must be imported.

The Contractor must make provision in his tariffs for compaction in road reserves for the selection of excavated material as specified above.

PSDB 4 PLANT

PSDB 4.1 Excavation Equipment (Sub clause 4.1)

Add the following:

An adequate number of suitable tools, including hand stampers, wheelbarrows and hosepipes shall be provided by the Contractor. The Contractor will supply mechanical compaction equipment and when required pneumatic and rock breaking equipment.

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.

PSDB 5 CONSTRUCTION

PSDB 5.1 Precautions

PSDB 5.1.2.2 Special Water Hazards (Sub clause 5.1.2.2)

Add the following:

Water in Trenches

Water in pipe trenches may cause movement of the pipes as a result of flotation and backfilling must therefore be executed as quickly as possible. If movement of the pipes does occur the contractor must, unless otherwise instructed by the Employer's Agent, remove the pipes from the trench and reinstall it at his own expense.

No provision has been made in the Schedule of Quantities for separate payment for dealing with water. The unit rate for excavation shall cover the cost of dealing with water in the excavations.

PSDB 5.1.3 Accommodation of Traffic and Access to Properties (Sub clause 5.1.3)

Replace the semicolon and the word "and" at the end of sub clause 5.1.3(a) with a full stop and replace item (b) with the following:

Where necessary to achieve compliance by the Contractor with his obligations in terms of the Project Specifications to provide and maintain pedestrian and vehicular access to properties affected by the works, the Contractor shall construct and maintain to the satisfaction of the Employer's Agent, such temporary access roads around and /or steel or timber bridges over excavations in roads, pavements, entrances or accesses to properties.

Temporary pedestrian access bridges shall be at least 1,2 m wide and temporary access bridges for vehicles shall be at least 3,6 m wide. All temporary access bridges shall be fitted with handrails as well as protective mesh fencing on both sides.

On Completion of the work, the contractor shall dismantle and remove all such temporary constructions and reinstate these areas to their former condition.

Except only where the Employer's Agent has included in the schedule of Quantities, particular payment items specifically therefore, the contractor will not be paid directly for the construction and maintenance of temporary access roads and/ or the provision and maintenance of bridges as aforementioned, and the costs thereof shall be deemed included in the Contractor's bid rates of excavation.

PSDB 5.2 Minimum Base Widths (sub clause 5.2)

Replace paragraph (a) with the following

Where two pipes are placed in the same trench, they shall be 300 mm apart and the specified side allowance shall still be applicable except where stated to the drawings which shall take president.

Add the following after paragraph (b):

The above is not applicable to trenches for subsurface drains.
Trenches for subsurface drain shall be excavated to the dimensions and gradients shown on the Drawing or directed by the Employer's Agent.

The specification width of trenches and the width of the excavation measured for payment shall not be less than 0.5 m, but the Contractor may reduce the actual width with the Employer's Agent's permission.

PSDB 5.4 Excavation (sub clause 5.4)

Add the following:

Excavation and backfilling of pipe trenches on sidewalks in the residential area shall be done in such a manner as to ensure the least possible disruption to the public and access to the properties. No additional payment shall be made for this and all relevant costs shall be deemed to be included in the tendered rates.

PSDB 5.5 Trench Bottom (sub clause 5.5)

Substitute "90 %" in the second paragraph of 5.5 with "93 %".

Add the following:

Where pipe trenches are excavated deeper than specified or shown on the drawings, these excavations must be backfilled with suitable approved selected material in layers of not more than 150mm uncompacted thickness and must be compacted to the thickness of the adjoining in-situ material or as prescribed by the Employer's Agent.

PSDB 5.6 Backfilling

C3.55

Contractor

Employer

PSDB 5.6.1 General (sub clause 5.6.1)

Backfilling in road reserves must be compacted in 100mm layers up to natural ground level.

Where prescribed by the Employer's Agent all surplus material must be neatly piled over the real trench width to a height not more than 150mm higher than the adjoining level.

PSDB 5.6.3 Disposal of Soft Excavation Material (sub clause 5.6.3)

Add the following:

All surplus and unsuitable material as described in DB 5.6.3 shall be disposed of at the spoil site, as described in PSD 5.2.2.3 and levelled.

The disposal of surplus excavation will not be confined to the trench servitude. The Employer's Agent may order the Contractor to dispose of surplus material elsewhere on the site, within the haul free distance. All costs related thereto must be included in the contractor's rates as scheduled under item 8.2.2 & 8.2.3 SABS 1200 DB.

Add the following clauses

PSDB 5.11 Labour intensive excavations and backfilling

All excavations must be labour intensive where possible and local labour must be hired for this purpose. Provision for machine rates have been made in the list of quantities and must be priced accordingly. All backfilling regardless of whether excavation was done by hand or machine, will be done by hand. Mechanical compaction equipment must however be used to obtain the required compaction. (See Conditions of Tender in relevant paragraphs).

PSDB 5.12 Excavation Restrictions and Payment

A maximum length of 500m of open trench only will be allowed on the project, conditional that it is continuous. Under no circumstances will leap frogging of trenches be allowed unless written permission is granted by the Employer's Agent.

PSDB 5.13 Shoring

No item has been scheduled for shoring or other safety precautionary measures for working in trenches. This must be allowed for in the contractor's rates as scheduled under item 8.3.2 & 8.3.3 SABS 1200 DB.

PSDB 8 MEASUREMENT AND PAYMENT

PSDB 8.2 Computation of Quantities

PSDB 8.2.4 Shoring (sub clause 8.2.4)

Add the following to:

The rate for shoring shall be deemed to be measured and paid under the respective excavation rate for pipe trenches.

PSDB 8.3 Scheduled Items

PSDB 8.3.2 Excavation (sub clause 8.3.2)

- PSDB 8.3.2 (a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material Unit: m

Replace “of 1, 0 m” In the first sentence of 8.3.2(a) with:
As specified in the schedule of quantities.

Add the following to DB 8.3.2 (a):

The depth of excavation in street reserves shall be measured from the final finished level.

In cases where services lie parallel to steep slopes, the depth of the excavation will be measured along the centre of the trench (on the route of the service).

- b) Extra over items (a) above for:

Add the following to 8.3.2(b)2:

The extra over rate shall include where blasting occurs for the exposing of the rock, backfilling prior to blasting and excavation of the trench again to the required depth and level.

Add the following at the end of the existing sub item 2

No payment will be made under sub items (1) and (2) in respect of any materials measured and paid for under sub items 3 below.

Add the following new sub items in 8.3.2(b)

3. Hand excavation where ordered by the Employer’s Agent in:

Soft Material	Unit : m ³
Hard Material	Unit : m ³

The unit of measurement shall be the cubic meter of material, measured in place according to the authorized dimensions, which was excavated by hand on the specific prior written instructions of the Employer’s Agent, provided

always that the Employer's Agent's said instruction shall have stated that measurement and payment for such hand excavation will be in accordance with this item.

The bid rate shall include full compensation for the additional cost, effort and time resulting from excavating in the respective materials using hand methods only.

The Employer's Agent shall not be obliged to authorize payment under this item in respect of any hand excavation carried out (whether ordered in writing or otherwise), which hand excavation was in any case necessary to achieve compliance by the Contractor with his obligations under the Contract to:

- Utilise construction appropriate to the nature of the specific parts of the works and/or
- Protect existing structures and/or services and /or
- Comply with all prevailing legislation and regulations

4. Backfill stabilized with 5% cement where directed by the
Employer's Agent
Unit: m³

The unit of measurement shall be the cubic meter of backfill material, measure in place after compaction according to the authorized dimensions, which was stabilized on the Employer's Agent's instructions in accordance with subclause PSDB 3.5(c)

The bid rate shall include full compensation for supply the cement and for selecting, mixing, backfilling and compacting the stabilized material to 90% of modified AASHTO density.

5. Soilcrete backfill where directed by the
Employer's
Agent.....Unit: m³

The unit of measurement shall be the cubic meter of soilcrete placed on the Employer's Agent's instructions in accordance with subclause PSDB 3.5 (d), measure in place according to the authorized dimensions.

The bid rate shall include full compensation for supplying the cement and for selecting, mixing and placing the soilcrete as well as for the cost of shuttering if required.

PSDB 8.3.2 (c) Excavate Unsuitable Material From Trench Bottom Unit: m³

Delete "within free haul distance" and replace with "within 10 km from an excavation".

PSDB 8.3.3 Excavation Ancillaries

C3.58

Contractor

Employer

PSDB 8.3.3.3 Compaction in Road Reserves

Unit : m³

Replace the following sentence: "The volume will be measured as specified in 8.2.2, 8.2.3 and 8.3.3.1 "with the following:

To determine the volume in the case of gravel roads, the depth will be measured from the underside of the gravel wearing course to the top of the fill blanket, and in the case of bitumen roads, from the underside of the subbase to the top of the fill blanket.

The rest of the trench shall be backfilled as specified in clauses 5.9.3, 5.9.4 and 5.9.5 as applicable, and payment will be made under item 8.3.6.1

PSDB 8.3.3.4 Overhaul

Replace the contents of this item with the following:

Measurement and payment shall be in accordance with sub clause PSD 5.2.5.2

PSDB 8.3.4 Particular Items (sub clause 8.3.4)

(a) Shore trench

Unit : m

Add the following to DB 8.3.4(a):

This must be allowed for in the contractor's rates as scheduled under item 8.3.2 & 8.3.3 SABS 1200 DB.

Delete DB 8.3.4(b) and replace with the following:

(b) Control of Ground Water

Unit : m

The tendered rate for the effective control of ground water shall cover for all equipment, plant, material as well as the labour involved to use the well points, pumps and pipes, etc to control the ground water before and during excavation. The rate shall also cover the maintenance of the equipment for the total contract period. Payment for this item will only be made if the Contractor used well points and pumps to control ground water before or during excavation and measurement will be done on the length of pipe laid in trenches where ground water control had been applied.

PSDB 8.3.5 Existing Services that Intersect or Adjoin a Pipe Trench (sub clause 8.3.5)

PSDB 8.3.5(a) Services that intersect a trench

Unit : m³

Add the following to DB 8.3.5(a):

Existing services with a depth of cover exceeding 300 mm, measured from the bottom of excavation to the top of the existing service shall not be measured and paid for. There will be distinguished between existing trunk services and existing erf connections.

- i. The rate shall also allow for the following costs:
- ii. Sufficient photo's have to be taken of existing services and handed over to the Employer's Agent before they are being crossed, if there is a possibility of a difference in opinion over the condition of those services, especially on private property.
- iii. If such a service is damaged, it has to be repaired to its original condition or if possible, to a standard agreed to in writing with the relevant owner. This agreement has to be approved by the Employer's Agent.
- iv. If such a service is removed, it has to be replaced as per original.

The unit of measure shall be per cubic meter per depth category

PSDB 8.3.5(b) Services that adjoin a trench

Unit : No or m

Add the following to DB 8.3.5 (b):

The unit "number" will only be used for services such as poles and trees. The cost for shoring shall be deemed as covered by the listed items and no additional payment will be made for this.

No payment will be made for overhead services that do not directly rest on the ground except where allowance is made for this in the bill of quantities.

Existing services that rest directly on the ground e.g. poles, trees, walls, and structures are handled in the same way as underground services, but the axle of the service will be determined as follows:

The vertical axle is defined as the nearest side or corner of the existing structure to the excavation, measured at the point where the structure and natural ground level intersect.

The horizontal axle will be at the point where the structure and the natural ground level intersect. In this instance, where the excavation falls above the 45° line but within 1,0 meter horizontally from the structure, the service will also be measured as adjoining.

If the structure, according to the abovementioned, does not qualify as an adjoining service but the foundation of the structure is such that if a 45° line drawn from the nearest bottom corner thereof cuts through the excavation, the structure will be measured as an adjoining service **if approved by the Employer's Agent.**

If there is more than one service adjoining the same trench and such a service is on the same side of the trench, payment will only be made for the nearest service to the trench, or if they are the same distance from the trench for the top one. The maximum number of services that will be paid for, is therefore one on each side.

There will be distinguished between existing trunk services and existing erf connection.

PSDB 8.3.7 Accommodation of Traffic

Unit : Sum

This item shall include for the accommodation of traffic and all road signage, flagmen as prescribed in the road signage manual of SA.

This item shall further also include for providing vehicle access to adjacent properties. Allowance shall be made for the provision of ramps over the trenches if necessary to allow for access.

A penalty of R500-00 (five hundred rand) per day per stand will be deducted from the payment certificate for every day that vehicle access is not possible to a particular stand.

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 L: BEDDING (PIPES)

PSL 3 MATERIALS

PSL 3.1 General

Add the following paragraphs:

Each type of pipe delivered to the site shall be of a standard length corresponding to the standard lengths offered by the pipe manufacturer in the catalogue, with a maximum permissible variation in length PF-+ 2%

A Pipe that is shorter or longer than the defined standard will be rejected by the Employer's Agent, except when such non-standard lengths are required in terms of the Contract and have been specifically manufactured or cut as such by the pipe manufacture or supplier.

PSL 3.4 Steel Pipes, Fittings and Specials

PSL 3.4.2 Pipes of nominal bore up to 150 mm (sub clause 3.4.2)

Add the following:

The pipes shall be normalised or seamless steel pipes and shall be used with malleable cast-iron fitting complying with the requirements of SABS 509.

Where flanges are required they shall comply with SABS 1123 table 1600 unless otherwise shown on the Drawings.

PSL 3.7 Other Types of Pipes

PSL 3.7.2 Polyethylene Pipes (sub clause 3.7.2)

Replace the contents of this clause with the following:

Polyethylene pipes shall be SABS ISO 4427 PE 100 PN10 HDPE pipes with compression fittings and shall comply with SABS 533 Part II.

Add the following sub clause:

PSL 3.7.3 Ductile Iron Pipes

Ductile iron pipes shall be class K9 pipes complying with SANS 50542-2003 (Edition 2) EN 545:2002 (EDITION 2) and shall be manufactured with spigot and socket push –in joint and Tyton rubber gaskets.

PSL 3.9 Corrosion Protection

PSL 3.9.2 Steel pipes

PSL 3.9.2.1 Steel pipes of nominal bore up to 150 mm (sub clause 3.9.2.1)

Add the following:

Steel pipes shall be galvanized where shown on the Drawings.

PSL 3.9.2.2 Steel pipes of nominal bore over 150 mm (sub clause 3.9.2.2)

Add the following:

Steel pipes shall be hot-dip galvanized where shown on the Drawings and as specified in sub-clause 3.9.2.2

Galvanized steel pipework, fittings, specials, etc. Shall comply with SABS 934 and 763 and be entirely coated with zinc after fabrication by complete immersion in a zinc bath. The finished surface shall be clean, uniform and any excess being removed. The zinc deposit shall exceed the followings:

Coastal areas:	0.735 kg/m ²
Inland areas:	0.400 kg/m ²

PSL 3.9.6 Corrosive Soil (sub clause 3.9.6)

Add the following:

Where shown on the Drawings, steel pipes in contact with corrosive soil shall be wrapped with Densopol 80 HT or an equivalent approved product, strictly in accordance with the manufacturer's instructions.

Add the following subclause:

PSL 3.9.7 Ductile Iron Pipes

Ductile iron pipes shall be coated internally with a 5 mm thick cement mortar lining complying with SANS 5054: 2003 (Edition 2) and or EN 545: 2003 (Edition 2) and externally with a metallic zinc spray coating plus a layer of bituminous varnish to a total minimum film thickness of 70 micro, all in accordance with SANS 5054:2003 (edition 2)

Any pipes with damage to the lining or coating shall not be repaired but shall be removed from the site and replaced with pipes having undamaged linings and coatings.

PSL 3.10 Valves (sub clause 3.10)

Replace the contents of this subclause with the following:

PSL 3.10.1 Gate Valves

Gate valve shall, unless otherwise specified, be of the standard waterworks pattern with resilient seal gates and shall comply with the requirements of SABS 664. The gate valves shall be double flanged for all pipework.

In addition to the SABS specification the following special requirements shall be met:

- a) The valve class shall be at least equal to that of the pipework in which it is to be installed. All valves shall be rated for a working pressure of at least 1,6 MPa (Class 16).
- b) The valves shall be double flanged
- c) The valves shall be supplied with a non-rising type spindle. Spindles shall be threaded such that two turns of the hand wheel shall effect a movement of 25mm on the gate valve.
- d) The valves shall be fitted with a cast iron cap attached to the spindle by means of a "Stout brass screw" with a hexagonal head.
- e) The valves shall be **Anticlockwise closing**.
- f) The lugs on the gate and the spindle are to conform to 3.2.3 of SABS 664 and are to be machined to a good fit and finish.
- g) The design of the valve guides shall be such that all valves supplied can be mounted in any position
- h) Valve trim shall be either Type B (gun metal trim) or Type C (stainless steel trim) as specified in SANS 664 Clause 3.5.5.
- i) Seat rings shall comply with clause 3.5.6 of SABS 664 and shall be pinned into position.
- j) The stuffing box may either be of the conventional type with gland packing with a gland secured with 2 No. bolts and nuts. The nuts shall be of the Tee pattern and the gland stuffing box shall be capable of holding four rings of a standard size of gland packing. The gland packing box shall be capable of being repacked under working pressure, preferably with the gate in the open position. The gland shall fit neatly and snugly into the stuffing box. The base of the gland stuffing box shall be chamfered to force the packing against the spindle.
- k) Alternatively the sealing of the spindle body may be by means of "O" rings which are retained in position by means of machined grooves in the valve body and which seals against the spindle.
- l) The valves shall be double flanged and drilled in accordance with SABS 1123/1977 for the required pressure rating.
- m) Each valve shall be supplied with 2 No. full face rubber gaskets and the required number of nut, bolts and washers to suite the valves. The costs of these items shall be included in the rates tendered.
- n) Valves which incorporate a thrust plate of the horseshoe type will not be considered.

- o) Every sluice valve shall be provided with substantial guides cast on each side of the gate, preferably extending to the top of the nut box and operating along corresponding guides cast in the sides of the valve body (Brass trim only). Bronze guides shall be of phosphor bronze to BS 1400 PB 2-0.
- p) The valves shall be drop tight at the specified working pressure applied to one side of the gate and the other side subject to open conditions.
- q) The gate valves shall be supplied with the gland packing installed and shall be either “Maxmech Style M57, Chesterton 1724” or similar approved.
- r) All valves shall be coated and lined by means of a powder (sintered) epoxy coating with a dry film of a least 250 micron.

PSL 3.10.2 Butterfly valves

Butterfly valve shall comply with the requirements of BSA 5155 and shall be of the double-flanged, lugged or water types, as specified. They shall be designed to fit between flanges drilled in accordance with SABS 1123.

Butterfly valve shall be controlled by weather-proof actuators fitted with hand wheels. Electrical actuators shall be provided if so specified on the drawings. Safety devices such as shear pins shall be built into the actuators to prevent damage to the valve should excessive force be applied to the hand wheel in the fully open or closed positions. If so specified, valves with a 10 mm diameter and smaller shall be controlled by direct-mounted ratchet handles.

Closure of valve shall be by clockwise movement of the hand wheel or ratchet handle and the fully open and fully closed positions shall be positively stopped.

Valve discs shall be of single casting, with a streamlined shape, and shall have smooth surfaces. Where resilient seats are specified, these shall be moulded to the shape of the valve body but shall be bonded to the body, so that they can be easily replaced.

Butterfly valves of class 16 and higher or with a 350 mm diameter and larger shall be fitted with self-lubricating, two-way, adjustable thrust bearings to permit precise disc to seat positioning at all times.

Valve shafts shall preferably be continuous, but if stub shafts are provided, they shall each extend into the disc hub for a distance of at least 1,5 times the shaft diameter.

Butterfly valves shall be installed with valve shafts in vertical position and hand wheels in a horizontal position.

PSL 3.10.3 Air Valves

Air valves shall have a single or double openings as specified and shall be manufactured, when applicable, to the same standards of quality and finish as laid down in SABS 664 for Gate Valves.

PSL 3.10.4 Non-Return Valves for Pumping Mains

Non-return valves shall be the Fig WDV 25 or similar approved and the following requirements shall be met:

- a) Quiet operation
- b) Water hammer to be minimized
- c) Adapt to fluctuations in flow rate
- d) Drop tight sealing
- e) Reliable

PSL 5 CONSTRUCTION

PSL 5.1 Laying

Add the following:

Where connecting to the existing pipeline the position of the existing pipeline must be established by the excavation of test holes (Hand excavation) before any trench excavation to the planned connection point is undertaken. The Contractor will not be compensated for excavation and any other works that is executed and proves to be unnecessary because this specification was not followed.

PSL 5.4 Concrete Encasing (sub clause 5.4)

Replace the first sentence with the following:

Concrete encasing with concrete with a strength of 20/19 MPa must be provided at positions as indicated by the Employer's Agent. Provision must be made to keep the pipe in position during the concrete encasing. The length of concrete encasing will be determined by means of an instruction from the Employer's Agent.

Add the following:

Soilcrete Encasing

A mixture of Portland cement and gravel of sub base quality (G6) that is mixed in a ratio as prescribed must be provided at positions and lengths as instructed by the Employer's Agent.

PSL 5.6 Valve and Hydrant Chambers

PSL 5.6.1 General (sub clause 5.6.1)

Replace the words “Drawing L-1 “in the second line with “The Drawings”

PSL 5.6.2 Construction of Chambers (sub clause 5.6.2)

Replace the words “drawing L-1, L-2 and L-3” in the fourth line with “The Drawings”

Add the following subclauses:

PSL 5.11 Pipeline Route Markers

Route markers for the pipeline shall be erected at all changes in direction and 500 m intervals on straight sections and shall be manufactured according to details shown on the Drawings.

PSL 7 TESTING

PSl 7.3 Standard Hydraulic Pipe Test

PSL 7.3.1 Test Pressure and Time of Test

PSL 7.3.1.2 Replace 1, 25 in the first line with 1, 5. The maximum working pressure for different pipes in indicated by the class of the pipe.

PSL 8 MEASUREMENT AND PAYMENT

PSL 8.2 Scheduled Items

PSL 8.2.1 Supply, lay and bed pipes complete with couplings (sub clause 8.2.1)

The bid rates shall also include full compensation for the cost of all labour, material, plant, chemicals and overheads for complete sterilization of the entire pipeline and disposal of the sterilizing solution as approved by the Employer’s Agent.

PSL 8.2.11 Anchor blocks / Trust blocks and Pedestals (sub clause 8.2.11)

Insert “concrete” before “and” in the last line of the last paragraph

Add the following:

The tendered rates shall also include the wrapping of uPVC pipes and fittings with Densopol 80 or a similar approved material where the pipes and fittings come into contact with concrete.

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 LB: BEDDING (PIPES)

PSLB 1 SCOPE

Add the following:

This specification also covers the bedding required for sleeve pipes.

PSLB 3 MATERIALS

PSLB 3.1 Selected Granular Material (sub clause 3.1)

Substitute the clause with the following:

Selected granular material shall be an aggregate, sand or granular material, all of a non-cohesive nature and free from any organic material, of which the grading analysis shows 100 % passing a 13,2 mm sieve and not more than 5 % passing a 0,075 mm sieve.

Selected granular material shall have a PI not exceeding 6 and shall be free from sharp- edged particles exceeding 19 mm

Only if approved by the Employer's Agent may sand from the trench excavations be used as selected material.

PSLB 3.2 Selected Fill Material (sub clause 3.2)

Substitute with the following:

Selected fill material shall be material that has a PI of less than 12 and does not contain vegetation or stones exceeding 20mm. Selected fill material may occur in-situ, be imported or selected from trench excavation.

PSLB 3.3 Bedding (sub clause 3.3)

Add the following:

All pipes shall be classified as flexible pipes and shall have a bedding of selected granular material and selected fill material.

uPVC and HDPE pipes are deemed to be flexible pipes for the purposes of this subclause.

Pipes shall be laid on Class B bedding (Rigid Pipes).

PSLB 3.4 Selection

PSLB 3.4.1 Suitable Material from Trench Excavation Available (sub clause 3.4.1)

Replace the first sentence with the following:

Notwithstanding the requirements DB 3.7 and LB 3.4.1 relating selected excavation methods, the Contractor must follow selected excavation methods and provide or use plant that will prevent material that is suitable and necessary for bedding being contaminated.

Provision in the rates shall be made for sifted sand for all the bedding, irrespective whether imported or in situ. Bedding shall include both the blanket and cradle layers. Under no circumstances will the contractor deviate from this specification unless written permission has been granted by the Employer's Agent. Items 8.3.2.1 of the SABS 1200 LB schedule must be allowed for under either item 8.3.2 (a) SABS 1200 LB or item 8.2.1 SABS 1200 LB scheduled in the bill of quantities.

Replace the words "(but is not requires)" in the fifth line with the words" (at his own cost)"

PSLB 5 CONSTRUCTION

PSLB 5.1 General

PSLB 5.1.4 Compacting (sub clause 5.1.4)

Substitute "90 % of modified AASHTO" in with "93 % of modified AASHTO

If sand is used the compaction grade must be 100% modified AASHTO.

PSLB 5.2.2.3(d) Borrow (sub clause 5.2.2.3(d))

If insufficient cut material is available to complete the earthworks in any particular section of the work, the Contractor shall locate other economic sources of borrow material, within the freehaul distance.

PSLB 5.2.5.1 Freehaul (sub clause 5.2.5.1)

All haul of material on site from borrow pit areas, as well as to dumping areas within 10 km will be regarded as freehaul. This freehaul distance is applicable to the whole of the contract.

PSLB 5.10 Borrow pits and, Commercial Off-site Sources (sub clause 5.10)

It is to be noted that no extra over payment will be effected for intermediate or hard rock excavations under these items. The contractor is to allow for this in his rates.

PSLB 8 MEASUREMENT AND PAYMENT

PSLB 8.1 Principles

PSLB 8.1.1 Supply of Bedding Materials Measured Separately (sub clause 8.1.1)

Add the following:

Payment for bedding material and selected fill material is only made if the selected trench excavation material cannot be used in the same position as bedding material but has to be obtained from another part of the site of works or designated borrow pits, or from commercial sources.

PSLB 8.1.5 Disposal of Displaced Material (sub clause 8.1.5)

Add the following:

Surplus displaced material shall be dumped and levelled at the spoil site.

PSLB 8.2 Scheduled Items

PSLB 8.2.2 Supply only of Bedding by Importation

PSLB 8.2.2.4 From stockpile (provisional)

- | | | |
|----|----------------------------|-----------------------|
| a) | Selected granular material | Unit : m ³ |
| b) | Selected fill material | Unit : m ³ |

The rate shall cover the cost of obtaining, handling and transport regardless the distance, of the required bedding material from the stockpile, the delivery thereof at positions that are spaced along the trench in such a way as suits the working method of the Contractor, as well as the removal of material displaced by this importation within a free haul distance of 0,5 km.

PSLB 8.2.5 Overhaul Of Material For Bedding Cradle And Selected Fill Blanket

Unit : m³.km

Substitute LB 8.2.5 with the following:

- | | | |
|----|-------------------------------------|---------------------------|
| a) | Limited overhaul (0,5 km to 1,0 km) | Unit : m ³ |
| b) | Long overhaul | Unit : m ³ .km |

Except that the volume is calculated according to LB 8.1.3, the requirements of D 8.3.6 or DA 8.3.3, as applicable, shall apply for overhaul.

C3.4.6 PARTICULAR SPECIFICATIONS

The following sections comprise particular specifications and shall form part of the contract:

PA	:	OHSA 1993 Health and Safety Specification
PB	:	Environmental Management Plan
PC	:	Provisions of Workers
PD	:	Task Work
PE	:	Management of the Works
PF	:	General Specification Electrical & Mechanical Installations
PG	:	Electrical Installations
PH	:	Mechanical Installations
PI	:	Pipes, Fittings and Valves

PA: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

PA.1 SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2003, and all other safety codes and specifications referred to in the said Construction Regulations.

In terms of the OHSA Agreement in Section C1.2.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations 2014.

This safety specification and the Contractor's own Safety Plan as well as the Construction Regulations 2014, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

The following are possible risks associated with this project:

- Work in close proximity to main roads and the need to adequately educate workers as to the dangers associated therewith and to take adequate steps to ensure their safety;
- Work in close proximity to main roads and the need to warn drivers as to the associated dangers of workmen, construction vehicles etc and to take adequate steps to erect the necessary signage and monitor driver activity etc;
- Steps are to be taken to warn local residents of the dangers of any open excavations especially in so far as children are concerned. The Employer will make the services of a facilitator available to the Contractor;
- All workmen are to be given proper training in the safe use of their tools, the tools used by others on the Contract and the dangers associated therewith;
- Dangers associated with the handling and lifting of heavy items; and
- The Contractor's plant shall be left in a safe and managed environment when not in use.
- Dangers associated with working close to water bodies and the need to have trained personnel and safety equipment around.

Additional risks may arise from specific methods of construction selected by the Contractor which are not necessary covered in the above.

PA.2 DEFINITIONS

For the purpose of this contract the following shall apply:

Employer where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as "**client**" as defined in the Construction Regulations 2014. "**Employer**" and "**client**" is therefore interchangeable and shall be read in the context of the relevant document.

- (a) "**Contractor**" wherever used in the contract documents and in this specification, shall have the same meaning as "**Contractor**" as defined in the General Conditions of Contract.

In this specification the terms “**principal contractor**” and “**contractor**” are replaced with “**Contractor**” and “**subcontractor**” respectively.

For the purpose of this contract the **Contractor** will, in terms of OHS Act 1993, be the mandatory, without derogating from his status as an employer in his own right.

- (b) “**Engineer**” where used in this specification, means the Engineer as defined in the General Conditions of Contract. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

PA.3 TENDERS

The Contractor shall submit the following with his tender:

- (a) a documented Health and Safety Plan as stipulated in Regulation 7 of the Construction Regulations. The Safety Plan must be based on the Construction Regulations 2014 and will be subject to approval by the Employer;
- (b) a declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Construction Regulations 2014;
- (c) a declaration to the effect that he made provision in this tender for the cost of the health and safety measures envisaged in the Construction Regulations; and
- (d) Failure to submit the foregoing with his tender, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely in accordance with the Construction Regulations.

PA.4 NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor shall, in terms of Regulation 4, notify the Provincial Director of the Department of Labour in writing if the following work is involved:

- (a) Include excavation work
- (b) Include working at a height where there is a risk of falling
- (c) Include the demolition of a structure or
- (d) Include the use of explosives to perform construction work

The notification must be done in the form of the pro forma as Annexure 2 of the Regulations.

A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

PA.5 RISK ASSESSMENT

Before commencement of any construction work during the construction period, the Contractor shall have a risk assessment performed and recorded in writing by a competent person. (Refer Regulation 9 of the Construction Regulations 2014).

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The risk assessment shall be available on site for inspection by inspectors, Employer,

Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

PA.6 APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

PA.6.1 Health and Safety plan

The Contractor shall appoint his employees and any subcontractors to be employed on the contract, in writing, and he shall provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

PA.6.2 Health and safety induction training

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site.

The Contractor shall ensure that every employee on site shall at all times be in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

PA.7 APPOINTMENT OF SAFETY PERSONNEL

PA.7.1 Construction Supervisor

The Contractor shall appoint a full-time Construction Supervisor with the duty of supervising the performance of the construction work.

He may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

PA.7.2 Construction safety officer

Taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor shall appoint in writing a full-time or part-time **Construction Safety Officer** if so decided by the Inspector of the Department of Labour. The Safety Officer shall have the necessary competence and resources to perform his duties diligently.

Provision shall be made by the Contractor in his rates, to cover the cost of this dedicated construction safety officer appointed after award of the contract.

PA.7.3 Health and safety representatives

In terms of **Section 17 and 18 of the Act (OHSA 1993)** the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a **health and safety representative** whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 100 employees.

The function of health and safety representative(s) will be to review the effectiveness of

health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery etc. on a regular base, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

PA.7.4 Health and safety committee

In terms of Sections 17 and 18 of the Act (OHSA 1993) the Contractor (as employer), shall establish one or more health and safety committee(s) where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals, but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, and to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

PA.7.5 Competent persons

In accordance with the Construction Regulations the Contractor has to appoint in writing **competent persons** responsible for supervising construction work on each of the following work situations that may be expected on the site of the works.

- (a) Risk assessment and induction training as described in Regulation 9 of the Construction Regulations;
- (b) Fall protection as described in Regulation 10;
- (c) Structures as described in Regulation 11;
- (d) Temporary structures as described in Regulation 12
- (e) Excavation work as described in Regulation 13;
- (f) Demolition work as described in Regulation 14;
- (g) Scaffolding work as described in Regulation 16;
- (h) Suspended platform operations as described in Regulation 17;
- (i) Material hoists as described in Regulation 19;
- (j) Batch plant operations as described in Regulation 20;
- (k) Explosive powered tools as described in Regulation 21;
- (l) Cranes as described in Regulation 22;
- (m) Construction vehicle and mobile plant inspections on a daily basis by a
- (n) competent person as described in Regulation 23;
- (o) Control of all temporary electrical installation on the construction site as described in Regulation 24
- (p) Water environments as described in Regulation 26;
- (q) Housekeeping and general safeguarding on construction sites as described in Regulation 27; and
- (r) Stacking and storage on construction sites as described in Regulation 28
- (s) Fire precautions as described in Regulation 29.
- (t) Construction employees' facilities as described in Regulation 30

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with **all** requirements of

the Construction Regulations.

PA.8 RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials and subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

- (q) A copy of the OHS Act 1993 Construction Regulations 2003;
- (r) A copy of this Health and Safety Specification;
- (s) A copy of the Contractor's Health and Safety Plan (Regulation 7);
- (t) A copy of the Notification of Construction Work (Regulation 4);
- (u) ...A health and safety file in terms of Regulation 7(1) (b) with inputs by the Construction Safety Officer
- (v) A copy of the risk assessment described in Regulation 9;
- (w) A full protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 10;
- (x) Drawings pertaining to the design of structures (Regulation 11 and formwork and support work structures (Regulation 12) must be kept on site;
- (y) Pronouncement of the safety of excavations must be recorded in a register to be kept on site (Regulation 13);
- (z) A copy of the certificate of the system design for suspended platforms (Regulation 17(2));
- (aa) A notice must be affixed around the base towers of material hoists to indicate the maximum mass load, which may be carried at any one time by material hoists (Regulation 19(5));
- (bb) Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site (Regulation 19(8));
- (cc) A record of any repairs to or maintenance of a batch plant must be kept on site (Regulations 20(8));
- (dd) A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used (Regulation 21(2));
- (ee) A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant (Regulation 23(1)(k)).

PA.9 CONTRACTORS RESPONSIBILITIES

For this contract the Contractor will be the mandatory of the Employer (Client), as defined in the Act (OHS Act 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHS Act 1993) and the Construction Regulations 2014.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status as mandatory (employer) for the contract under consideration.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations 2014, and are not repeated in detail but some important aspects are highlighted hereafter, without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations.

- (a) Contractor's position in relation to the Employer (Client) (Regulation 7)

In accordance with Section 7 of the Regulations, the Contractor shall liaise closely with the Employer or the Engineer on behalf of the Employer, to ensure that all

requirements of the Act and the Regulations are met and complied with.

(b) The Principal Contractor and Contractor (Regulation 7)

The Contractor is in terms of the definition in Regulation 1 the equivalent of Principle Contractor as defined in the Construction Regulations, and he shall comply with all the provisions of Regulation 7.

Any subcontractors employed by the Contractor must be appointed in writing, setting out the terms of the appointment in respect of health and safety. An independent subcontractor shall however provide and demonstrate to the Contractor a suitable, acceptable and sufficiently documented health and safety plan before commencement of the subcontract. In the absence of such a health and safety plan the subcontractor shall undertake in writing that he will comply with the Contractor's safety plan, the health and safety specifications of the Employer and the Construction Regulations 2003.

(c) ...Supervision of construction work (Regulation 8)

The Contractor shall appoint the safety and other personnel and employees as required in terms of Regulation 8. Appointment of those personnel and employees does not relieve the Contractor from any of the obligations under Regulation 7.

(d) Risk assessment (Regulation 9)

The Contractor shall have the risk assessment before commencement of the work and it must be available on site for inspection at all times. The Contractor shall consult with the health and safety committee or health and safety representative(s) etc. on a regular basis to ensure that all employees, including subcontractors under his control, are informed and trained by a competent person regarding health hazards and related work procedures.

No subcontractor, employee or visitor shall be allowed to enter the site of works without prior health and safety induction training, all as specified in Regulation 7.

(e) Fall protection (Regulation 10)

Fall protection, if applicable to this contract shall comply in all respects with Regulation 10 of the Construction Regulations.

(f) Structures (Regulation 11)

The Contractor will be liable for all claims arising from collapse or failure of structures if he failed to comply with all the specifications, project specifications and drawings related to the structures, unless it can be proved

That such collapse or failure can be attributed to faulty design or insufficient design standards on which the specifications and the drawings are based.

In addition, the Contractor shall comply with all aspects of Regulation 9 of the Construction Regulations.

(g) Temporary work (Regulation 12)

The Contractor will be responsible for the adequate design of all formwork and support structures by a competent person.

All drawings pertaining to formwork shall be kept on site and all equipment and materials used in formwork, shall be carefully examined and checked for suitability by a competent person.

The provisions of Regulation 12 of the Construction Regulations shall be followed in every detail.

(h) Excavation work (Regulation 13)

It is essential that the Contractor shall follow the instructions and precautions in the Standard Specifications and Project Specifications as well as the provisions of the

Construction Regulations to the letter as unsafe excavations can be a major hazard on any construction site. The Contractor shall therefore ensure that all excavation work is carried out under the supervision of a competent person, that inspections are carried out by a Professional Engineer or Technologist, and that all work is done in such a manner that no hazards are created by unsafe excavations and working conditions.

Supervision by a competent person will not relieve the Contractor from any of his duties and responsibilities under Regulation 13 of the Construction Regulations.

(i) Demolition work (Regulation 14)

Whenever demolition work is included in a contract, the Contractor shall comply with all the requirements of Regulation 14 of the Construction Regulations. The fact that a competent person has to be appointed by the Contractor does not relieve the Contractor from any of his responsibilities in respect of safety of demolition work.

(j) Tunneling (Regulation 15)

The Contractor shall comply with Regulation 15 wherever tunneling of any kind is involved.

(k) Scaffolding (Regulation 16)

The Contractor shall ensure that all the provisions of Regulation 16 of the Construction Regulations are complied with. [Note: Reference in the Regulations to “Section 44 of the Act” should read “Section 43 of the Act”].

(l) Suspended platforms (Regulation 17)

Wherever suspended platforms will be necessary on any contract, the Contractor shall ensure that copies of the system design issued by a Professional Engineer are submitted to the Engineer for inspection and approval. The Contractor shall appoint competent persons as supervisors and competent scaffold erectors, operators and inspectors and ensure that all work related to suspended platforms is done in accordance with Regulation 17 of the Construction Regulations.

(m) Rope Access (Regulation 18)

Where rope access is required on the construction site, the Contractor shall comply with Regulation 18.

(n) Material Hoists (Regulation 19)

Wherever applicable, the Contractor shall comply with the provisions of Regulation 19 to the letter.

(o) Batch plants (Regulation 20)

Wherever applicable, the Contractor shall ensure that all lifting machines, lifting tackle, conveyors, etc. used in the operation of a batch plant shall comply with, and that all operators, supervisors and employees are strictly held to the provisions of Regulation 18. The Contractor shall ensure that the General Safety Regulations (Government Notice R1031 of 30 May 1986), the Driven Machinery Regulations (Government Notice R295 of 26/2/1988) and the Electrical Installation Regulations (Government Notice R2271 of 11/10/1995) are adhered to by all involved.

In terms of the Regulations, records of repairs and maintenance shall be kept on site.

(p) Explosive powered tools (Regulation 21)

The Contractor shall ensure that, wherever explosive-powered tools are required to be used, all safety provisions of Regulation 21 are complied with.

It is especially important that warning notices are displayed and that the issue and return of cartridges and spent cartridges be recorded in a register to be kept on site.

(q) Cranes (Regulation 22)

Wherever the use of tower cranes becomes necessary, the provisions of Regulation 20 shall be complied with.

(r) Construction vehicles and mobile plant (Regulation 23)

The Contractor shall ensure that all construction vehicles and plant are in good working condition and safe for use, and that they are used in accordance with their design and intended use. The vehicles and plant shall only be operated by workers or operators who have received appropriate training, all in accordance with all the requirements of Regulation 23.

All vehicles and plant must be inspected on a daily basis, prior to use, by a competent person and the findings must be recorded in a register to be kept on site.

(s) Electrical installation and machinery on construction sites (Regulation 24)

The Contractor shall comply with the Electrical Installation Regulations (Government Notice R2920 of 23 October 1992) and the Electrical Machinery Regulations (Government Notice R1953 of 12 August 1993). Before commencement of construction, the Contractor shall take adequate steps to ascertain the presence of, and guard against dangers and hazards due to electrical cables and apparatus under, over or on the site.

All temporary electrical installations on the site shall be under the control of a competent person, without relieving the Contractor of his responsibility for the health and safety of all workers and persons on site in terms of Regulation 24.

(t) Use of temporary storage of flammable liquids on construction (Regulation 25)

The Contractor shall comply with the provisions of the General Safety Regulations (Government Notice R1031 of 30 May 1986) and all the provisions of Regulation 25 of the Construction Regulations to ensure a safe and hazard-free environment to all workers and other persons on site.

(u) Water environments (Regulation 26)

Where construction work is done over or in close proximity to water, the provisions of Regulation 26 shall apply.

(v) Housekeeping on Construction sites (Regulation 27)

Housekeeping on all construction sites shall be in accordance with the provisions of the environment Regulations for workplaces (Government Notice R2281 of 16 October 1987) and all the provisions of Regulation 27 of the Construction Regulations.

(w) Stacking and storage on construction sites (Regulation 28)

The provisions for the stacking of articles contained in the General Safety Regulations (Government Notice R1031 of 30 May 1986) as well as all the provisions Regulation 28 of the Construction Regulations shall apply.

(x) Fire precautions on construction sites (Regulation 29)

The provisions of the Environmental Regulations for Workplaces (Government Notice R2281 of 16 October 1987) shall apply.

In addition the necessary precautions shall be taken to prevent the incidence of fires, to provide adequate and sufficient fire protection equipment, sirens, escape routes etc. all in accordance with Regulation 29 of the Construction Regulations.

(y) Construction employees' facilities (Regulation 30)

The Contractor shall comply with the construction site provisions as in the Facilities Regulations (Government Notice R1593 of 12 August 1988) and the provisions of Regulation 30 of the Construction Regulations.

(z) Non-compliance with the Construction Regulations 2014

The foregoing is a summary of parts of the Construction Regulations applicable to all construction projects.

The Contractor, as employer for the execution of the contract, shall ensure that all provisions of the Construction Regulations applicable to the contract under consideration are complied with to the letter.

Should the Contractor fail to comply with the provisions of the Regulations 3 to 30 as listed in Regulation 33, he will be guilty of an offence and will be liable, upon conviction, to the fines or imprisonment as set out in Regulation 33.

The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations as ignorance of the Act and the Regulations will not be accepted in any proceedings *related to non-conformance to the Act and the Regulations*.

PA.10 MEASUREMENT AND PAYMENT

PA.10.1 Principles

It is a condition of this contract that Contractors, who submit tenders for this contract, shall make provision in their tenders for the cost of all health and safety measures during the construction process. All associated activities and expenditure are deemed to be included in the Contractor's tendered rates and prices.

(a) Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

(b) Records and Registers

The keeping of health and safety-related records and registers is regarded as a normal duty of the Contractor for which no additional payment will be considered, and which is deemed to be included in the Contractor's tendered rates and prices.

PB : **ENVIRONMENTAL MANAGEMENT PLAN**

PB.1 **PLANS**

Prior to establishment of the site camp(s), the Contractor shall produce a plan showing the positions of all buildings, laydown yards, vehicle wash areas, fuel storage areas, batching areas and other infrastructure for approval by the Engineer.

PB.2 **USE OF LAND**

The Contractor shall not use the land comprising the Works or any land connected to the Works, for any purpose whatsoever other than for the proper carrying out of the Works and shall place any camps that may be required for himself and his employees only on sites approved by the Engineer.

No trees or bushes shall be damaged or cut down by the Contractor or by any of his employees whether for use in the Works or otherwise without the written consent of the Engineer.

PB.3 **VEGETATION CLEARANCE**

PB.3.1 **Woody vegetation**

PB.3.1 .1 Prior to the start of construction, woody vegetative matter shall, where directed in writing by the Engineer, be stripped. This material shall either be spread randomly throughout the surrounding veld so as to provide biomass for other micro organisms and habitats for small mammals and birds, or it may be stockpiled for later redistribution over the reinstated topsoiled surface.

PB.3.1.2 No vegetative matter shall be burnt or removed for firewood.

PB.3.2 **Herbaceous vegetation**

During clearing of woody vegetation, no basal cover or grass and topsoil shall be removed and damage to this layer shall be minimized as far as possible.

PB.4 **PROTECTION OF VEGETATION**

The Contractor shall ensure that all works are undertaken in such a manner that vegetation outside the Works area is not damaged.

PB.4.1 **Vegetation within or adjacent or outside the Works area**

The following provisions shall apply with respect to the protection of areas of vegetation.

PB.4.1.1 No tree or shrub shall be felled, lopped, cut or pruned without the prior written approval of the Engineer;

PB.4.1.2 No tree or shrub shall be felled, lopped, cut or pruned until it has been clearly marked for this purpose by the Engineer;

PB.4.1.3 No tree shall be burned for any reason;

PB.4.1.4 For every tree protected by these specifications, which is removed or, in the opinion of the Engineer, is unduly damaged by the Contractor, the Contractor shall pay a penalty of R2 000,00 per tree to the Employer;

PB.4.1.5 Trees which have been selected for preservation by the Engineer shall be fenced around their drip line. The fence shall be clearly marked with danger tape. No open fires shall be allowed within this fenced area, nor shall vehicles be parked underneath these trees. The area shall also not be used for material storage or as allocation for temporary buildings; and

PB.4.1.6 Where such trees are located within the working width of the pipeline, the pipeline shall be aligned to avoid these trees wherever possible.

PB.4.2 Transplantation of rare and endangered plant species

Prior to vegetation clearing, any rare or endangered plant species which have been identified by the Engineer or his environmental representative must be removed and transplanted as instructed herein.

PB.4.2.1 Transplanting of small trees (1 to 1,5m height) and small shrubs (0,5 to 1m height)

- a. Trees and shrubs shall only be transported between the months of April and September. Deciduous trees and shrubs shall be transplanted only when they are in a leafless condition.
- b. Holes for transplanting trees and shrubs shall be dug before these plants are dug out. Trees shall be planted in holes of 1m x 1m x 1m and shrubs shall be transplanted in holes of 600mm x 600mm x 600mm.
- c. Trees and shrubs shall be planted so that their stems or trunks are at the same depth as in their original location. The orientation of the transplanted plants must be the same as in their original location (i.e. the north-facing side of the plant must remain north-facing after it has been planted.)
- d. Transplanted plants shall be pruned to limit transpiration. Plants shall also be sprayed with an evapotranspiration retardant liquid if they are evergreen.
- e. Transplanted plants shall be watered once a week for 5 weeks and thereafter once every 2 weeks.

PB.4.2.2 Transplanting aloes, succulents and bulbous plants

- a. Aloes, succulents and evergreen bulbous plants may be transplanted at any time of the year.
- b. Aloes and bulbous plants shall be planted in similar conditions and to the same depth as they were before they were removed.
- c. Transplanted aloes and bulbs shall be watered once directly after transplanting to settle the soil.

PB.4.3 Alien vegetation

The Engineer may instruct the Contractor to remove alien vegetation from the works area for the duration of the construction and maintenance period. Such vegetation will be identified by the Engineer or his environmental representative and the method of eradication will be specified by him/her.

The use of topsoil for rehabilitation contaminated with the seed of alien vegetation will not be permitted.

PB.5 PROTECTION OF FAUNA

The Contractor shall ensure that all Works are undertaken in such a manner which minimizes the impact on the local fauna and shall apply the following specifications with respect to fauna management and protection:

- PB.5.1 Under no circumstances shall any animals be handled, removed, killed or interfered with by the Contractor, his subcontractors or his subcontractors' employees;
- PB.5.2 The Contractor and his employees shall not bring any domestic animals onto the site;
- PB.5.3 The contractor shall ensure that the work site is kept clean and tidy and free from rubbish which would attract animal pests;
- PB.5.4 There shall be no feeding of animals;
- PB.5.5 The Contractor shall ensure that domestic and native animals belonging to the local community shall be kept away and are safe from unprotected works; and
- PB.5.6 The Contractor shall advise his workers of the penalty associated with the needless destruction of wildlife, as set out in the Animals Protection Act (Act 71 of 1962) sec. 2 (fine of R2 000 and/or 12 months imprisonment).

PB.6 ARCHAEOLOGICAL ARTIFACTS

- PB.6.1 Known archaeological sites shall be indicated by the Engineer and shall be protected by a three-strand fence which will be at least 2m outside the extremities of the site. The fence shall be clearly marked with danger tape.
- PB.6.2 Should the Contractor expose any archaeological artefacts during excavation, work on the area where the artefacts were found shall cease immediately and the Engineer shall be notified as soon possible.
- PB.6.3 Upon receipt of such notification, the Engineer will arrange for the excavation to be examined by an Archaeologist as soon as practicable. Acting upon the advice from the Archaeologist, the Engineer will advise the Contractor of the necessary actions to be taken.
- PB.6.4 Under no circumstances shall archaeological artefacts be removed, destroyed or interfered with by the Contractor, his employees, his subcontractors or his subcontractors' employees.
- PB.6.5 The Contractor shall ensure that none of his employees gain access to any archaeological areas (whether fenced or unfenced), except when authorised to do so by the Engineer.
- PB.6.6 The Contractor shall stay strictly within the 20m working width of the Works in order to prevent disturbance of possible grave sites and remnant settlements. Should any work be necessary outside of the working width, then this shall only be done in areas approved by the Engineer.

PB.7 SCENIC QUALITY

- PB.7.1 The Contractor shall not establish or undertake any activities which, in the opinion of the Engineer, are likely to adversely affect the scenic quality of the area. The Engineer may direct the Contractor to refrain from such activities or to take

ameliorative actions to reduce the adverse effect of such activities on the scenic quality of the environment.

PB.7.2 No painting or marking of natural features shall be done. Marking for surveying and other purposes shall only be done with pegs and beacons.

PB.7.3 All cut and fill forms shall be rounded at the edges to blend then with the surrounding landforms.

PB.7.4 Where instructed by the Engineer, all packed and exposed rock cuttings shall be treated in order to blend their colour with the colours of the natural weathered rocks of the adjacent environment.

PB.7.5 Where instructed by the Engineer, all concrete structures shall be treated so as to blend in with the colours of the surrounding landscape. This shall be done either through painting or through treatment with a staining or coloration compound. All other permanent structures shall have colours which are chosen to blend in with the dominant colours of the surrounding landscape. Painted surfaces shall be painted with non-reflective (matt) colours.

PB.8 WORKING AREA

PB.8.1 The area of construction as reasonably indicated on the general layout drawings, drawings.

PB.9 ACCESS ROADS AND VEHICLE TURNING AREAS

PB.9.1 No new permanent access roads other than those agreed to by the Engineer shall be developed by the Contractor.

PB.9.2 Existing roads shall be used as far as possible for inspection purposes.

PB.10 MATERIAL LAYDOWN AREAS

VIP units may only be offloaded in areas approved by the Engineer.

PB.11 FIRES

No open fires shall be permitted except in areas specifically prepared and controlled for this purpose.

PB.12 FENCING

PB.12.1 Where instructed by the Engineer, fencing shall be erected around sensitive natural or cultural elements to protect them from damage. No pedestrian or vehicular access shall be allowed into such fenced areas.

PB.12.2 In places where temporary fencing is required, the Contractor shall erect such fencing when and where required by the Engineer and re-erect and maintain temporary fencing as necessary. Temporary fencing shall remain in position either until it is replaced by permanent fencing or until completion of the whole of the Works, unless the Contractor requires, or the Engineer directs its earlier removal.

PB.12.3 If any fencing is removed temporarily for the execution of any part of the Works it shall be reinstated as soon as practicable by the Contractor.

PB.12.4 The clearing for permanent fencing shall be limited to the removal of trees and shrubs within 1m of the fence line. Where, possible, the fence line must be aligned to retain

trees or groups of trees. There shall be no removal of the grass cover or topsoil within this width.

PB.12.5 Any fences damaged by the Contractor shall be repaired as soon as practicable at his cost.

PB.13 TOPSOIL

PB.13.1 Source of topsoil

Topsoil shall be stripped from all areas that are to be utilized during the construction period and where permanent structures are required.

The topsoil is regarded as the top 150mm of the soil profile, irrespective of the fertility appearance, agricultural potential, structure and composition of the soil.

PB.13.2 Topsoil stripping

PB.13.2.1 Not applicable.

PB.13.3 Topsoil stockpiling

PB.13.3.1 Stripped topsoil shall be stockpiled on sites adjacent to where it has been stripped.

PB.13.3.2 No vehicles shall be allowed access onto the stockpiles after they have been placed. Topsoil stockpiles shall be clearly demarcated in order to prevent vehicle access and later for identification as being the resource for rehabilitation and vegetation establishment.

PB.13.3.3 Stockpiles shall not be allowed to become contaminated with oil, diesel, petrol, garbage or any other material which may inhibit the later growth of vegetation in the soil.

PB.13.4 Topsoil placement

PB.13.4.1 Topsoil shall be placed to the depth indicated in the project specification over all areas where it has been stripped after construction in those areas has ceased. Topsoil placement shall be done concurrently with construction or as soon as construction in an area has ceased.

PB.13.4.2 Topsoil shall be placed in the same soil zone from which it has been stripped. However, if there is insufficient topsoil available from a particular soil zone to produce the minimum specified depth, topsoil of similar quality may be bought from other soil zones of similar quality at the approval of the Engineer.

PB.13.4.3 Where insufficient topsoil has been stripped by the Contractor to provide the minimum specified depth, the Contractor shall obtain suitable substitute material from other sources at no cost to the employer. The suitability of the substitute material shall be determined by means of a soil analysis which is acceptable to the Engineer or Environmental Officer.

PB.13.4.4 After topsoil placement is complete, cleared and stockpiled vegetation matter shall be spread randomly by hand over the topsoiled area as instructed by the Engineer.

PB.14 BORROW PITS AND QUARRIES

PB.14.1 If a borrow pit is to be developed or an existing one is to be excavated, all topsoil from the area that is to be quarried must be stripped and stored for later rehabilitation for the pit.

- PB.14.2 Stripping and excavation actions shall be progressive in such manner that those parts of the borrow pit or quarry where work is complete can be rehabilitated while other areas are still being quarried.
- PB.14.3 Cut slopes of borrow pits and quarries shall have a vertical : horizontal gradient of not steeper than 1:3 (about 18 degrees), and preferably 1:5.
- PB.14.4 During excavation, work will be carried out in such a way that slopes of open works are not made dangerously steep.
- PB.14.5 Borrow pits shall be used as dump sites for excess rock spoil. On completion of spoiling the pits shall be reshaped and covered with layer of topsoil. On no account may spoil or rock be placed in drainage ways without the prior consent of the Engineer. On sites where old excavations are to be found, rock, waste and mud from new excavations will be used to fill in the old excavations.
- PB.14.6 Stormwater cut off drains shall be provided at the top of the cut slope, where identified as necessary by the Engineer, to prevent erosion of the rehabilitated surface of the borrow pit or quarry.
- PB.14.7 No borrow pit shall be used as a dump site for refuse material or for toxic material e.g. cement, oil, diesel, rubber and similar materials.
- PB.14.8 There will be no workshops, chemical or fuel stores on the borrow pit site.
- PB.14.9 Sufficient soil conservation works for preventing soil erosion will be established at the rehabilitated areas.

PB.15 BATCHING

Concrete shall be mixed only in areas which have been specially demarcated for this purpose. All concrete that is spilled outside these areas, shall be promptly removed by the Contractor and taken to an approved dump site. After all concrete mixing is complete, all waste concrete shall be removed from the batching area and disposed of at an approved dump site. Storm water shall not be allowed to flow through the batching area. Water laden with cement shall be collected in a retention area for evaporation.

PB.16 EROSION PREVENTION

- PB.16.1 The Engineer will instruct the Contractor on the measures to be taken to ensure that there is no undue storm water damage and soil erosion resulting from the construction activities. The Contractor shall nevertheless take interim measures to ensure that no undue erosion damage occurs and shall advise the Engineer of all potential problem areas.
- PB.16.2 Surface storm water shall, where possible, not be allowed to be concentrated and to flow down cut or fill slopes or along the pipeline route without erosion protection measures being place.
- PB.16.3 Storm water deflection berms or stone pitched channels shall be constructed at regular intervals (plus minus every 15-30m) diagonally across the pipeline servitude on slopes as directed by the Engineer.

PB.17 EARTHWORKS

- PB.17.1 All cut and fill forms shall be rounded on the edges to allow them to blend with the

surrounding landforms.

- PB.17.2 Where the backfill over the pipe trench will impede the natural flow of water, the backfill shall be shaped to allow an even flow across the line.

PB.19 SPOIL AND WASTE MATERIAL

- PB.19.1 The Contractor shall load and haul excess spoil to fill in the borrow pits or to dump sites approved by the Engineer. The dumped material must be finally rounded to have slopes not steeper than 1:3.
- PB.19.2 The Contractor shall remove all foundations and similar waste and transport all such waste material off site to dump areas which have been approved by the Engineer.

PB.20 REFUSE DISPOSAL

The Contractor shall dispose of all refuse generated by him or his subcontractor on a weekly basis at an approved refuse disposal site.

PB.21 ABLUTION FACILITIES

Portable toilets shall be placed within easy access of the Contractor's employees. These toilets shall be moved to follow the progression of the Works. Waste generated by these toilets shall be disposed of in an acceptable manner following consultation with the Engineer.

PB.22 CLEARANCE OF SITE ON COMPLETION

- PB.22.1 On completion of the Works, the Contractor shall clear away and remove from the works area all constructional plant, signboards, surplus rock and other material, foundations, plumbing and other fixtures, rubbish and temporary works of every kind. Areas thus cleared shall be graded and scarified to restore the ground to its original profile as near as practicable before topsoil placement and re-vegetation.
- PB.22.2 The Contractor shall load and haul excess spoil to fill the borrow pits or to dump sites approved by the Engineer. The dumped material must be finally rounded off to have slopes not steeper than 1:3.

PB.23 ENVIRONMENTAL AWARENESS OF EMPLOYEES

The Contractor shall arrange that all his employees and those of his subcontractors receive environmental awareness and/or training before commencement of construction to the satisfaction of the Engineer, in order that they:

- (a) acquire a basic understanding of the key environmental features of the work site and environs;
- (b) are thoroughly familiar with the requirements of these Environmental Protection and Control Specifications as they apply to the Works;
- (c) if required by the Engineer, receive basic training in the identification of archaeological artifacts, and rare and endangered flora and fauna that may be encountered along the route; and
- (d) are made aware of any other environmental matters which are deemed to be necessary by the Engineer.

PB.24 COMPLIANCE WITH ENVIRONMENTAL PROTECTION SPECIFICATION

- PB.24.1 All persons employed by the Contractor or his subcontractors shall abide by the requirements of these specification as they apply to the Works.

PB.24.2 Any employees of the Contractor or his subcontractors found to be in breach of any of the Environmental Protection Specifications may be ordered by the Engineer to leave site forthwith. No extension of time will be granted for any delay or impediment to the Contractor brought about by a person ordered to leave the site.

PB.24.3 Supervisory staff of the Contractor and his subcontractor shall not direct any person to undertake any activities which would place such a person in contravention of the Environmental Protection and Control Specification.

PB.25 COMPLIANCE AND MONITORING

The Engineer shall be responsible for implementing a consistent monitoring programme to ensure that construction specifications are upheld and that negative environmental impacts are regularly assessed and mitigated against.

The Contractor shall obtain written approval from the Engineer that the site is rehabilitated to their satisfaction at the end of the contract (practical closure) as well as after a 12-month liability period (final closure). If, in the opinion of the Engineer, the Environmental Protection and Control Specifications have not been complied with, further rehabilitation measures can be specified, the costs of which will be borne by the Contractor.

SPECIFICATION PC: PROVISION OF WORKERS

CONTENTS

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C1 SCOPE

This Specification sets out the provisions and requirements in addition to Special Public Works Programme (SPWP) terms and conditions relating to the provision of the workers. The said terms and conditions of the SPWP are contained in Contract Data: Labour Laws, of the Special Conditions of Contract of this document.

C2 INTERPRETATIONS

C2.1 SUPPORTING DOCUMENTS

Where this Specification is required, the following documents shall *inter alia* be read in conjunction with this Specification:

- (a) The Instructions to Tenderers
- (b) The Conditions of Contract including Labour Laws in Contract Data
- (c) The Project Specifications
- (d) The Drawings (where applicable)
- (e) The statutory minimum requirements relating to the employment and remuneration of labour. Refer to the Basic Conditions of Employment Act, 1997 (Act No 75 of 1997) as amended by the requirements of the Expanded Public Works Programme (EPWP).

C2.2 DEFINITIONS AND ABBREVIATIONS

For the purposes of this Specification, the definitions given in the Conditions of Contract, the Standardized Specifications and the Project Specifications, together with the following additional definitions shall, unless the context dictates otherwise, apply:

- (a) **"Key personnel"** means all Contract Managers, Site Agents, materials and survey technicians, trainers, supervisors, foremen, skilled plant operators and the like, and all other personnel in the permanent employ of the Contractor or subcontractor who possess special skills and/or who play key roles in the Contractor's or subcontractor's operation.
- (b) **"Targeted worker"** shall have the meaning given in SANS 1914-5.

- (c) **"Worker"** means any worker, not being a local worker.
- (d) **"Project Coordinating Committee"** means a committee consisting of the Employer's Agent, the Contractor (or their nominated representatives), as well as representatives of the local community and other interested parties, which is convened from time to time at the discretion of the Employer's Agent, for the purposes of acting as an avenue for effective communication and liaison between all the parties referred to, in all matters pertaining to the Contract.
- (e) **"Subcontractor"** means any person or group of persons in association, or firm, or body corporate (whether formally constituted or otherwise) not being the Contractor, to whom specific portions or aspects of the Works are sublet or subcontracted by the Contractor in accordance with the provisions of the Contract.
- (f) **"The Contractor"** and **"Contractor"**, without further qualification, means the Contractor as defined in the Conditions of Contract.
- (g) **"Worker"** for the purposes of this Specification means any person, not being one of the Contractor's key personnel, nor any key personnel of any subcontractor, who is engaged by the Contractor, a subcontractor or the Programme Management Unit, to participate in the execution of any part of the Works and shall include unskilled labour, semi-skilled and skilled labour, artisans, clerical workers and the like.
- (h) **"Workforce"** means the aggregate body comprising of all workers and shall, unless the context dictates otherwise, include the workforces of the Contractor and all subcontractors.

C2.3 STATUS

Where any provisions or requirements of this Specification are in conflict with anything specified in terms of the EPWP and SANS 1914-5 (Part 5: Participation of targeted labour), the latter two shall prevail.

C3 ALLOWABLE SOURCES FOR WORKERS

C3.1 The Contractor shall make maximum use of the human resources existing within the targeted group/community, and accordingly the workers who are to be utilised in the execution of the Works shall comprise only targeted workers (as defined in SANS 1914:2002 attached as Appendix C).

C3.2 Notwithstanding the provisions of sub-clause C3.1, the Employer's Agent may at his discretion, upon receipt of a written and fully motivated application from the Contractor and where he deems the circumstances so warrant, authorise in writing that non-targeted workers, not being his key personnel, be included in the workforce. Without limiting the generality of application of this sub-clause, circumstances which may be considered by the Employer's Agent to warrant such authorisation of the inclusion in the temporary workforce of non-targeted workers, may include:

- (a) the unavailability of sufficient numbers of local workers to execute the Works, provided always that the Contractor has proven that he has exercised his best endeavours and taken all reasonable actions to recruit sufficient local workers and has exhausted all reasonable recruitment options;
- (b) the unavailability within the local community, of sufficient of the required skills necessary for the execution of the Works or specific portions thereof, in cases where the completion period allowed in the Contract is insufficient to facilitate the

creation of the necessary skills through the provision of training as contemplated in this Contract;

- (c) any other circumstances which the Employer's Agent may deem as constituting a warrant.

C4 EMPLOYMENT GENERATION

C4.1 CRITERIA

The Contractor shall give no preference to any particular gender, and the requirement of this specification is to ensure that at least 50% women and 50% youth be employed on this Contract.

C4.2 UNITS OF MEASURE

Through the execution by labour-intensive construction methods included in the contract, temporary employment opportunities are to be created by the Contractor in the course of the Contract.

The numbers of employment opportunities will be measured in terms of "man-days" and the minimum task rate payable to workers employed in terms of the EPWP shall be as specified in clause 1.1.2 of A5.2.3 (h).

C4.3 EMPLOYMENT RECORDS TO BE PROVIDED

C4.3.1 The Contractor shall maintain accurate and comprehensive records, as required in terms of Clause 13 of clause 4.6 of Contract Data: Labour Laws, of all workers engaged on the Contract and shall provide the to the Employer's Agent at two-weekly intervals from the commencement of the Contract, interim records substantiating the actual numbers of employment opportunities which have been generated to date and the amounts actually paid in respect thereof. Such interim records shall be in a format approved by the Employer's Agent.

C4.3.2 The Contractor shall, on completion of the Contract, and as a prerequisite event to the release of any retention money or retention money guarantees in terms of the Conditions of Contract, provide the Employer's Agent with independently audited documentary evidence of the total number of employment opportunities actually generated during the Contract.

C4.4 VARIATIONS IN WORKER PRODUCTION RATES

Notwithstanding anything to the contrary as may be stated in or inferred from any other provision of this Contract, the Contractor shall not be entitled to any additional payment or compensation whatsoever, in respect of any differences as may result between the production rates actually achieved by workers in the course of the execution of the Works and those production rates on which he based his tendered labour requirements.

C4.5 TERMS AND CONDITIONS OF EMPLOYMENT

The employment of all labour shall be done in terms of Labour Laws (refer clause 4.6 of Contract Data) and requirements of the EPWP.

C4.6 WRITTEN EMPLOYMENT AGREEMENT

The Contractor shall enter into a written agreement with each and every worker engaged by him on the Contract, which agreement shall be compliant with the requirements of clause 12 of Labour Laws (refer clause 4.6 of Contract Data). Copies of all such agreements shall be forwarded without delay to the Employer's Agent.

C4.7 CONTRACTOR TO EXPLAIN

The Contractor shall, before entering into any such Labour Agreement with any worker, explain the meaning and impact of the entire contents of the agreement and

shall ensure that the worker fully understands his liabilities, obligations and rights under the employment agreement.

C4.8 PAYMENT OF WORKERS

All amounts due to the employer shall be made in terms of clause 14 of Labour Laws (refer clause 4.6 of Contract Data).

C5 TRAINING OF THE WORKFORCE

The Contractor shall be responsible for the provision, at his own cost, of all training of the workers, as may be necessary for the achievement of the execution and completion of the Works over and above the training specified in the terms and conditions of the Contract. The cost thereof will be deemed included in the unit rates tendered.

C6 RECRUITMENT AND SELECTION PROCEDURES

The Contractor shall be responsible for the recruitment and selection of workers to constitute the temporary workforce but in doing so, shall adhere to the procedures and principles set out below.

C6.1 The Contractor shall advise the Employer's Agent in writing, of the numbers of each category of worker, which he requires, together with the personal attributes which he considers desirable that each category of worker shall possess (taking due cognisance of the provisions of the Contract pertaining to training).

C6.2 The Contractor shall, at his own cost, take all necessary actions to advertise within the local community comprising the allowable personnel resources, the fact that employment opportunities exist in respect of the EPWP and the time and place where recruiting will occur.

C6.3 The Contractor shall record in writing, the details of all persons applying for employment, including *inter alia*:

- (a) Name, address, age and sex
- (b) Marital status and number of dependants
- (c) Qualifications and previous work experience (whether substantiated or not)
- (d) Period since last economically active
- (e) Preference for type of work or task.

C6.4 The Contractor shall make his selection of workers from amongst the applicants, in accordance with the described below, taking due cognisance of his requirements for the workforce and the provisions of the Contract in regard to the provision of training to the workforce:

- (a) No potential worker shall be precluded from being employed by the Contractor on the execution of the Works, by virtue of his lack of skill in any suitable operation forming part of the Works, unless:
 - (i) all available vacancies have been or can be filled by workers who already possess suitable skills; or
 - (ii) the completion period allowed in the Contract, or the remaining portion of the Contract Period (as the case may be) is insufficient to facilitate the creation of

the necessary skills.

- (b) Preference shall be given to the long-term unemployed and single heads of households irrespective of gender.
- (c) The Contractor shall, in so far as is reasonably practicable, give priority to accommodating the applicants' expressed preferences regarding the types of work for which they are selected.
- (d) The selection process shall not be prejudicial to youth over the age of eighteen years and women.

C6.5 After making his selection the Contractor shall advise the Employer's Agent thereof in writing.

C6.6 The provisions of this clause C6 shall apply *mutatis mutandis* in respect of the selection of additional or replacement members of the workforce as may be necessary from time to time during the Contract.

C7 **TERMS AND CONDITIONS PERTAINING TO THE EMPLOYMENT OF THE TEMPORARY WORKFORCE**

All workers shall be engaged in accordance with the provisions of Labour Laws (clause 4.6 of Contract Data) and the EPWP.

C8 **LABOUR RELATIONS AND WORKER GRIEVANCE PROCEDURES**

C8.1 The Contractor shall at his own cost be fully responsible for the establishment and maintenance of satisfactory labour relations on Site and the resolution of all grievances of temporary workers as may occur.

C8.2 The Contractor shall at all times adhere to the accepted norms and standards of labour relations prevailing generally in the Civil Employer's Agenting Construction Industry and shall conduct himself in a fair and reasonable manner, within the constraints as may be imposed upon him by the terms of the Contract.

C8.3 In the event of any worker engaged by the Contractor in terms of the Contract, being aggrieved on any issue, he shall have the right, at his discretion, to be supported in any inquiry or disciplinary hearing or investigation instituted by the Contractor in terms of sub-clause C8.2 above, by one member of the workforce and one community representative who is a member of the Project Coordinating Committee, which persons shall be nominated by the worker.

C8.4 In the event of any grievance not being satisfactorily resolved through the application of normal dispute resolution procedures in accordance with sub-clauses C8.2 and C8.3, then either the Contractor or the worker concerned may require that the matter be referred to the Project Coordinating Committee for further consideration, with a view to facilitating resolution thereof.

C9 **MEASUREMENT AND PAYMENT**

The Contractor will not be separately reimbursed or compensated in respect of the provision of the workforce and the creation of employment opportunities and all the Contractor's costs associated with compliance with the provisions of this Particular Specification shall, as relevant, be deemed to be included in the rates tendered for the various items of work listed in the Schedule of Quantities.

SPECIFICATION PD: TASK WORK

D1	SCOPE
D2	INTERPRETATIONS
D3	ALLOWABLE WORKER SOURCES
D4	TASK WORK
D5	LABOUR RELATIONS AND GRIEVANCE PROCEDURES
D6	MEASUREMENT AND PAYMENT
D7	PROPOSED TASK RATES
D8	HAND EXCAVATEABLE MATERIAL

D1 **SCOPE**

This Particular Specification covers the requirements relating to the workers engaged on the on the Works, on a task work basis.

D2 **INTERPRETATIONS**

D2.1 **SUPPORTING DOCUMENTS**

Where this Specification is required for a project, the following documents shall inter-alias be read in conjunction with this Specification:

- (a) The Instructions to Tenderers
- (b) The Conditions of Contract
- (c) The Project Specifications
- (d) The Drawings (where applicable)
- (e) The statutory minimum requirements relating to the employment and remuneration of labour.

D2.2 **DEFINITIONS AND ABBREVIATIONS**

For the purposes of this Specification, the definitions given in the Conditions of Contract, Standardized Specifications and the Project Specifications, together with the following additional definitions shall apply:

- (a) "**Daily task**" means a task which, under the prevailing conditions, can reasonably be expected to be completed by an average worker or average group of workers within an average normal working day. "**Weekly task**" shall be similarly and appropriately construed.
- (b) "**Daily task**" means that portion of a weekly group task, or weekly individual task, or daily group task as is executed, or to be executed by an individual worker during a single average normal working day.
- (c) "**Daily task rate**" means the rate of remuneration which is paid to an individual worker in respect of an individual daily task.
- (d) "**Task**" means a defined quantity of work to be executed in a pre-defined period of time by a specified number of workers. "**Individual task**" and "group task" shall be similarly and appropriately construed.

- (e) "**Task rate**" means the rate at which workers are remunerated for the completion of a task. "**Daily task rate**" and "weekly task rate" shall have similar meanings.
- (f) "**Task work**" means the engagement of workers on terms and conditions in which they are remunerated only for tasks successfully completed, regardless of the time spent completing the task.

D2.3 STATUS

Unless and to the extent that exemptions from compliance with the statutory requirements are applicable to the project, where the provisions of this Specification are in conflict with any prevailing laws or statutory requirements relating to the terms and conditions of the employment and remuneration of workers, the statutory requirements shall take precedence.

D3 ALLOWABLE WORKER SOURCES

The provisions of Particular Specification Part C shall be applicable in respect of sources which the Contractor may utilise in the recruitment and employment of workers for the Contract, with addition of the following terms and conditions:

- D3.1.1** Workers shall be engaged on a task work basis, as defined in sub-clause D2.3 and as further described in clause D4 below.

D4 TASK WORK

D4.1 FORMULATION OF THE TASKS

D4.1.1 Responsibility

- (a) The Works are specified and measured generally in accordance with the format described in the Standardized Specification or Particular Specifications, and the Contractor shall be responsible for the division of the work into tasks and the formulation of the individual tasks.
- (b) Save and except as provided in the Contract, the formulation of the individual tasks shall be at the Contractor's discretion.

D4.1.2 Documentation

- (a) The Contractor shall, together with the submission of the programme referred to in Clause 12.2 of the Conditions of Contract, provide to the Employer's Agent a full list of all tasks, describing in detail the nature and extent of each task and the numbers of workers to be employed on such tasks.
- (b) Should the Contractor deem it necessary to vary or amend the formulation of tasks at any stage, he shall without delay, provide the Employer's Agent with a revised list indicating all his revisions thereto.
- (c) The submission to and approval by the Employer's Agent of any such list of the task formulation or any revision thereto, shall not relieve the Contractor of any of his liabilities under the Contract and shall not limit the right of the Employer's Agent to instruct the Contractor to vary the formulation of tasks should the circumstances so warrant.

D4.2 STRUCTURE AND EXTENT OF TASKS

- D4.2.1** A task shall, in accordance with the provisions of sub-clause D4.1.1 above and Contract Data: Labour Laws, be determined by the Contractor on the basis of what an average worker from his labour force can reasonably be expected to complete in a **standard 8-hour working day**, taking due cognisance of the specific prevailing physical conditions on the Site (including soil character, hardness and density, climatic conditions, difficulty of the work) and other regulatory conditions (e.g. meal break, etc).
- D4.2.2** Unless the circumstances preclude, tasks shall be formulated on the basis of daily tasks. Where the nature of the work is such that the formulation of the task on a daily task basis is impractical, such tasks may be formulated as weekly tasks.
- D4.2.3** The extent of any particular task (e.g. trench excavation) shall be varied on a daily basis to accommodate the hardness of the soil and the difficulty of the specific task for the day.
- D4.2.4** The extent of any particular task shall, as stated above, be based on what the average worker can achieve and shall be identical for all workers. The exploitation of particularly competent and productive workers through the increasing of the extent of their specific tasks shall be strictly prohibited.
- D4.2.5** Tasks shall wherever possible be structured as individual tasks for each worker. Notwithstanding, where the nature of the work to be executed is such that the circumstances so warrant, tasks may be formulated as group tasks.
- D4.2.6** Where workers are engaged on work for which no specific productivity can be specified (e.g. during the provision of specific non-productive training, an office cleaning or messenger tasks, etc) the duties which the worker is expected to perform during the normal working day shall never the less be appropriately defined in the format of a daily task, without specific reference to productivity.
- D4.2.7** The Contractor shall formulate all tasks in such a manner as to facilitate the implementation of all training programmes (including any structured training programmes) as provided for in the Contract, and the employment of workers progressively through the various stages of each type of work.

D4.3 DEMARCATIION OF TASKS

The Contractor shall at all times, physically and clearly demarcate the extent of each individual or group task in such a manner that the extent of the daily or weekly task of each individual worker or group of workers can be clearly perceived by both the workers and the Employer's Agent.

The Table of Proposed Task Rates included in these Specifications should be used as a base to set out the specific task to an individual worker or group of workers to complete, which shall also be the basis of task rate remuneration explained below.

D4.4 REMUNERATION OF TASK WORKERS

D4.4.1 Base rate for task work remuneration

- (a) The rate at which workers engaged in task work are remunerated for the completion of any particular task, shall be in accordance with the rate of pay set for SPWP projects in clause 19.1.2 of A5.2.3 (h).

- (b) Workers engaged in "non-production" oriented tasks shall be remunerated at a rate which is not less than the applicable daily task rate.
- (c) The daily task rate shall be the same rate for all daily tasks. Differences in the difficulties of the various types of work shall be reflected in the extent of the daily task assigned by the Contractor.
- (d) Where a worker is required by the Contractor to execute task work on a Sunday, the daily task rate shall be doubled.

D4.4.2 Remuneration for completed tasks

Workers engaged in task work activities shall be remunerated at the daily task rate only in respect of completed tasks as specified in Clause 14 of Labour Laws (clause 4.6 of Contract Data).

D4.5 PROVISION OF MATERIALS, TOOLS, PLANT AND EQUIPMENT

D4.5.1 The Contractor shall at his own cost, provide to all workers engaged in task work activities, all materials, tools, Plant, safety clothing and other equipment as may be necessary to facilitate the uninterrupted execution and completion of the respective tasks.

D4.5.2 The Contractor shall ensure that all tools, plant and equipment are at all times maintained in good working condition.

D4.6 VERIFICATION AND ADJUSTMENT OF THE EXTENT OF TASKS

D4.6.1 Irrespective of any deductions made, or inferences which may be drawn by the Contractor for any item in the Schedule of Quantities, where it becomes evident that the extent of the work included by the Contractor in any particular task exceeds the requirements of this Specification, the Contractor shall forthwith reduce the extent of the work included in the task such that it complies with the requirements of this Specification.

D4.6.2 The Employer's Agent shall have the right at any time, to verify that the amount of work included by the Contractor in any general or specific task does not exceed the limits stated in sub-clauses D4.2 and to this end the Contractor shall whenever so required by the Employer's Agent, make available to the Employer's Agent, those workers as may be selected by the Employer's Agent, together with the necessary supervision, and shall physically demonstrate that the task can reasonably be completed by the average worker in the required time.

D4.6.3 Where any such demonstration reveals that the extent of the work included by the Contractor in any task is excessive, the Contractor shall immediately reduce the extent of the task appropriately, so that it complies with the provisions of the Contract.

D4.6.4 All additional costs resulting from the reduction of the extent of any task or tasks in terms of these sub-clauses shall be entirely for the Contractor's account and the Contractor shall have no claim in this regard. Similarly, any delays which may occur, consequent on the reduction of the extent of any task in terms of the said sub-clauses, shall be the Contractor's liability and no claims for extension of time will be considered on such grounds.

D4.7 PRODUCTION OF TASK WORKERS

D4.7.1 Non-productive workers

The Termination of a worker shall be done in accordance with clause 18 of Labour Laws (clause 4.6 of Contract Data). Examples of poor work performance shall include, but not necessarily be limited to cases where:

- (a) the worker has taken more than three (3) times the specified time to complete the task; or
- (b) the low production level of a particular worker involved in group tasks is persistently objected to by the group and is severely affecting the group's productivity;

Provided always that the worker cannot be accommodated on other tasks at which he is more capable.

D4.7.2 Contractor's liability

The Contractor shall remain fully responsible for the employment of sufficient task workers, the provision of sufficient skilled and competent key personnel and trainers to ensure that the production achieved by the task workers and the quality of their work is adequate to construct and complete the project in accordance with the requirements of the Contract.

D4.8 CERTIFICATE OF SERVICE

Every worker engaged on the Contract shall on the termination of his participation on the Contract, be entitled to receive from the Contractor, a certificate of service in which the information as specified in clause 19 of Labour Laws (clause 4.6 of Contract Data) shall be recorded.

D5 LABOUR RELATIONS AND GRIEVANCE PROCEDURES

The provisions of Labour Laws (clause 4.6 of Contract Data) shall be applicable.

D6 MEASUREMENT AND PAYMENT

The recruitment of the labour force, the formulation of tasks and the appropriate organisation, supervision and execution of task work will not be separately nor directly measured and paid for and all costs associated therewith shall be deemed to be included in the various rates and prices tendered for the various items of work as listed in the Schedule of Quantities.

D7 PROPOSED TASK RATES

For proposed task rates, refer to Table 8.2 under clause A5.2.3 (n) (3) of the Scope of Works.

D8 HAND EXCAVATEABLE MATERIAL

Hand excavate-able material shall be determined in accordance with the classification of material provided in A5.2.3 (n) (2) of the Scope of Works.

C3.5 MANAGEMENT

C3.5.1 MANAGEMENT OF THE WORKS

C3.5.1.1 Applicable SANS and SANS Standards

The provisions of these Specifications take precedence over the provisions of any part of SANS 2001 that is applicable to the contract. The variations and additions to these specifications are described in the section “Applicable SANS 1200 Standardized Specifications”.

The SANS 1200 Standardized Specifications listed in C3.4.1.1 are applicable.

C3.5.1.2 Particular/Generic Specifications

The Particular Specifications listed in C3.4.6 apply to this Contract.

C3.5.1.3 Methods and Procedures

(a) Maintenance of access and streets

The operation of construction vehicles on existing roads or streets, or streets that have been completed to the level of subbase, base or surfaced treatment, shall be limited to the traffic with an axle load not exceeding that allowed by the Road Traffic Ordinance of the authority concerned, or any amendment thereof. Hauling is strictly forbidden on sections of road or streets that have been completed as described above. The Contractor shall make use of a 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 of street. 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, except for payment made under payment item A8.3.2.2 of SANS 1200 A.

Should the Contractor make use of existing roads or streets for haulage, he shall be held responsible to clear the road or street 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.

(a) Blasting operation

All blasting shall be carried out by a competent, registered blaster. The blaster shall furnish to the Employer's Agent copies of all the permits required to purchase, transport, use and dispose of unused blasting material. The Contractor shall inform the commander of the local SAPS at least 1 day prior to the date and time blasting is about to take place.

No blasting operations shall take place on weekends or holidays or week days after 17h00.

The Contractor shall ensure that sufficient suitable material, to the satisfaction of the blaster, is available and in place before the blast is initiated. The Contractor shall be

responsible to note in writing (photographs) the structural status of structures before blasting for comparison after blasting.

(c) Normal working hours

Normal working hours shall be from 07h00 until 17h00 on weekdays from Monday to Friday. It shall be from 07h00 until 13h00 on Saturdays.

Work on other days will only be allowed after written approval has been granted by the Employer's Agent.

(d) Interference with municipal staff and operations

The Contractor shall ensure that none of his staff interfere in any way with any municipal staff member or their functions or with the operations of the water treatment works in any way.

Any person ignoring this shall be removed permanently from site, all at the expense of the Contractor.

(e) Access for other contractors

The Contractor shall provide reasonable access to other Contractors carrying out work on the site from time to time, as and when such access is required. The Contractor is entitled to request reasonable notification of at least 24 hours before access by others is required.

The contractual responsibilities of the Contractor shall remain in full force in spite of the other Contractors having access to the site.

(f) Giving notice of work to be covered up

The Contractor shall give the Employer's Agent 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 Employer's Agent found that the works or materials are not yet ready for inspection, the Contractor shall reimburse the Employer's Agent within 30 days of invoice for all expenses incurred as a result.

(g) Sequence of the works

The Contractor shall arrange with the mechanical and electrical Contractor and the Employer's Agent the sequence of the works to ensure the existing plant remains in operation.

C3.5.1.4 Quality plans and control (Testing)

Refer to Section C3.4.2.5 (b).

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, hostels, offices, lay down yards, 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 Employer's Agent.

(b) Construction camp

The Contractor shall provide the Employer's Agent with a plan showing the positions of all buildings, yards, vehicle wash areas, batching areas and other infrastructure for approval by the Employer's Agent at least ten (10) days prior to the commencement date.

(c) Fencing of site

If a temporary fence is required, 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 Employer's Agent.

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) Workshops

All workshops shall be located inside the demarcated construction camp area as approved by the Employer's Agent prior to establishment. The workshop shall have a smooth impermeable concrete floor sloped to one side where oil is trapped in an oil trap or sump to contain any spillages of substances such as oil.

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

(e) Eating areas

The Contractor's employees shall eat in a designated eating area indicated on the drawing approved by the Employer's Agent. The Contractor shall provide adequate shade and provide scavenger proof and waterproof refuse bins. Cooking will only take place in this area on well maintained gas cookers with fire extinguishers present. Open fires other than the gas cookers shall not be allowed.

(f) Watchmen

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

(g) Ablution facilities

The exact location of toilets shall be approved by the Employer's Agent. 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 Employer's Agent. Burial of waste on site is strictly forbidden. Leaking or broken toilets shall be removed and replaced immediately by the Contractor.

(h) 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 Employer's Agent 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.

(i) Wastewater

Water shall be used sparingly on site. Where possible, wastewater shall be recycled. A wastewater management plan shall be submitted to the Employer's Agent for approval 10 days prior to the commencement date.

The management plan shall detail the expected extent of the contamination of each wastewater stream and how the Contractor plans to deal with it.

Wastewater shall be prevented from flowing into the Olifants River.

(j) Fuel storage area

Fuel shall be stored on site in a depot at a location as agreed with the Employer's Agent. 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.

(k) Concrete batching area

Cement and concrete is hazardous to the environment due to the high pH of the material and the chemicals it contains.

The Contractor shall furnish to the Employer's Agent for approval a method statement for the mixing of concrete. Concrete shall not be mixed directly on the ground. Care must be taken to ensure that wastewater and contaminated material is collected and disposed of correctly.

(l) 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 Employer's Agent 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 Employer's Agent.

(m) 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 the 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 Employer's Agent 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 Employer's Agent.

Where possible, the Contractor shall ensure that the refuelling of vehicles takes place only at the fuel storage area in the construction camp. If this is not possible, the Contractor shall obtain permission from the Employer's Agent to refuel at any other place. Contaminated material and wastewater at the refuelling area shall be contained and disposed of correctly.

(n) Emergency procedures

The Contractor shall ensure that emergency procedures for the following situations are submitted for approval to the Employer's Agent;

Fire – the Contractor shall inform the relevant authority immediately as soon as a fire starts. The Contractor shall ensure that his staff and subcontractors are fully aware of the procedures to be followed in the event of a fire.

Spillages – the Contractor shall ensure that his staff and subcontractors are fully aware of the procedures to be followed in the event of a spillage. The Employer's Agent must be informed immediately about a spill. The Contractor shall ensure that the necessary materials and equipment is on site to deal with spills and leaks. The cleanup of spills and leaks shall be for the account of the Contractor.

(o) Care of surrounding areas

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

C3.5.1.6 Planning and programming

Early completion of the extensions to the water treatment works is important.

The existing water treatment works must remain fully operational.

Immediately after handing over the site, the Employer's Agent 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 the mechanical and electrical Contractor is not unnecessarily delayed by the Contractor.

Before handing over a structure to the mechanical and electrical Contractor for the installation of mechanical and or electrical equipment, the Contractor shall ensure the absence of scaffolding, formwork, building materials, rubble or open trenches.

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

C3.5.1.7 Other Contractors on site

A mechanical and electrical Contractor will be on site during the latter part of the contract period to install mechanical and electrical equipment. Close cooperation is required between the Contractor and this mechanical and electrical Contractor to ensure neither delays the other.

C3.5.1.8 Recording of weather

The Contractor shall record the weather conditions on a daily basis in the site diary. Rainfall figures and strong wind which could delay the Works shall be noted, recorded and confirmed by the signature of the Employer's Agent's Representative on site.

C3.5.1.9 Format of communications

All communication regarding the Contract shall be channelled through the Employer's Agent or his representative. Formal contractual communication shall be in writing.

Instructions will only be given by the Employer's Agent or his representative. The Contractor shall not take any instructions from the Employer, the local municipality or the superintendent or operators.

C3.5.1.10 Progress meetings, 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 also ensure that the CLO attend all such meetings.

The Contractor shall furnish to the Employer's Agent a Gantt chart programme with the critical path indicated in red. This shall be done on MS Project and shall be furnished in hard copy and electronically to the Employer's Agent.

C3.5.1.11 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.

All visitors shall be required by the CLO to complete the site diary.

C3.5.1.12 Site Instructions

Only the Employer's Agent or his representative 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.

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 Employer's Agent 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 Employer's Agent.

The Health and Safety Specification is attached as section C3.4.6 and must be referred to when compiling the Health and Safety Plan.

(a) Construction Regulations, 2014

The Contractor shall be required to comply with the Occupational Health and Safety Act, 1993: Construction Regulations, 2014 (the regulations) as promulgated in Government Gazette No 25207 and Regulation Gazette No 37305 of 7 February 2014. Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.

The proposed type of work, materials to be used and potential hazards likely to be encountered on this Contract are detailed in the Project Specifications, Schedule of Quantity and Drawings, as well as in the Employers' Health and Safety Specifications (regulation 5(1)) of the Construction Regulations 2014.

The Contractor shall in terms of regulation 7(1) provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the Employer.

The Contractor shall at all times be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

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.

C3.6.2 PROTECTION OF THE PUBLIC

The site is not accessible to the general public. However, the existing water treatment works must remain in operation for the duration of the Contract. The Contractor shall ensure that all personnel entering the construction site is fully informed about the dangers, dos and don'ts on the site. The Contractor shall ensure that non-construction personnel are protected within the guidelines of the OHS Regulations.

C3.6.3 BARRICADES AND LIGHTING

All excavations and openings in walls and slabs into which or through which a person may fall, shall be securely barricaded in accordance with the requirements of the applicable OHS Regulations.

C3.6.4 VEHICULAR AND PEOPLE TRAFFIC CONTROL

The Safety Officer shall take full responsibility for the vehicular and people traffic control in and around the site. The personnel of the existing water treatment works shall be fully informed and trained by the Safety Officer if required.

C3.6.5 MEASURES AGAINST DISEASE AND EPIDEMICS

No particular measures have to be taken against disease and epidemics on site.

Untreated water from the Olifants River may not be used for human consumption on the Site.

C3.6.6 AIDS AWARENESS

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

PART 4: SITE INFORMATION

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C4 SITE INFORMATION

C4.1 GENERAL

This section describes the site at the time of tender to enable the tenderer to familiarise and to decide upon his method of working and programming and risks.

C4.2 SITE LOCATION

The sites are situated within the Abaqulusi Municipality area.



C4.3 ACCESS TO SITE AND RESTRICTIONS

Permission as may become necessary shall be the responsibility of the Contractor to obtain.

Having been granted access to works areas by the Employer, other service authorities and private owners, the Contractor shall adhere to any agreed conditions of access and ensure the works area is left in a condition similar to when it was first accessed.

C4.4 SECURITY

The Contractor shall be responsible for the security of his personnel, materials, equipment and construction plant on and around the site of the Works and for the security of his camp (if applicable). The Employer in this regard will consider no claims.

C4.5. BORROW-PIT

The contractor must take note that the borrow-pit may be available from 1km up to 40km away from site and the road leading to the borrow-pit may result uneven and in natural gravel. The contractor is advised to take note and price accordingly that all necessary costs are factored within the haulage rate. There will be no additional compensation that will be allowed should the contractor fail to take note of the above statement and client may not be held liable for any loss or damage of plant and any property during the haulage.

Kindly note when sourcing G2 crushed material the rate be based on the worst-case scenario, material normally is available from Glencoe quarry which is 75km away from site. A tendered rate for subitem (b) shall include full compensation for procuring and providing the material from commercial source and hauling it from the source to the point on the site where required and processing.

PRO FORMA

EXPANDED PUBLIC WORKS PROGRAMME
CONTRACT OF EMPLOYMENT BETWEEN

CONTRACTOR

Name:
Address:
ID:

AND

WORKER

Name:
Details:
ID:

1. I am pleased to confirm that you have been appointed to work on a task based employment contract within the Expanded Public Works Programme (EPWP) project. Within this employment contract you will undertake numerous groups of tasks.
2. This employment contract must be read in conjunction with the standard terms and conditions of employment on EPWP attached herewith.
3. The project where you will be employed is located at.....
4. This employment contract will start on and on end on
5. You must be aware that this employment contract is a limited term contract and not a permanent job. This employment contract may be terminated for any one of the following reasons:
 - a) The contractor does not get additional contracts through the EPWP.
 - b) Funding for the programme in your area comes to an end.
 - c) You repeatedly do not perform in terms of the tasks set out in your work programme.
 - d) You have worked a maximum of 24 months within a 60 month cycle.
6. You will be employed as a within the team.
7. While you are working you will report to
8. Payment
 - a) You will be paid a fixed amount of R..... for completing a fixed amount of work.
 - b) The amount of work required for the agreed rate of pay will vary from task to task. You will be informed at the beginning of each task or group of tasks how much work you are expected to complete per day.
 - c) You will only be paid for work completed.
9. In addition to the conditions above, all the terms and conditions of employment on EPWP apply to your employment. If you breach any of these terms your contract may be terminated.
10. Signatures:
Signed on this day of.....

Contractor: Date:

Worker: Date:

Witness: Date:

PART 1: AGREEMENT AND CONTRACT DATA

C1

Contractor

Employer

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C1.1 FORM OF OFFER (AGREEMENT)

C1.1.1 FORM OF OFFER

THE TENDERER IS TO COMPLETE AND SIGN THE FORM OF OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

CONTRACT - CONSTRUCTION OF EMARASTENI BRIDGE – WARD 11

The Tenderer, identified in the Offer signature block below, has examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the tenderer offers to perform all of the obligations and liabilities of the contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be

determined in accordance with the Conditions of Contract identified in the Contract Data.

The Contract shall be completed
within

Ten 10

months of the Commencement Date.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS:

.....

.....RAND (in words);

R (in figures)

This offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

THE OFFERED RATES ARE FIRM

C.1.1

Contractor

Employer

This offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

Signature(s)

Name(s)

Capacity

For the Tenderer

(Name and address of organisation)

**Name and
signature of
witness**

Date _____

C.1.2

Contractor

Employer

C1.1.2 FORM OF ACCEPTANCE

THE EMPLOYER IS TO COMPLETE AND SIGN THE FORM OF ACCEPTANCE

By signing this part of the Form of Offer and Acceptance, **the Employer** identified below accepts the Tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's Offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the Contract that is the subject of this Agreement.

The terms of the contract are contained in

- Part 1 Agreement and Contract Data, (which includes this Agreement)
- Part 2 Pricing Data
- Part 3 Scope of Work
- Part 4 Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The Tenderer shall within **twenty (28) days** after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the employer's agent (whose details are given in the Contact Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date of this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now the Contractor) within **five days** after the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute binding contract between the parties,

FOR EMPLOYER OFFICIAL USE ONLY

Signature(s)

Name(s)

Capacity

For the
Employer

*AbaQulusi Municipality, Main Office Building, c/o Mark & High Streets,
Vryheid 3100*

(Name and address of organisation)

Name and
signature of
witness

Date

C.1.3

Contractor

Employer

C1.1.3 SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the tender documents issued by the employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender;
2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid become the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here;
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here; and
4. Any change or addition to the tender documents arising from the above arrangements and recorded here shall also be incorporated into the final draft of the Contract.

1 **Subject** _____

Details _____

2 **Subject** _____

Details _____

3 **Subject** _____

Details _____

4 **Subject** _____

Details _____

5 **Subject** _____

Details _____

6 **Subject** _____

Details _____

7 **Subject** _____

Details _____

8 **Subject** _____

Details _____

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and the Employer during the process of offer and acceptance.

C.1.4

Contractor

Employer

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the Tenderer of a completed and signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

**For the Tenderer:
Signature(s)**

Name(s)

Capacity

**Name and
signature of
witness**

(Name and address of organisation)

Date

**For the Employer:
Signature(s)**

Name(s)

Capacity

**Name and
signature of
witness**

*AbaQulusi Municipality, Main Office Building, c/o Mark & High Streets,
Vryheid 3100*

(Name and address of organisation)

Date

C.1.5

Contractor

Employer

C1.2.1 PART 1: DATA PROVIDED BY THE EMPLOYER

The General Conditions of Contract for Construction Works Third Edition (2015), published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to this Contract and is obtainable from www.saice.org.za.

The following contract specific data are applicable to this Contract:

C.1.6

GCC Clause	Information
5.1.1 and 5.8.1	The non-working days are Sundays Special non-working days are: 1. All Public Holidays in terms of the Public Holidays Act as amended. 2. The year-end break as published by SAFCEC.
5.3.1	The documentation required before commencement with Works execution are: • Approved Health and Safety File (Clause 4.3) • Initial programme (Clause 5.6) • Guarantee from Bank or Insurance Company (Clause 6.2) • Insurance of Construction Machinery Plant (Clause 8.6) • Insurance of Motor Vehicle Liability (Clause 8.6) • Insurance of the works (Clause 8.6) • Signed Notification to the Department of Labour • Construction Permit were applicable
5.3.2	The time to submit the Contract documentation required before commencement of the Works is 14 days.
5.13.1	The penalty for failing to complete the Works is R1, 000.00 per day.
5.16.3	The latent defects period is 10 years.
6.2.1	The liability of the guarantee shall be 10% of the tendered sum
6.8.2	The effect of changes in prices or law on the amounts due shall be adjusted on the following basis: a) No price adjustment over the first 12-month period of the Contract. b) On the 12-month anniversary date of the signing of the agreement the rates shall be adjusted by twelve-month year on year CPI index (as published in the monthly bulletin PO141.1 of statistics South Africa) ruling on the 12-month anniversary date of the signing of the Agreement and fixed at this value for the following 12-month period. Subsequent 12-month periods shall be dealt with on a similar basis.
6.8.3	Price adjustments for variations in the costs of special materials are NOT allowed.
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%. Proof of ownership and idemnity is required.
6.10.3	The percentage retention on the amounts due to the Contractor is 10%.
6.10.3	The limit of retention money is 10% of the contract price
8.6.1.1.2	The value of plant and materials supplied by the Employer to be included in the insurance sum is Nil
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is R2 500 000 .
8.6.1.2	Following the introduction of legislation affecting the articles of the South African Special Risks Insurance Association (SASRIA) , insurance cover for loss or damage to the Works caused by any event defined as a risk in terms of the insurance offered by SASRIA, will be provided under a certificate issued by SASRIA.
8.6.1.3	Public Liability Insurance which will provide indemnity against legal liability in the event of accidental death of or injury to third party persons and/or loss or damage to third party property arising directly from the execution of the Contract and occurring during the period of Insurance with a limit of indemnity of R5million in respect of all claims arising from any one occurrence or

C.1.7

Contractor

Employer

GCC Clause	Information
	series of occurrences consequent on or attributable to one source or original cause.
10.5.3	The adjudication board shall consist of one member.
10.7.1	The determination of disputes shall be by arbitration

C1.2.1.1 Variations to General Conditions of Contract

Add the following Table:

3.2.4	Employer's Agent for Health and Safety Replace Clause 3.2.4 with the following: 'In terms of Clause 1.3.2, all parties to the Contract shall be subject to the relevant requirements of the Construction Regulations 2014 (as amended) of the Occupational Health and Safety Act, Act 85 of 1993 (as amended).' Add the following at the end of the above new replacement Clause 3.2.4: 'Where the Employer is obliged to appoint an Employer's Agent for Health and Safety in terms of the Construction Regulations 2014 (as amended) of the Occupational Health and Safety Act (Act 85 of 1993 as amended), and where such Employer's Agent for Health and Safety has complied with the registration requirements of a Construction Health and Safety Agent as a specified category in terms of section 18 (1) (c) of the Project and Construction Management Professions Act (Act 48 of 2000), the applicable clauses of the latest edition of the "Standard Scope Of Services for Construction Health and Safety Agents Registered In Terms Of Section 18(1)(c) of the Project And Construction Management Professions Act (Act No. 48 Of 2000)", including Clauses 2.2.5 "STAGE 5 - CONSTRUCTION DOCUMENTATION AND MANAGEMENT", and 2.2.6 "STAGE 6 - PROJECT CLOSE – OUT", and 2.2.7 "ADDITIONAL RELATED SERVICES", as published in "Registration Rules for Construction Health and Safety Agents in Terms of Section 18 (1) (c) of the Project and Construction Management Professions Act, 2000 (Act No. 48 of 2000)" by the South African Council for Construction and Project Management Professionals in terms of the Project and Construction Management Professions Act (Act 48 of 2000 as amended), shall also apply.'
5.3.3	Time to instruct commencement of the Works Delete Clause 5.3.3 and replace with the following: The Contractor shall commence with carrying out the Works upon written instruction from the Employer's Agent to commence with the Works.
6..10.4	Delivery, dissatisfaction with and payment of payment certificates Delete Clause 6.10.4 and replace with the following: Payment shall be made upon: • The Contractor will provide a payment certificate with quantities to the Employer's Agent before or on the 20th of every month. • After the payment certificate has been approved by Employer's Agent, the Contractor must issue an Original Tax Invoice compliant with SARS requirements for Valid Tax Invoice. The date of the Original Tax Invoice must be date the

C.1.8

Contractor

Employer

	Employer's Agent approved the Payment Certificate. The certificate will then be ready for handing in to the Employer. • Payment will be made end of the following month. Payment shall be subject to the Contractor submitting an Original Tax Invoice compliant with SARS requirements for Valid Tax Invoice to the Employer for the amount due. Any dissatisfaction in respect of such payment certificate shall be dealt with in terms of Clause 10.2.
6.10.5	Payment of Retention Money Amend Clause 6.10.5 as follows: In the third line, delete the word "when" and replace with "within 35 days after" In the sixth line, delete "14 days" and replace with "35 days" Add this paragraph at the end of the Clause, "Payment shall be subject to the Contractor submitting an Original Tax Invoice compliant with SARS requirements for Valid Tax Invoice to the Employer for the amount due."
6.11	Delete Clause 6.11. General items will not be adjusted should there be a decrease or increase of scope.
7.8.2	Cost of making good of defects Amend Clause 7.8.2.1 as follows: In the first line, correct the spelling of 'therefore'.
8.3.1	Excepted risks Amend Clause 8.3.1.11 as follows: In the second line, delete the words 'Employer or any of their' and substitute with 'or any of its'.
8.4.1.1	Add to the end of Clause 8.4.1.1 the following text: "hereby indemnifies the Employer against any liability in respect of damage or physical loss of property of any person or injury or death of any person due to non-compliance with the Occupational Health and Safety Act (Act 85 of 1993), "

C1.2.1.2 Additions to General Conditions of Contract

Add the following Table:

1.1	Definitions Add the following at the end of Sub-Clause 1.1.1:
1.1.1.34	"Client", as used in the Occupational Health and Safety Act and its Construction Regulations, means Employer.
1.1.1.35	"Principal Contractor", as used in the Occupational Health and Safety Act - Construction Regulations, means Contractor.
C1.1.1.2.2	Source of instructions The Contractor shall neither seek nor accept instructions from any authority external to the Employer's Agent or their authorized representatives in connection with the performance of his services under this Contract.

C1.2.1.2.3	Officials not to benefit The Contractor warrants that no official of the Employer has been or shall be admitted by the Contractor to any direct or indirect benefit arising from this Contract or the award thereof. The Contractor agrees that breach of this provision is a breach of the Contract.
C1.2.1.2.4	Prevention of corruption The Employer shall be entitled to cancel the Contract and to recover from the Contractor the amount of any loss resulting from such cancellation, if the Contractor has offered or given any person any gift or consideration of any kind as an inducement or reward for doing or intending to do any action in relation to the obtaining or the execution of the Contract or any other contract with the Employer or for showing or intending to show favor or disfavor to any person in relation to the Contract or any other contract with the Employer, if the like acts shall have been done by any persons employed by him or acting on his behalf whether with or without the knowledge of the Contractor in relation to this or any other Contract with the Employer.
C1.2.1.2.5	Confidential nature of documents All maps, drawings, photographs, mosaics, plans, reports, recommendations, estimates, documents and all other data compiled by or received by the Contractor under the Contract shall be the property of the Employer, shall be treated as confidential and shall be delivered only to the Employer's Agent or his duly authorized representative on completion of the Works; their contents shall not be made known by the Contractor to any person other than the personnel of the Contractor performing services under this Contract without the prior written consent of the Employer.
C1.2.1.2.6	Returns of labour, plant, equipment and material The Contractor shall provide a return in detail in the form and at such intervals as the Employer's Agent or his duly authorized representative may prescribe showing the supervisory staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting constructional plant, equipment and material as the Employer's Agent or his duly authorized representative may require.
C1.2.1.2.7	Date falling on public holiday or weekend Where under the terms of the Contract any act is to be done or any period is to expire upon a certain day and that day or that period fall on a day of rest or recognized holiday or weekend, the Contract shall have effect as if the act were to be done or the period to expire upon the working day following such day.
C1.2.1.2.8	Ambiguities and inconsistencies The Employer or the Contractor shall notify the other as soon as either becomes aware of an ambiguity or inconsistency in or between the documents, which are part of this Contract. Governed by the spirit and intention of the Contract, the Employer's Agent shall give a binding instruction resolving the ambiguity or inconsistency.
C1.2.1.2.9	False claims by the Contractor a) Failure, by the Contractor, to demonstrate or present any feature declared during the procurement stage shall constitute grounds for Contract termination or the market related equivalent price discount, if no market related value is available, the Employer shall give a final ruling on the amount. This shall be at the discretion of the Employer based on the implication of such omission. Should the Contractor refuse to accept the Employer's price, the Contract shall be terminated. b) Any false claims by the Contractor or his staff (with or without his knowledge), based on Works to be performed or completed per site stage shall constitute grounds for Contract termination and result in blacklisting on the Employer's database. The Contractor shall note that any of the above shall constitute non-performance on the part of the Contractor, further resulting in him forfeiting his full Contract Guarantee.

C1.2.2 PART 2: DATA PROVIDED BY THE CONTRACTOR

GCC Clause	Information
Clause 1.1.1.9	The name of the Contractor is
Clause 1.2.1.2	The address of the Contractor is: Physical Postal Tel: Fax: Email:

C.1.11

Contractor

Employer

PART 1: FORMS AND SECURITIES

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C1.ii

Contractor

Employer

C1.3 FORMS AND SECURITIES

FORMS FOR COMPLETION BY THE CONTRACTOR

THE FOLLOWING FORMS ARE TO BE COMPLETED BY THE CONTRACTOR AFTER THE TENDER HAS BEEN AWARDED TO THE SUCCESSFUL TENDERER

a) Form of Guarantee

The forms will be completed by the Contractor who will be instructed to do so in the Form of Acceptance. The completed forms will become part of the Contract.

The Form of Guarantee is a pro forma document. The Contractor will provide an original document, from a financial institution, with the same text within the time stated in the Contract Data. Only a Bank or approved Insurance Company or Guarantee Corporation is acceptable as Guarantor.

C1.3.1 Form of Guarantee

TO BE PRINTED ON THE OFFICIAL LETTERHEAD OF THE GUARANTOR.

PERFORMANCE GUARANTEE

WHEREAS Abaqulusi Municipality (hereinafter referred to as “the Employer” or “beneficiary”) entered into a Contract with

(hereinafter called “the Contractor”)

on the ____ day of _____ 20____ for the construction of

at _____

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of a guarantee for the due and faithful fulfilment of such Contract by the Contractor;

AND WHEREAS _____
has/have at the request of the Contractor, agreed to such guarantee;

NOW THEREFORE WE, _____

Do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to the Employer under renunciation of the benefits of division and excussion for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorised and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Completion Date of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alteration of the Completion Date which the Employer may make, give, concede or agree to under the said Contract.
2. This guarantee shall be limited to the payment of a sum of money.
3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.
4. This guarantee shall remain in force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
5. Our total liability hereunder shall not exceed the sum of _____

C1.2

Contractor

Employer

_____ (R _____)

6. The guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon the Guarantor's liability hereunder shall cease.

7. We hereby choose our address for the serving of all notices for all purposes arising here from as

IN WITNESS WHEREOF this guarantee has been executed by us at _____

on this _____ day of _____ 20__

As witnesses

1. _____

Signature

2. _____

Duly authorised to
sign on behalf of

Address

C1.4 AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993

THIS AGREEMENT is made between
(hereinafter called the Employer) of the one part, herein represented by:
.....
In his capacity as:
AND:
(hereinafter called the Contractor) of the other part, herein represented by:
.....
in his capacity as:
duly authorized to sign on behalf of the Contractor.

WHEREAS the Contractor is the Mandatory of the Employer in consequence of an agreement between the Contractor and the Employer in respect of

CONTRACT NO: 8/2/1/523 CONSTRUCTION OF EMARASTENI BRIDGE – WARD 11

for the construction and completion of the works;

AND WHEREAS the Employer and the Contractor have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHS Act Amendment Act No 181/1993 (hereinafter referred to as the Act);

NOW THEREFORE the parties agree as follows:

1. The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with all relevant provisions of the Act and the regulations promulgated in terms thereof.
2. The Contractor undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations: Provided that should the Employer have prescribed certain arrangements and procedures that same shall be observed and adhered to by the Contractor, his officials and employees. The Contractor shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The Contractor hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the Act and Regulations, and the Contractor expressly absolves the Employer and the Employer's Consulting Engineers from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. The Contractor agrees that any duly authorized officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the Contractor has complied with his undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or to take such steps it may deem necessary to remedy the default of the Contractor at the cost of the Contractor.
5. The Contractor shall be obliged to report forthwith to the Employer any investigation, complaint

C1.4

Contractor

Employer

or criminal charge which may arise as a consequence of the provisions of the Act and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Thus signed at for and on behalf of the **CONTRACTOR**

on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

Thus signed at for and on behalf of the **EMPLOYER** on this

the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

PART 2: PRICING DATA

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C2 PRICING DATA

C2.1 PRICING INSTRUCTIONS

C2.1.1 GENERAL PREAMBLE TO THE BILL OF QUANTITIES

- a) All items in the Bill of Quantities, except where otherwise specified in Clause 8 of a Standardised Specification or in the Project Specification, shall be measured and shall cover operations as recommended in the standard system of measurement of civil engineering quantities, published under the title “Civil Engineering Quantities”, by the South African Institution of Civil Engineering.
- b) The basis and principles of measurement and payment are described in this section (Pricing Instructions) and Clause 8 of each of the Standardised Specifications for Civil Engineering Construction. The applicable SANS 1200 Standardised Specifications are listed in the Scope of Work, Portion 1: Project Specification. Variations and amendments to the Standardised Specifications are contained in the Scope of Work, Portion 2: Variations and Additions to the Standardised Specifications.
- c) Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification or the Scope of Work, conflict with the terms of the Bill of Quantities, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.
- d) The clauses in a specification in which further information regarding the Schedule item may be found are listed in the “Payment Refers” column in the Schedule. The reference clauses indicated are not necessarily the only sources of information in respect of listed items. Further information and specifications may be found elsewhere in the Contract Documents. Standardised Specifications are identified by the letter or letters which follow SANS in the SANS 1200 series of specifications, e.g. G for SANS 1200G.
- e) Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- f) The quantities set out in the Bill of Quantities are the estimated quantities of the Contract Works, but the Contractor shall be required to undertake whatever quantities may be directed by the Engineer from time to time. The Contract Price for the completed Works shall be computed from the actual quantities of work done, valued at the relevant unit rates and/or prices.
- g) The rates and/or prices to be inserted in the Bill of Quantities are to be the full inclusive prices for the work described under the several items. Such rates and/or prices shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents, as well as overhead charges and profit. Reasonable charges shall be inserted as these shall be used as a basis for assessment of payment for additional work that may have to be carried out.
- h) A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Schedule.
- i) The units of measurement described in the Bill of Quantities are metric units. Alternatives used are as follows :

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
km	=	kilometre	t	=	ton (1000kg)
m ²	=	square metre	No.	=	number
m ² pass	=	square metre pass	sum	=	lump sum
ha	=	hectare	MN	=	meganewton
m ³	=	cubic metre	MN.m	=	meganewton-metre
m ³ km	=	cubic metre-kilometre	P Csum	=	Prime Cost sum
l	=	litre	Prov sum	=	Provisional sum
kl	=	kilolitre	%	=	percent
MPa	=	megapascal	kW	=	kilowatt

- j) For the purpose of this Bill of Quantities, where applicable, the following words shall have the meanings hereby assigned to them:

Unit : The unit of measurement for each item of work as defined in the COLTO Standard Specification for Road and Bridge Works for State Authorities (1998 edition).
Quantity : The number of units of work for each item.
Rate : The agreed payment per unit of measurement.
Amount : The product of the quantity and the agreed rate for an item.
Lump sum : An agreed amount for an item, the extent of which is described in the Bills of Quantities but the quantity of work of which is not measured in any units.

- k) Arithmetical errors in the Bill of Quantities shall be corrected in accordance with Clause F3.9 of the Conditions of Tender. Should there be any discrepancy between rates and/or prices written in the Assessment Schedule and the Bill of Quantities, the latter shall govern.
l) The Bill of Quantities shall be completed by hand in **BLACK PEN INK**.

C2.1.2 Special payment conditions

This clause shall be read in conjunction with the 'Penalties' clause(s). Where the penalty clause shall always receive precedence over this clause, should it be found that duplicative financial corrective measures exists.

C2.1.2.1 Provided previously

The Contractor shall not re-execute works under this Contract where he has successfully executed works for the Employer under a previous contract(s) that comply with the requirements of this Contract. However, where applicable the Contractor shall:

- a) clearly state this in his qualifications; and
- b) still provide the associated rates and prices in the schedule in the associated line item, but not calculate an associated amount.

The Employer shall at his sole discretion decide to re-execute such works.

C2.1.2.2 Materials and equipment

The Employer shall not provide any works material and equipment, as this shall be provided by the Contractor and deemed to have been included in his provided activity rates or prices.

C2.1.2.3 Confined space

The Contractor shall note that work activities shall be executed within confined spaces and it shall be deemed that allowance has been made in all activity pricing.

C2.1.2.4 Contract Price Adjustment

The effect of changes in prices or law on the amounts due shall be adjusted on the following basis:

- a) No price adjustment over the first 12-month period of the Contract.
- b) On the 12-month anniversary date of the signing of the agreement the rates shall be adjusted by twelve-month year on year CPI index (as published in the monthly bulletin PO141.1 of statistics South Africa) ruling on the 12-month anniversary date of the signing of the .

C2.1.2.5 Preliminary and General

Preliminary and General items shall be limited to a maximum of twenty five percent (20%) of the total Contract Value.

C2.1.2.6 Contractor Appointment

Contractors will only be appointed for value of work in their CIDB grading category only.

C2.1.2.7 Rates Negotiation

Rates will be negotiated with the short-listed Tenderers.

Reference	Clause	Insertion
6.1	Payment for the Labour-Intensive Component of the Works: Those parts of the works to be constructed using labour-intensive methods are marked in the bill of quantities with the letters LI either in a separate column or as a prefix or suffix against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a deviation from the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works. Where minimum labour intensity is specified in the design, the contractor is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity targets. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict	C2.1: Pricing Data; Preamble to Bill of Quantities
6.2	Linkage of Payment for Labour-Intensive Component of Works to Submission of Project Data The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframes stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted. The client may institute a penalty relating to outstanding labour information. The following information shall be maintained on site and submitted in electronic/hard copy formats: • Certified ID copies of all locally employed labour • Signed Contracts between the employer and the EPWP Participants • Attendance Registers for the EPWP Participants	

	• Proof of Payment of EPWP Employees • Monthly Reporting Template as per EPWP requirements	
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PART C3 SCOPE OF WORKS

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STATUS

The standard specifications on which this contract is based are the **COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998 edition**.

In the event of any discrepancy between the Scope of Works and a part or parts of the SANS 1200 Standard Specifications, the Bill of Quantities or the Drawings, the Project Specification shall take precedence and prevail in the Contract.

C3.1 DESCRIPTION OF THE WORKS

C3.1.1 Employer's Objectives

Construction of Emarasteni Bridge is to ease the crossing of community during the flooding seasons and to prevent the deviation of motorist during the overflow of the bridge.

Road Class is R4 (Class R4 rural collector road as per TRH 26)

The project must provide employment opportunities to the many unemployed people in the communities.

C3.1.2 Overview of the Works

The entails the construction of 2400mm x 2400mm cast insitu bridge 25.6m length and 6m wide.

C3.1.3 Extent of the Works.

The scope of works for the project includes the following:

- Accommodation of traffic and maintaining of By-passes,
- Excavations of materials including coffer dam and by-pass
- Backfilling of materials using excavated and imported materials
- Cast in-situ Concrete and Formwork: in 250mm floor slabs for concrete cast in-situ including formwork, joints and Class U2 finish for (i) Class 25/19 concrete
- Cast in-situ Concrete and Formwork: in 150mm top slabs including formwork, joints and Class U2 finish for (i) Class 25/19 concrete
- 2400mm x 2400mm cast in-situ concrete structure
- Cast in-situ Concrete and Formwork: in inlet and outlet structures, skewed ends, catchpits, manholes, wing walls, thrust and anchor blocks including Class U2 finish: (i) Class 25/19 concrete
- Reinforcing Steel using: (a) Welded Steel Fabric - Mesh Ref. No. 880 (b) Welded Steel Fabric - Mesh Ref. No. 395
- Stone Pitching: Grouted stone pitching
- Gabions (a) Galvanized gabion boxes (i) Length 1m, depth 1m width 2m and nominal diameter of mesh wire 2.7 mm, mesh size 80 mm x 100 mm
- (c) Galvanized gabion mattresses (i) 0,3 mm deep, width 1 m, length 2 m mesh size 80 mm x 100 mm nominal diameter of mesh size 2,2 mm, and 1 m diaphragm spacing
- (d) Filter fabric (kaytech grade A4 or similar)

- Guardrails and necessary bridge signage Guardrails on timber posts: (a) Galvanized (b) Bridge adaptors
- MASS EARTHWORKS (a) Pavement layers constructed from gravel taken from cut or borrow, including free-haul up to 6,0 km (a) Gravel sub base layer compacted to: (i) 93% of modified AASHTO density, compacted layer thickness 150mm (c) Gravel base (un-stabilized gravel) compacted to: (ii) 95% of modified AASHTO density, compacted layer thickness 150 mm

C3.1.4 Temporary works

The following items shall generally form the majority of temporary works required under this Contract, however shall not be limited to such, and might be expanded or changed by the Employer's Agent should circumstances on site validate such decisions. These works will be as follows:

- Clearing site and surroundings to create accessible working areas as required;
- Provide Contractor's Camp site and Contractor's site office;
- Provide site and administrative personnel, including security staff etc as required;
- Setting out of the works by the contractor;
- Monitor and report levels as construction progresses;
- Manage all site staff, CLO and local labourers, plant, equipment and materials etc
- Manage all required quality control procedures as specified and as instructed by Employer's Agent;
- Provide all personnel, equipment, clothing, accessories etc. in order to adhere to the OHS Act;
- Attend official Site Meetings scheduled and chaired by the Employer's Agent, and managed sufficient additional meetings on site with all personnel and CLO to ensure compliance with the OHS Act and to ensure progress on site according to the accepted Construction programme

The description of the Works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract. All works are envisaged to be constructed by labour-based techniques wherever practicable,

C3.1.5 Construction Programme and Method

Early completion of the works is of prime importance.

Immediately after the handing over of the site, the Employer's Agent and the Contractor shall discuss the order of procedure and methods in which the Contractor shall carry out the works, in order to give priority to certain parts of the works and to avoid delays with the contract, and ensure that the existing works operate continuously during the construction period, after which the Contractor shall compile and submit to the Employer's Agent, within (2) two weeks, a Gantt chart showing the construction program.

The Contractor shall use excavation methods, which will prevent damage to existing structures and pipe work. Any costs for the repair of damages due to the Contractor's activities shall be borne by the Contractor.

The compilation of the construction program and any amendments thereto during the course of construction shall be at the cost of the Contractor and shall not be measured elsewhere in this contract.

Sufficient photos of the existing infrastructure must be taken by the Contractor and handed over to the Employer's Agent before such operations commence. No payment will be made in this regard and it shall be deemed covered in the preliminary and general items.

C3.1.6 Location of the Works

The project location is in ward 11 of Abaqulusi Local Municipality, Zululand District Municipality in the province of KwaZulu-Natal. The GPS co-ordinates are as follows: START (S 27° 47' 15.80" E 30° 49' 25.79") END (S 27° 47' 25.79" E 30° 49' 26.3")

C3.1.7 Temporary Works

No specific temporary work is required by the Employer.

C3.2 ENGINEERING

C3.2.1 Design

- a) The Employer is responsible for the design of the permanent works as reflected in the Contract Documents unless otherwise stated.
- b) The Contractor is responsible for the design of the temporary Works and their compatibility with the permanent Works.
- c) The Contractor shall supply all details necessary to assist the Employer's Agent in the compilation of the as-built drawings.

C3.2.2 Employer's Design

The design of the Works was done on behalf of the Employer by Professional Consulting Agents.

C3.2.3 Contractor's Design

Not applicable

Where the Contractor is to supply the design of designated plans of the permanent or temporary Works he shall supply full working drawings supported by a professional Employer's Agent'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 required by the Employer's Agent. The Employer's Agent 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 updated by the Contractor. This information; shall be supplied to the Employer's Agent's Representative on a regular basis.

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

The Drawings prepared by the Employer for the permanent Works are listed at the back of this volume. The Employer reserves the right to issue amended and/or additional drawings during the Contract.

C3.2.5 Design Procedure

Not applicable.

C3.3 PROCUREMENT

C3.3.1 Preferential Procurement

C3.3.1.1 Requirements

Preferential procurement requirements apply as set out in the Preference Schedules of Abaqulusi Local Municipality and in accordance with the resource standard pertaining to targeted procurement.

C3.3.1.2 Resource standard pertaining to targeted procurement

The edition of the document pertaining to the Municipality Supply Chain and Procurement Management, current at the time of close of tender shall apply.

C3.3.2 Subcontracting

C3.3.2.1 Scope of mandatory subcontract works

Unless specified elsewhere, the total value of subcontract works shall not exceed 30% of the contract value

C3.3.2.2 Preferred subcontractor's/suppliers

Subject to approval by the Employer's Agent prior to the appointment of the subcontractor

C3.3.2.3 Subcontracting procedures

Subject to approval by the Employer's Agent prior to the appointment of the subcontractor

C3.3.2.4 Attendance on subcontractors

Subject to approval by the Employer's Agent prior to the appointment of the Contractor

C3.3.2.4 Labour Workforce

On this Contract, it is the intention that work is provided for Targeted Labour, namely Local Labourers of the local communities during the excavation of the Works. Labourers and workers of the local communities required by the Contractor shall be targeted, recruited and appointed for work.

C3.3.2.4 Labour Workforce

Where practical and economically feasible, construction work should be undertaken using labour-intensive methods. The Contractor shall employ labourers, artisans and sub-contractors for the execution and completion of this work.

Some of the activities, which may be considered as being suitable to be undertaken by labour-intensive methods, include the following:

- excavations
- bedding of pipelines

- laying of pipelines
- backfilling of pipelines
- loading of material into trucks
- Loading and spreading of materials
- Grass cutting
- Physical eradication of undesirable vegetation
- Removal of existing paving
- Relaying of paving blocks
- Brickwork
- Painting

The Contractor and his subcontractors shall ensure that they enter into a Contract of Employment with each employee engaged on the labour-intensive aspects of this Contract. The Engineer shall require copies of the contracts with the Employees or Subcontractor's Employees.

Personal & Other Protective Equipment (Sections 8/15/23 or the OHS Act)

The Contractor is required to identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal Protective equipment (PPE) should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of PPE is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the said equipment be maintained by the Contractor, that he instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use/wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition/s for which the equipment was prescribed but an alternative solution has to be found that may include relocating or discharging the employee.

The Contractor may not charge any fee for protective equipment prescribed by him/her but may charge for equipment under the following conditions:

- Where the employee requests additional issue in excess of what is prescribed
- Where the employee has patently abused or neglected the equipment leading to early failure
- Where the employee has lost the equipment

All employees shall, as a minimum, be required to wear the following PPE on any ### projects:

- Protective overalls
- Protective footwear

- Protective headwear
- Eye/face protection

All PPE provided to local labour working on the Expanded Public Works Programme shall be branded in accordance with the EPWP CI Manual. Typical elements which shall be branded include:

- Protective overalls
- Reflective vests
- Protective headwear

The rate for local labour shall include for the supply of EPWP branded PPE in accordance with the Provincial EPWP specifications. The rate shall include the additional cost of the specified colours for the PPE and branding in accordance with CI manual.

MEASUREMENT AND PAYMENT

Add the following:

ITEM	UNIT
B ### Extra over sub-item for branding of EPWP PPE	Lump Sum

Measurement shall be as specified for pay item ##.## of the standard specifications.

THE TENDERED RATE SHALL INCLUDE FULL COMPENSATION FOR BRANDING THE PPE AS DETERMINED IN THE RISK ASSESSMENTS AND AS REQUIRED FOR FULL DURATION OF THE CONTRACT.

Contractor

Employer

C3.4 CONSTRUCTION

C3.4.1 Work Specification

C3.4.1.1 Applicable Standardized Specification

PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS

B1 Project Specifications Relating to the Standard Specifications and Other Additional Specifications

Section	1100	Definitions
Section	1200	General Requirements and Provisions
Section	1300	Contractor's Site Establishment on Site and General Obligations
Section	1400	Housing, Offices and Laboratories for the Engineer's Site Personnel
Section	1500	Accommodation of Traffic
Section	1600	Overhaul
Section	1700	Clearing and Grubbing
Section	2100	Drains
Section	2200	Prefabricated Culverts
Section	3100	Borrow Materials
Section	3300	Mass Earthworks
Section	3400	Pavement Layers of Gravel Material
Section	3500	Stabilisation
Section	3600	Crushed Stone Base
Section	4100	Prime Coat
Section	4200	Asphalt Base Surfacing
Section	5100	Pitching, Stonework and Protection Against Erosion
Section	5200	Gabions
Section	5500	Fencing
Section	5600	Road Signs
Section	5900	Finishing the Road and Road Reserve
Section	8100	Testing Material For Workmanship
Section	8400	Painting
C10.01	8100	Dayworks

The standard specifications on which this contract is based are the **COLTO Standard Specifications for Road and Bridge Works for State Road Authorities 1998 edition**.

The following SANS specifications are also referred to in this document and the Contractor is advised to obtain them from Standards South Africa (a division of SABS) in Pretoria.

SANS 10396: 2003: Implementing Preferential Construction Procurement Policies using Targeted Procurement Procedures

SANS 1914-1 to 6 (2002) : Targeted Construction Procurement

SANS 1921 – 1 (2004): Construction and Management Requirements for Works Contracts Part 1: General Engineering and Construction Works and where accommodation of traffic is involved:

SANS 1921-2 (2004): Construction and Management Requirements for Works Contracts; and
Part 2: Accommodation of Traffic on Public Roads Occupied by the Contractor.

**PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER
ADDITIONAL SPECIFICATIONS**

In certain clauses in the standard, standardised and particular specifications, allowance is made for a choice to be specified in the project specifications between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract. Details of such alternative or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains the necessary additional specifications required for this particular contract.

The number of each clause and each payment item in this part of the project specifications consists of the prefix B followed by a number corresponding to the relevant clause or payment item in the standard specification.

The number of a new clause or payment item, which does not form part of a clause or a payment item in the standard specifications and which is included here, is also prefixed by B, but followed by a new number which follows on the last clause or item number used in the relevant section of the standard specifications.

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

B1202 SERVICES

Delete and replace the words:

“Clause 15 of the general conditions of contract” in the first sentence of the eleventh paragraph with Clause 12 of the General Conditions of Contract for construction works 2004 edition.

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following:

Quality control (Scheme 1) as detailed in Section 8200 will be used for determining the acceptance levels with respect to the properties of the materials and workmanship executed by the contractor.

B1206 THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

Delete the entire contents of the first paragraph and the following words in the first sentence of the sixth paragraph.

“and of clause 14 of the general conditions of contract.”

Add the following:

The contractor will be responsible for verifying all dimensions of existing structures before preparing fabrication shop drawings or setting out the works.

The Engineer’s approval of shop drawings or dimensions does not remove the responsibility for the work from the Contract.

Where services are to be connected to, the Contractor will verify the dimensions of these services before preparing shop drawings or ordering of materials.

B1209 PAYMENT

Amend sub clause (e) Materials on site by deleting and replacing the words :

“Clause 6 of the general conditions of contract” in the first sentence of the first paragraph with Clause 6 of the General Conditions of Contract for construction works 2015 edition.

B1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS

Delete and replace the words in the first paragraph :

“Clause 5.14.2 of the general conditions of contract” in the forth line of the first sentence with Clause 5.14.2 of the General Conditions of Contract for construction works 2015 edition.

B1212 ALTERNATIVE DESIGNS AND OFFERS

Add the following to the end of sub clause (m) :

"The provision for contract price adjustment in the original tender summary must not under any circumstances be altered in an alternative tender"

B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

Delete and replace the words in the first paragraph:

“Clause 5.12 of the general conditions of contract” in the first line of the first sentence with Clause 5.12 of the general conditions of contract for construction works 2015 edition.

Add the following after the first paragraph:

Method (ii) (Critical-path method) shall be used on this contract.

Method (ii) (Critical-path method)

Delete and replace the words in the second paragraph with the following:

Replace the word "five-day" in the second paragraph with "six-day".
The value of "n" is zero (0).

B1217 PROTECTION OF THE WORKS AND REQUIREMENTS TO BE MET BEFORE CONSTRUCTION OF NEW WORK ON TOP OF COMPLETED IS COMMENCED

Delete and replace the words in the first paragraph:

“Clause 8.1 of the general conditions of contract” in the second line of the first sentence with Clause 8.1 of the General Conditions of Contract for construction works 2015 edition.

B1224 THE HANDING-OVER OF THE ROAD RESERVE

Add the following:

The full extent of the road reserve will be handed over to the Contractor at the beginning of the contract. He shall be responsible for the maintenance along this portion of the road until completion of the contract.

B1229 SABS CEMENT SPECIFICATIONS

The standard cement specifications SABS 471, SABS 626, SABS 831 and SABS 1466 have been withdrawn and are replaced by the new SANS 50197-1 and -2: Common cements, and SANS 50413-1 and -2: Masonry cement. These specifications will be applicable to this contract, and the descriptions and types of cements specified, will be based on the designations as defined in these specifications.

B1230 ENVIRONMENTAL IMPACT CONTROL

Respect for the environment is an important aspect of this contract. The environmental control of the site shall be governed by the Environmental Management Plan (EMP) included in Particular Specification C3.3 of this document, which provides, inter alia for:

- (a) The Contractor must allow for the satisfactory combating of dust and noise nuisance throughout the contract length during construction.
- (b) The Contractor must make provision for the prevention of excessive erosion and siltation throughout the Contract and in particular on adjacent land. Should excessive erosion and/or siltation take place outside the road reserve as a direct result of the Contractor's construction activities it will be the Contractor's responsibility to make good the erosion/siltation to the satisfaction of the landowner and the Engineer.
- (c) No littering by construction workers shall be allowed. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer.
- (d) Adequate provision shall be made for temporary toilet requirements in construction areas. Use of the veld for this purpose shall not, under any circumstances be allowed.
- (e) Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants, such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate tailings, wash water, organic materials and bituminous products. In the event of spillage, prompt action shall be taken to clear the affected area. Emergency measures in the event of spillage must be set out and the responsible person made aware of the required action. The construction of temporary and or permanent dams must be done with the

necessary approvals from the Department of Water Affairs and Forestry and Environmental Affairs and Tourism.

- (f) Bituminous and/or other hazardous products shall not be spoiled on site and may only be disposed of in licensed authorised disposal facilities.
- (g) Control of invader species of plants.
- (h) Clearing shall be limited to the road prism and, where applicable, detours, which shall be sited in consultation with the Engineer and the local communities.

No separate payment will be made for observing these requirements as it is deemed to be included in the amount tendered for Item 13.01(c) but any avoidable non-compliance with these rules may be considered sufficient grounds for withholding payment of part or all of the amounts to be paid for the above item.

B1231 WORKMEN'S COMPENSATION ACT

All labour employed on the site shall be covered by the Workmen's Compensation Act. The Contractor shall pay in full, including the payment of the necessary levies, such amounts as are due in terms of the Act.

The manner in which Workmen's Compensation shall be handled shall be resolved by the Contractor at the commencement of the contract.

B1232 CARE OF WORKS, DAMAGE, INJURY AND INSURANCE

Compliance with Road Traffic Act:

When a service necessitates vehicles or plant travelling or working on a public road the following shall apply:

- The vehicles and plant shall be licensed in terms of the National Road Traffic Act 1996 (Act No. 93 of 1996) as amended.
- Every driver and operator of a vehicle or an item of plant shall be in possession of a valid permit in respect of the class of vehicle or item of plant he is driving or operating.

The contractor shall provide, erect and maintain sufficient road signs, barricades, fencing and guarding as may be necessary or required by the Engineer or by any act, regulation or statutory authority in order to minimise the danger and inconvenience caused to vehicle and pedestrian traffic.

The Contractor by accepting this contract shall be deemed to have indemnified the Employer and the Engineer against any claims, damages and / or costs that may arise in this regard.

SECTION 1300 : CONTRACTOR'S SITE ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

B1302 PAYMENT

Add the following at the end of Item 13.01(1).

"..... and provided the Contractor has fulfilled his obligations as far as the Engineer's office, laboratory and housing accommodation is concerned".

Add the following new pay item:-

Item	Unit
B13.02(a) Services for Community Liaison Officer	
Prov Sum	
The CLO will be paid R4500/pm . Contractor will only claim Handling fee under item B13.02 (b)	
B13.02(b) Handling cost and profit in respect of sub-items B13.02(a)	
%	
B13.03 Information Board	
Supply, transport to site and erect contract signboard (No.)	Number
as indicated on drawing	

**SECTION 1400 : HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S
SITE PERSONNEL**

B1402 OFFICES AND LABORATORIES

(a) General

Delete the fourth sentence in the first paragraph of Sub-clause 1402 (a) and replace with:

Office buildings shall have timber or concrete floors covered with edge-to-edge foam-backed needle-punched carpeting, and laboratory buildings shall have concrete floors.

Add the following new paragraph at the end of this sub-clause:

The offices, laboratory and stores shall, unless otherwise agreed, be erected in close proximity to the contractor's offices and laboratory, and the entire area shall be fenced with security fencing and provided with a gate. The contractor shall take all reasonable precautions to prevent unauthorised entry to the Engineer's offices and laboratories and to ensure the general security of the offices and laboratories.

B1401 MEASUREMENT AND PAYMENT

Amend the following pay items under item:

B14.11 Electronic Equipment rental

Item	Unit
------	------

14.11 The contractor shall provide an internet connection for the sole use of Engineer's Representative.

B14.12 Civil Engineering Student Technician

Item	Unit
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SECTION 1500 : ACCOMMODATION OF TRAFFIC

B1501 SCOPE

Add to Clause 1501 the following:

The scope of this section shall also include the preparation and submission to the Engineer for approval of traffic management plans. The traffic management plans shall demonstrate how the Contractor intends accommodating and controlling traffic through the site. The plans must incorporate all the requirements of the specifications in respect of the accommodation of traffic, including the traffic control devices and the personnel involved. A traffic safety officer shall be specifically named in the Plan together with 24 hr contact details. Copies of the plans shall be made available to the Engineer, the Employer, Local Authorities, the Police and Emergency Services.

The accommodation of traffic shall generally be undertaken in the following manner:

- (a) Via gravel diversions, where practical in terms of space and the terrain.
- (b) By dealing with traffic under construction where no diversions are possible.
- (c) By diverting traffic along the existing road where the route is being realigned.

B1502 GENERAL REQUIREMENTS

(a) Safety

Add to Sub-clause 1502(a) the following:

Information in respect of intersections, accesses, bus stops, traffic volumes, pedestrians etc is given in Part B of these Project Specifications.

(b) Providing Temporary Deviations

Add to Sub-clause 1502(b) the following :

The contractor shall keep the provincial traffic police, the municipal traffic departments and the engineer fully informed with regard to any changes in the normal traffic flow and obtain their approval for these changes.

During the non-working hours, all unnecessary obstructions to the traffic shall be removed and all signs no longer applicable to the situation shall be removed or effectively covered.'

It is a condition of this contract that not more than 1.5 km of deviation should be open to public traffic at any one time, and that not more than three separate deviations should be open at any one time. No additional payments will be made where situations arise that the contractor has deviations cross over the roadway under construction.

(i) **Traffic Safety Officer**

Add to Sub-clause 1502(i) the following :

The Contractor shall submit a CV of the candidate to the Engineer for approval before the Traffic Safety Officer is appointed. The Traffic Safety Officer shall be made available to discuss road safety and traffic accommodation matters whenever required by the Engineer.

Delete Sub-clause 1502(i), sub-sub-clauses (ii) and (iii) and replace with the following:

- (ii) Record on neat and dimensioned sketches and submit to the Engineer the position and sign reference number where applicable of each sign, barricade, delineator, cone, amber flicker light, guardrail and permanent or temporary painted road marking feature. The position of each unit shall be adequately referenced to identifiable permanent features located along the site of the works.

These records shall also show the date and time at which the recorded traffic accommodation features are certified correct by the Traffic Safety Officer, and shall be signed by the Traffic Safety Officer before being submitted to the Engineer.

The records shall be amended whenever changes are made in the field and the revised detailed sketches shall be submitted to the Engineer. This shall include the recording of the position of flagmen and stop/go control men and their associated traffic accommodation equipment wherever they are used."

- (iii) Personally inspect the position and condition of each traffic accommodation feature on the whole site of works twice each day by 9:30 and by 16:30, to record all irregularities discovered and the remedial action taken, and to sign off as correct and submit to the Engineer such record sheets by 10:00 and by 17:00 each day. The traffic Safety Officer shall keep a duplicate book for this specific purpose.

The Traffic Safety Officer shall also submit to the Engineer by 10:00 each morning, a record of all matters pertinent to site safety and traffic accommodation throughout the site of works the previous day. He shall also record the daily labour returns of flagmen, stop/go and traffic signal control men employed.

The traffic safety officer shall be equipped with a cellular telephone and shall have a vehicle and 3 labourers at his disposal 24 hrs a day and he shall be directly answerable to the Contractor's Site Agent. The Traffic Safety vehicle shall be a truck with a capacity of 5 tons and shall be equipped with a high visibility rear panel as shown on Figure 24 of Road Signs Note No.13. The traffic Safety Officer shall have a direct line of communication at all times with the police and traffic officers responsible for the area within limits of the Contract. The provision of the Road Safety Vehicle, driver, three labourers and the cost of the cellular telephone shall

be deemed to be included in the rates tendered for the Contractor's establishment on site.

Add to Sub-clause 1502(i) the following new sub-sub-clauses:

- (ix) Ensure that all obstructions, soil and gravel heaps, related to the Contractor's activities be removed before nightfall where applicable and as instructed by the Engineer and that the roads are safe for night traffic.
- (x) The Traffic Safety Officer shall, in addition to the duties listed in Clause 1502 (i), also be responsible for removal of broken down vehicles off the roadway and implementing actions requested by the traffic authorities with regard to the work to be carried out, and shall be responsible for the erection and maintenance of all traffic signs necessary for the accommodation of traffic."

Add the following new Sub-clauses to Clause 1502 :

(j) Public traffic

The contractor must plan and conduct his activities so as to bring about the least possible disruption to the traffic on the road. All halting of traffic will require the prior approval of the engineer and must be pre-arranged with the appropriate traffic authorities.

In all dealings with the public the Contractor shall bear in mind the public's right to enjoy the use of the road, and the Employer's desire to interfere as little as possible with this right. At all points of contact with the public, the Contractor shall deal with deliberate courtesy and understanding in any discussions or disputes.

(k) Failure to comply with provisions

The failure or refusal of the Contractor to provide barricades or traffic signs at the proper time, or to take the necessary precautions for the safety and convenience of public traffic as specified or instructed by the Engineer, shall be sufficient cause for the suspension of all

work under this Contract without any additional compensation to the Contractor until the required accommodation of traffic has been completed to the satisfaction of the Engineer. The above shall be sufficient cause for the Engineer to deduct penalties as follows:

- A fixed penalty of R5 000,00 per occurrence shall be deducted for each and every occurrence of non-compliance with any of the requirements of Section 1500 of the standard specifications and section B1500 of the Project Specifications.
- In addition a time-related penalty of R500,00 per hour over and above the fixed penalty shall be deducted for non-compliance to rectify any defects in the accommodation of traffic within the allowable time after an instruction to this effect has been given by the Engineer. The Engineer's instruction shall state the allowable time, which shall be the time in hours for

reinstatement of the defects. Should the Contractor fail to adhere to this instruction, the time-related penalty shall be applied from the time the instruction was given.

The penalties shall be deducted from the payment certificate for the month in which the non-compliance occurs.

Payment will also be deducted in accordance with Payment Item B15.01 of these Project Specifications.

(l) Access to work area

Construction traffic will only be permitted to enter or leave the work area at points approved by the Engineer and as clearly indicated on the traffic management plans. When any access point is in use, flagmen shall be provided for each such point. At least two flagmen shall be stationed at the access point to control the movement of construction traffic, and to warn public traffic on both lanes of the existing road. It is not the purpose of these flagmen to stop public traffic flow.

(m) Extension of time for completion

Accommodation of public traffic on the works or any delays caused thereby, as well as any suspensions due to failure by the Contractor to comply with the provisions for the accommodation of traffic, will not be regarded as special circumstances for an extension of time.

B1503 TEMPORARY TRAFFIC-CONTROL FACILITIES

Replace the first sentence of the first paragraph of Clause 1503 with the following:

The Contractor shall provide, erect and maintain the necessary traffic-control devices, road signs, channelization devices, barricades, warning devices and road markings (hereinafter referred to as traffic-control devices) in accordance with these special provisions and as shown on the drawings and in the South African Road Traffic Signs Manual in conjunction with the latest edition of Road Signs Note No.13 Roadworks, and remove them when no longer required. It shall be incumbent upon the Contractor to see to it that the abovementioned traffic-control devices are present where required at all times and are functioning properly, and he shall replace any that have been damaged, lost, stolen or obliterated at his own cost.

Replace the third paragraph of Clause 1503 with the following:

The type of construction, spacing and placement of traffic-control devices shall be in accordance with the latest edition of Road Signs Note No.13, Roadworks, these special provisions, the drawings and the South African Road Signs Manual. The recommended arrangements of the traffic control devices illustrated in Appendices 1 to 6 of Road Signs Note No.13 and/or drawings shall not be departed from without prior approval of the Engineer. Typical arrangements expected to be used in the Contract are given on the tender drawings.

However, this shall not absolve the Contractor of his obligations in preparing traffic

management plans as per this Project Specification.

The details shown for spacing and placement of traffic-control facilities may however, be revised at the discretion of the Engineer where deemed necessary to accommodate local site geometry and traffic conditions

(b) Road signs and barricades

Add to Sub-clause 1503(b) the following:

The Contractor shall be responsible for the protection and maintenance of all signs, and shall at his own cost replace any that have been damaged, or lost, or stolen.

All temporary road signs shall be mounted on portable supports for the easy moving of signs to temporary positions. The only permitted method of ballasting the sign supports shall consist of durable sandbags filled with sand of adequate mass to prevent signs from being blown over by wind. The cost of the sandbags shall be included for in the tendered rates for the various types of temporary road signs.

The traffic-control devices, temporary signs and devices required in the Contract are those designated in Road Signs Note No.13.

The covering of permanent road signs, if applicable, shall be by utilising a hessian bag, which shall be pulled over the sign in the form of a hood and fastened to the sign posts. Plastic bags or other materials and fastening by means of adhesive tape shall not be permitted. The cost of covering of permanent road signs shall be deemed to be covered by the tendered rates of items B15.03.

No work may proceed on any section where accommodation of traffic is required until such time as the relevant requirements with regards to signposting are met and written approval of the Engineer is obtained. The Contractor shall keep sufficient surplus signs, delineators and barricades on the site to allow for the immediate replacement of damaged or missing items, in any case, within three hours of instructions having been given by the Engineer. Delineators shall be of the flexible plastic reversible variety and not of the rigid metal variety.

Should the Contractor fail to respond to an instruction to re-erect a road sign within the designated time or fail to comply to the requirements, the work on that section will be suspended without any compensation to the Contractor.

(c) Channelisation devices and barricades

Add to Sub-clause 1503(c) the following:

Delineators shall be of plastic and shall be capable of withstanding winds caused by passing traffic in typical working conditions without falling over. To achieve this, the base shall be ballasted using sand bags.

Traffic cones manufactured in a fluorescent red-orange or red plastic material shall be used only at short term lane deviations during daylight. Cones used on all

deviations shall be 750 mm high. Lane closures which continue into the night time shall be demarcated by delineators only.

The use of steel drums as channelization devices will not be allowed on this Contract unless instructed by the Engineer. Channelization shall be effected by the use of delineators or cones as detailed in Road Signs Note No. 13 - Roadworks.

(e) **Warning devices**

Add to Sub-clause 1503(e) the following:

All construction vehicles and plant used on the works shall be equipped with rotating amber flashing lights and warning boards as specified. All vehicles and plant shall obtain a clearance permit from the Engineer before being allowed onto the site.

Rotating lights shall have an amber lens of minimum height of 200 mm and shall be mounted to ensure clear visibility from all directions. The lights on construction vehicles shall not be switched on while vehicles are being operated on unrestricted sections of a public road, but shall be switched on while construction vehicles are operating within the accommodation of traffic area, as the vehicles decelerate to enter a construction area, and as the vehicles accelerate to the general speed when entering the road from a construction area. Lights on plant shall operate continuously while the plant is working alongside sections of road open to public traffic.

All LDV's and cars operating on site shall also be equipped with rotating amber flashing lights which shall be placed so as to be clearly visible and operated continuously while the vehicles are manoeuvring in or out of traffic or are travelling or parked alongside roads open to public traffic.

Rotating lights and the "Construction Vehicle" signs on the Contractor's vehicles and plant shall not be paid for separately but shall be included in the rates covering the use of the vehicles.

The Contractor shall apply and maintain lights together with temporary mounting brackets, to the approval of the Engineer. Vehicles and plant that do not comply with these requirements shall be removed from the site.

The Contractor shall ensure that all his personnel, excluding those who are permanently office bound, are equipped with reflective safety jackets and that these are worn at all times when working on or near to the travelled way. Any person found not wearing a reflective jacket under these circumstances shall be removed from the site until such time as he is in possession of and wearing a reflective jacket. Reflective safety jackets shall be kept in good condition and any jackets that are, in the opinion of the Engineer, ineffective shall be immediately replaced by the Contractor.

Add the following New Sub-clauses to Clause 1503 :

(g) **Other signs and facilities**

The Engineer may instruct the Contractor to provide any other road sign, reflective tape, etc not measured in standard pay items. The road signs shall conform with the requirements of the South African Traffic Signs Manual, Road Note 13 or specification provided by the Engineer.

The Contractor shall inform the general public of the intended road works, construction period and accommodation of traffic proposal through press releases in local and provincial newspapers.”

Cones shall be manufactured and positioned in accordance with the details specified on the drawings.

All traffic cones and road signs shall be kept clean and visible at all times. All bituminous or other foreign material shall be removed by the Contractor, or the dirty traffic cones and road signs shall be replaced with new ones at the cost of the Contractor, as directed by and to the satisfaction of the Engineer.

(h) **Safety jackets**

The Contractor will be responsible to ensure that all construction workers, staff of the Engineer and visitors shall wear safety jackets when moving around on site. The jackets shall be of an approved type, orange in colour and shall be to the approval of the Engineer. The Contractor shall provide the Engineer with two jackets. Payment for Engineer’s jackets will be as deemed to be included in rates for accommodation of traffic item 15.01

B1513 ACCOMMODATION OF TRAFFIC WHERE THE ROAD IS CONSTRUCTED IN HALF WIDTHS

Amend Clause 1513 as follows :

In the third line of the third paragraph, delete “4 km” and replace with “1 km”.

In the second line of the fourth paragraph, delete the word “four” and replace with “three”. Also, delete “2 km” and replace with “3 km”.

SECTION 2200 : PREFABRICATED CULVERTS

B2217 Manhole, Catchpits

Should be constructed as per standard detail:

B2229 Demolition existing catchpits

Should be demolished as per instruction:

B2230 Removing existing pipes

Should be removed as per instruction.

SECTION 6200 : FALSEWORK, FORMWORK AND CONCRETE FINISH
B 6205 CONSTRUCTION

(b) Formwork

(i) General

Add the following:

All form ties and other temporary ties through exposed concrete faces shall be provided with recoverable chamfered cones between tube ends and formwork faces to ensure that tube ends are not exposed on concrete surfaces. The cones shall have a minimum depth of 15 mm.

(ii) Formwork to exposed surfaces

Add the following:

The formwork at construction joints shall have moulding strips 25mm x 25mm neatly butted and set at the height of the construction joint.

B 6207 FORMED SURFACES: CLASSES OF FINISH

Add the following new sub clause to clause 6207 of the Specifications:

(g) Making good tie holes

All tie holes and other temporary holes shall be made good in an approved manner such that the colour matches that of the adjoining concrete, there is no shrinkage or slumping and the finished surface is flush with the adjoining concrete. The procedure shall be proven by the Contractor submitting a sample completed hole of each type for approval which shall then be regarded as the minimum acceptable standard for all other holes.

SECTION 6300: STEEL REINFORCEMENT FOR STRUCTURES

B 6302 MATERIALS

(a) Steel bars

Add the following after the first paragraph of sub clause 6302(a) of the specifications:

The engineer may from time to time require the testing of additional samples of reinforcing steel for compliance with the specifications, and in addition with the requirements of Clause 22 of BS 4449/1978 in respect of the rebend test.

B6306 PLACING AND FIXING

Delete the second paragraph and replace with the following:

Prior to fixing the steel, samples of the proposed spacers shall be submitted to the engineer along with a written statement for in-situ manufacture, if applicable, for approval.

Overlap of steel reinforcement bars shall be such that the bars lie in a plane parallel to the

nearest side of the concrete element and not perpendicular to it.

B6307 COVER AND SUPPORT

Replace the second sentence in the second paragraph with:

Where no cover is indicated, the Contractor shall inform the engineer who shall after consultation with the design engineer indicate the required cover in writing and the construction record drawings shall indicate such cover.

Add the following to the end of the fifth paragraph:

Concrete cover blocks shall be made using the same cement and aggregate type as the main concrete with the same water/ cement ratio so that differences in colour, shrinkage, thermal movements and strain are minimised. Cover blocks shall be cured by submersion in water for a minimum of 7 days and thereafter kept submerged in water until immediately before fixing onto reinforcing steel. Where cover blocks, subsequent to fixing, have visually dried out they shall be remoistened by an appropriate method so that they are damp before the placing of concrete.

SECTION 6400: CONCRETE FOR STRUCTURES

B6402 MATERIALS

(a) Cement

Remove the colon at the end of the first paragraph, replace it with a comma, and add the following:

“taking into account the adaption of the new SABS ENV 197-1 code for cements:”

Add the following new paragraph:

The type of cement to be used in any concrete element shall take into account the environmental conditions and durability requirements at the location of the site of the Works and shall be selected according to Table B6402/1.

Table B6402/1: Selection of Cement Type

Condition of Exposure	Placing Temperature of Concrete	Type of Cement*
1. MODERATE Concrete surfaces above ground level and protected against alternately wet and dry conditions caused by water, rain and sea-water spray	< 20°C	CEM II A – S CEM II B – S
	20°C - 30°C	CEM II A – S CEM II B – S CEM II A – V (or W) CEM II B – V (or W) CEM III A
2. SEVERE Concrete surfaces exposed to	< 20°C	CEM II A – S CEM II B – S

hard rain and alternatively wet and dry conditions	20°C - 30°C	CEM II A – S CEM II B – S CEM II A – V (or W) CEM II B – V (or W) CEM III A
3. VERY SEVERE Concrete surfaces exposed to aggressive water, sea-water spray or a saline atmosphere	< 20°C	CEM II B – S 42.5 CEM III A CEM II B – V 32.5
	20°C - 30°C	CEM II B – S CEM III A CEM II B – V
4. EXTREME Concrete surfaces exposed to the abrasive action of sea water or very aggressive water	< 20°C	CEM II B – S CEM III A
	20°C - 30°C	CEM II B – S CEM III A

Notes*

1. CEM I cements shall only be used in environments where concrete is not prone to chloride attack i.e. in inland drier environments.
2. Where a strength class of 42,5 or greater is required, and the placing temperature of concrete is between 20°C to 30°C, a set and hydration retarding admixture shall be used where required so as not to exacerbate bleeding.

Cement types CEM I, II and III may be blended, provided that the final product conforms to the requirements of SABS ENV 197-1 for the proportion of extender used and provided that the proportion of extender in the original unblended cement is known.

The Environmental Condition of Exposure for this site is SEVERE.

(b) Aggregates

Add the following new subclause:

(vi) The maximum chloride ion content of fine aggregate shall be 0,03% by mass of aggregate as measured by SANS 1083:2002. Where concrete is situated in a chloride environment the value shall be reduced from 0,03% to 0,01%.

(vii) The grading of the fine aggregate shall comply with the following table:

Sieve size	<u>Cumulative % passing sieve</u>	
4 750µm	90 – 100	
2 360µm	75 – 100	
1 180µm	60 – 90	
600µm	40 – 60	
	300µm	20 – 40
	150µm	10 – 20
	75µm	5 – 10

(d) Water

Delete the second sentence and substitute:

Water from rivers or from boreholes may only be used if tests conducted by an approved laboratory prove the suitability of the water for concreting purposes. Tests shall be repeated as often as may be deemed expedient by the Engineer.

(e) Admixtures

Add the following subsubclauses:

(v) Admixtures, which have a retarding effect on the rate of hydration of the cement, may not be used when the concrete temperature is below 20° C.

(vi) A retarding admixture shall be used if temperatures of concrete mixes using cements of strength class 42.5R or 42.5 are between 20 to 30° C or where the ambient temperature is between 20 to 30° C .

B6404 CONCRETE QUALITY

(e) Bleeding

Delete the existing paragraph and replace with the following:

The concrete shall be proportioned with suitable materials that total bleeding does not exceed 0,3mm/cm² as measured by ASTM C232-92.

B6408 CONSTRUCTION JOINTS

(a) General

Add the following:

No construction joints other than those indicated on the drawings will be permitted without the written approval of the engineer. In all cases the proposed method of forming the joint shall be discussed and agreed with the engineer.

B6409 CURING AND PROTECTION

Add the following to the end of subclause 6409(f):

Only a curing compound consisting of approved water based low viscosity clear wax emulsion applied in accordance with the manufacturer's instructions may be used.

Add the following new paragraphs to the end of the clause:

Where curing by retention of formwork is used as the only method of curing the concrete, it must be left in place for the minimum period specified in Table 6206/1 but in no instance shall it be less than 7 days.

The materials used for formwork shall take into account properties such as thermal insulation and moisture absorption when assessing the suitability of the material, to the approval of the engineer.

If impermeable curing membranes are to be used as a curing method, they shall be installed at the same time as formwork is removed and no portion of a concrete surface may be left unprotected for a period in excess of 2 hours. If the surface is an unformed finish e.g. top of deck slab, then the surface must be protected immediately by appropriate methods approved by the Engineer after it is finished, without damage to that surface, since it is vulnerable to plastic shrinkage cracking due to high rates of evaporation while the concrete is still in a plastic state. Plastic shrinkage and settlement shall not be permitted on any of the structural elements since it compromises the durability of the concrete.

All concrete shall be cured for the equivalent moist curing periods as shown in table B6409/1 below:

Table B6409/1
EQUIVALENT MOIST CURING PERIODS

Weather	Minimum moist curing Period (Days)
Normal: 18 to 22°C, 65% RH, Low wind speeds	5
Hot: With drying winds	7
Cold: 5 to 12° C	9

For all deck, piers, parapets and abutment concrete, curing shall be excluded from the make-up of rates for measurement under items B64.01 and 64.02 and paid for separately under pay item B64.07. Where the application of a curing compound is instructed by the Engineer, the type and nominal application rate thereof shall be as specified in the schedule of quantities or to the manufacturer's nominal specified rates.

B6410 ADVERSE WEATHER

Add the following new subclause:

(d) Temperature and hydration of concrete

Site batched concrete: The temperature of concrete at point of delivery shall be within the range 10° C to 30° C. Concrete which has a temperature outside of this range shall not be placed in the structure.

Ready mix concrete: In the case of ready mix concrete the temperature limits at point of delivery shall be as specified in SANS 878 2004 unless the engineer has specified other limits due to specific design requirements. If slump loss occurs at concrete temperatures of

over 30° C and more than two hours after mixing, the concrete shall be rejected. Also if after addition of allowed water the concrete begins to stiffen again such as to place in doubt that full compaction and finishing can be achieved, the concrete shall be rejected.

Care must also be taken not to cast concrete onto hot steel shutters as this might induce cracking.

The rate of hydration of the cement in the concrete shall be such that the concrete can be placed and properly compacted within 2hours after the addition of water to the mix ingredients. The initial set of the concrete shall not be unduly delayed due to inappropriateness of admixtures or cement type, which could promote bleeding.

Article I.

SECTION 6600: NO FINES CONCRETE, JOINTS, BEARING, BOLT GROUPS FOR ELECTRIFI-CATION, PARAPETS AND DRAINAGE FOR STRUCTURES

B6606 DRAINAGE FOR STRUCTURES

(c) Synthetic-fibre filter fabric:

Replace the last paragraph with the following:

Synthetic-fibre filter fabric shall be:

- manufactured from a polymeric material processed into a continuous, permeable, homogeneous, non-woven sheet, which shall be mechanically, heat or chemically bonded;
- made from polyester, polypropylene or polyethylene.

It shall show no detectable reduction of the specified properties when subjected to chemical and biochemical conditions found in soils or in saline solution, specifically:

- soil and ground water with a pH in the range 4 to 12 (pH to be determined by Method A20, TMH1)
- soil (as paste) and ground water containing salts with a conductance of up to 1,0 Siemens per metre (S/m) (conductivity to be determined by Method A20T, TMH1).

It shall not be attractive to rodents or termites, shall be rot-proof, not support the growth of algae and shall maintain at least 80% of the original tensile strength after direct exposure of 1500 hours to sunlight.

Synthetic-fibre fabric shall be classified according to the following:

Grade	Penetration Load (kN)	Elongation At rupture (%)		Permeability (litre/sq.m/s)
		min	max	
A	4,5	10	50	20
B	3,0	20	50	20
C	2,5	20	--	20
D	2,0	20	--	20
E	1,5	20	--	20

The above properties shall be measured in accordance with the test methods of SABS 0221-

1988.

Add the following subclause:

(d) Synthetic fibre filter fabric backing with Netlon pipes and strips

The drainage shall consist of M65 Netlon drainpipes, DN 1 Netlon drainage strips and Grade B filter fabric placed against the rear faces of the abutments and walls and wrapped around the Netlon pipe as detailed on the drawings.

The filter fabric shall be suitably hung or fixed by approved means to the wall to prevent displacement during backfilling. The drainage pipe shall be placed on a mortar wedge or other impervious material and the bottom of the pipe shall line up with the inverts of the weep holes.

B6608 MEASUREMENT AND PAYMENT

Add the following new pay items:

Item

Unit

**B66.27 Synthetic fibre filter fabric backing with Netlon pipes and strips
metre (m)**

The unit of measurement for synthetic filter fabric backing with Netlon pipes and strips behind barrel walls and wingwalls shall be the square metre measured along the length and height of drained walls.

The tendered rate shall be full compensation for supplying, cutting and installing the filter fabric, drainpipes and drainage strips as specified including overlaps and wastage as well as the 300mm x 75mm concrete bedding strip.

B6115 MEASUREMENT AND PAYMENT

Item

Unit

**B61.08 Rock fill using dump rock and fines, covered with a heavy duty filter fabric
(U44) m³**

The tendered rate shall include full compensation for procuring and furnishing all the materials, equipment and labour necessary to construct the rock fill. The rock fill consist of dump rock and fines to fill the voids while being lightly compacted. Compaction must stop immediately if the rock fill starts heaving

SECTION 6100: FOUNDATIONS FOR STRUCTURES

B6106 FOUNDING

Add the following at the end of the last paragraph:

Where foundation slabs or pile caps are cast directly against the face of the excavations, the volume of concrete measured for payment shall be the total volume of concrete placed or the volume based on the plan dimensions detailed on the drawings plus a 100mm allowance for over break on each applicable side whichever is the lesser. No formwork to the footing shall be measured when the concrete is cast against the face of the excavations.

B6108 BACKFILL AND FILL NEAR STRUCTURES

(d) Fill within restricted area

In the second paragraph replace “93%” with “95%”.

Add the following:

In narrow widths where it is difficult or impossible for appropriate mechanical compaction equipment to be used, the fill material may be substituted with soil Crete with the approval of the engineer.

B6109 FOUNDATION FILL

In the 5th paragraph, 7th line delete “60” substitute “45”.

Add the following after the 6th paragraph:

Concrete blinding shall extend 100mm all rounds beyond the horizontal dimensions of all formed footings to facilitate placing of the formwork, unless otherwise directed by the Engineer.

In the case of structures where excessive ground water is encountered, the blinding layer shall extend over the full plan area of the base of the excavation and beyond the edge of the foundation where required.. Payment shall be made for the quantity of concrete calculated as the product of the specified thickness of blinding layer and the actual area of blinding placed subject to a maximum distance of 500mm beyond the edge of the foundation.

C3.3 PARTICULAR SPECIFICATIONS

In addition to the Standardised and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

PART C ENVIRONMENTAL MANAGEMENT PLAN

PART C : ENVIRONMENTAL MANAGEMENT PLAN

C.1 General

In order to ensure that the construction works is carried out in an environmentally sensitive matter, strict compliance to the Environmental Management Plan (EMP) guidelines is required. The purpose of the EMP is to:

- Encourage good management practices through planning and commitment to environmental issues,
- Provide rational and practical environmental guidelines to:
 - i. Minimise disturbance of the natural environment,
 - ii. Prevent pollution of land, air and water,

- iii. Prevent soil erosion and facilitate re-vegetation.
- Adopt the best practicable means available to prevent or minimise adverse environmental impact,
- Develop waste management practices based on prevention, minimisation, recycling, treatment or disposal of wastes,
- Train employees and contractors with regard to environmental obligations.

C.2 Training and Induction of Employees

- The Contractor has a responsibility to ensure that all those people involved in the project are aware of and familiar with the environmental requirements for the project (this includes sub-contractors, casual labour, etc.). The EMP shall be part of the terms of reference for all contractors, sub-contractors and suppliers.

C.3 Complaints Register and Environmental Incident Book

Any complaints received by the project team from the public will be recorded. The complaint should be brought to the attention of the site manager, who will respond.

The following information must be recorded:

- Time, date and nature of the complaint,
- Type of communication (telephone, letter etc),
- Name, contact address and telephone number of the complainant,
- Response and investigation undertaken and
- Actions taken and by whom.

All complaints received will be investigated and a response given to the complainant within 14 days.

All environmental incidents occurring on the site will be recorded. The following information will be provided:

- Time, date, location and nature of the incident,
- Actions taken and by whom.

C.4 Site Cleanliness and Neatness

- Location of a construction camp is to be approved by the Engineer and is to be restored to its previous condition after completion of construction.
- The construction camp should preferably be fenced with a 1.8m bonnox fence or similar approved.
- All materials, equipment, plant and vehicles must be stored within the construction camp.
- A dedicated area must be made available for construction staff to change and store their personal belongings.

C.5 Access

Access to existing roads, schools, buildings, shops and residential properties must not be impeded during construction.

Access roads utilised by the Contractor must be maintained in good condition.

C.6 Borrow Pits

- Mining authorisations (permits) for borrow pits must be obtained from the Department of Minerals and Energy (DME) in consultation with the Department of Water Affairs (DWA).
- Spoil dumps resulting from borrow pits must not interfere with any natural surface drainage.
- Borrow pits must be rehabilitated after use in accordance with the requirements of DME and DWA.

C.7 Dust Control / Air Quality

- Dust suppression measures must be implemented during construction by ensuring that all surfaces prone to dust generation are kept damp (e.g. use of water tanker).
- Ensure that vehicles and equipment are in good working conditions and that emissions are not excessive.
- Ensure that vehicles and equipment are in good working conditions and that emissions are not excessive.
- Special care must be taken in areas where the route passes close to schools and residential areas.
- The speed of construction vehicles must be reduced.

C.8 Fauna

- Contractor staff may not chase, catch or kill animals encountered during construction.

C.9 Fire Prevention and Control

- Smoking is prohibited in the vicinity of flammable substances.
- The contractor must ensure that fire-fighting equipment is available on site, particularly where flammable substances are being stored or used, and that construction staff are aware of where it is kept and how it is operated.
- Fires started for comfort (warmth) are prohibited, due to the risk of veld fires and risk to adjacent property owner's lands.

C.10 Grave Sites

- Gravesites in close proximity to the road must not be disturbed during construction.

C.11 Materials Handling and Spills Management

- Any hazardous materials to be used during construction (e.g. lime, fuel, paint, etc) are to be stored in a designated area at the campsite.
- The storage containers/facilities (including any diesel/petrol tanks) must be placed on an impermeable surface and surrounded by a bund wall, in order to ensure that accidental spillage does not pollute the environment.
- Workers must at all times be made aware of the health and safety risks

associated with any hazardous substances used (e.g. smoking near fuel tanks), and must be provided with appropriate protective clothing/equipment in case of spillages or accidents.

- Ensure all staff and contractors undergo relevant training in the maintenance of equipment to prevent the accidental discharge or spill of fuel, oil, lubricants and other chemicals.
- Any spill of potentially hazardous materials must be cleaned up immediately (Potentially hazardous materials on site include paint, oil, grease, fuel, turpentine, etc).
- The area of contaminated soil or spill must be deposited into the hazardous waste container(s).
- The contractor should keep Peat Sorb or a similar absorbent on site to clean up any spills. The absorbent must be stored in a designated area and be available for inspection.
- All spills are to be recorded in the environmental incident book.

C.12 Noise

- Noise generating activities must be restricted to between 07h00 and 17h00 Monday to Friday, unless otherwise approved by the appropriate competent person in consultation with adjacent landowners/affected persons.
- All equipment, vehicles and machinery must be in good working condition and be equipped with sound mufflers if necessary.
- Construction staff must be trained and made aware of not creating unnecessary noise such as hooting and shouting.

C.13 Pollution Control

- Soil and water pollution through usage of fuel, oil, paint, bitumen or other hazardous substances must be avoided.
- All construction vehicles are to be maintained in good working order so as to prevent soil or water pollution from oil, fuel or other leaks, and to reduce noise pollution.

C.14 Rivers and Streams

- Excavated material must not be stockpiled on or near riverbanks, in order to prevent sedimentation occurring.
- Erosion control measures must be employed both during and after construction.
- No impediments to natural surface water flow, other than approved erosion control measures, must occur.

C.15 Safety

- Safety measures, such as detour signs, must be implemented during construction to ensure the safety of workers, pedestrians and drivers/passengers in vehicles in the vicinity of construction work.
- Special care must be taken in the vicinity of schools to ensure the safety of children wishing to cross the road under construction.
- The relevant signage (e.g. speed control signs) must be erected alongside

the road during the operation phase in order to control traffic.

- Accommodation must be made for pedestrian pathways alongside the road during the construction and operation phases.

C.16 Soil Management

- Stormwater drainage pipes must be installed alongside the road in all areas susceptible to soil erosion.
- Erosion should be minimised by the construction of meadow drains and the planting of indigenous vegetation on the side slopes and drains to reduce flow velocity of stormwater.
- Spoil from cuts may be used in existing erosion galleys.
- Stone pitching and gabions should be constructed at pipe culvert outlets.
- Accidental spills of contaminants onto the ground e.g. oil, concrete, fuel and chemicals should be removed together with the contaminated soil.
- If necessary an absorbent such as Peat Sorb should be used the aid in cleaning up the spill. The contaminated soil should be disposed of in an appropriate container, depending on its classification.
- Servicing and re-fuelling of vehicles must only be carried out at construction camp.

C.17 Worker Conduct

Code of Conduct for Construction Personnel:

- Do not leave the construction site untidy and strewn with rubbish which will attract animal pests.
- Do not set fires.
- Do not cause any unnecessary, disturbing noise at the construction camp/site or at any designated worker collection/drop off points.
- Do not drive a construction-related vehicle under the influence of alcohol.
- Do not exceed the national speed limits on public roads or exceed the recommended speed limits on the site.
- Do not drive a vehicle which is generating excessive noise or gaseous pollution (noisy vehicles must be reported and repaired as soon as possible).
- Do not litter along the roadsides, including both the public and private roads.
- Do not pollute any water bodies (whether flowing or not).
- No member of the construction team is allowed to enter the areas outside the construction site.

C.18 Traffic Disturbances and Diversions

- Any traffic diversions must be undertaken with the approval of all relevant authorities and in accordance with all relevant legislation.
- Wherever possible, traffic diversion must only take place on existing disturbed areas and remain within the existing road reserve.
- Traffic diversion routes must be rehabilitated after use.

C.19 Vegetation

- Only vegetation falling directly on the route must be removed where

- necessary.
- Alien vegetation within the road reserve must be eradicated, and management measures must be implemented for future control of these species.
- Vegetation that has been removed from large areas (e.g. on traffic diversion routes) during construction must be replaced with indigenous vegetation after construction has been completed.

C.20 Waste Management

- All general, non-hazardous waste must be placed in a skip container and disposed of at a registered waste disposal site.
- The contractor is to ensure that the portable toilet facilities at the campsite are properly maintained and in working order.
- No disposal, or leakage, of sewage must occur on or near the site.
- All hazardous waste (e.g. oil, paint, empty lime bags, contaminated wash water, etc) must be stored in leak proof containers and disposed of at a registered hazardous waste disposal site.
- The contents of waste storage containers must, under no circumstances, be emptied to the surrounding area. In general, littering, discarding or burying of any materials is not allowed on site or along the route.
- Adequate waste receptacles must be available at strategic points around the construction camp and site for all domestic refuse and to minimise the occurrence of littering.
- Concrete rubble must be collected and disposed of as directed by the Project Manager.
- Each working area must be cleared of litter and building waste (e.g. rubble, wood, concrete packets etc) on completion of the day's work.
- Any spill around the container(s) should be treated as per Section C11 and C16.

EPWP REQUIREMENTS

Personal & Other Protective Equipment (Sections 8/15/23 or the OHS Act)

The Contractor is required to identify the hazards in the workplace and deal with them. He must either remove them or, where impracticable take steps to protect workers and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal Protective equipment (PPE) should, however, be the last resort and there should always first be an attempt to apply engineering and other solutions to mitigating hazardous situations before the issuing of PPE is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the said equipment be maintained by the Contractor, that he instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s.

Employees do not have the right to refuse to use/wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other reason, the employee cannot be allowed to continue working under the hazardous condition/s for which the equipment was prescribed but an alternative solution has to be found that may include relocating or discharging the employee.

The Contractor may not charge any fee for protective equipment prescribed by him/her but may charge for equipment under the following conditions:

- Where the employee requests additional issue in excess of what is prescribed
- Where the employee has patently abused or neglected the equipment leading to early failure
- Where the employee has lost the equipment

All employees shall, as a minimum, be required to wear the following PPE on any projects:

- Protective overalls
- Protective footwear
- Protective headwear
- Eye/face protection

All PPE provided to local labour working on the Expanded Public Works Programme shall be branded in accordance with the EPWP CI Manual. Typical elements which shall be branded include:

- Protective overalls
- Reflective vests
- Protective headwear

The rate for local labour shall include for the supply of EPWP branded PPE in accordance with the Provincial EPWP specifications. The rate shall include the additional cost of the specified colours for the PPE and branding in accordance with CI manual.

MEASUREMENT AND PAYMENT

Add the following:

ITEM	UNIT
B ### Extra over sub-item for branding of EPWP PPE	Lump Sum

Measurement shall be as specified for pay item ###.## of the standard specifications.

THE TENDERED RATE SHALL INCLUDE FULL COMPENSATION FOR BRANDING THE PPE AS DETERMINED IN THE RISK ASSESSMENTS AND AS REQUIRED FOR FULL DURATION OF THE CONTRACT.

B 13.03 EPWP signboard

The Contractor will be required to erect a signboard displaying the EPWP logo, indicating that this project is part of the EPWP. All costs related to the provision, erection and subsequent removal of the signboard shall be refunded to the Contractor through the provisional sum included in the Schedule of Quantities for this purpose.

B1231 COMMUNITY LIAISON OFFICER (CLO)

The contractor or his appointed agent will appoint a Community Liaison Officer (CLO) after

consultation with the local communities, the engineer and the employer. The contractor shall direct all his liaison efforts with the local communities through the appointed officer. The contractor shall, however, accept the appointed as part of his management personnel.

(a) Duties of the Community Liaison Officer

The Community Liaison Officer's duties will be:

- (i) To be available on site daily between the hours of (insert time) and at other time as the need arises. His normal working day will extend from morning until (insert time) in the afternoon.
 - (ii) To determine, in consultation with the contractor, the needs of the temporary labour for relevant skills training. He will be responsible for the identification of suitable trainees and will attend one of each of the training sessions.
 - (iii) To communicate daily with the contractor and the engineer to determine the labour requirements with regard to numbers and skill, to facilitate in labour disputes and to assist in their resolution.
 - (iv) To assist in and facilitate in the recruitment of suitable temporary labour and the establishment of a "labour desk".
 - (v) To attend all meetings in which the community and/or labour are present or are required to be represented.
 - (vi) To assist in the identification, and screening of labourers from the community in accordance with the contractor's requirements.
 - (vii) To inform temporary labour of their conditions of temporary employment and to inform temporary labourers as early as possible when their period of employment will be terminated.
 - (viii) To attend disciplinary proceedings to ensure that hearings are fair and reasonable.
 - (ix) To keep a daily written record of his interviews and community liaison.
 - (x) To attend monthly site meetings to report on labour and RDP matters.
 - (xi) All such other duties as agreed upon between all parties concerned.
 - (xii) To submit monthly returns regarding community liaison as illustrated in Part C5.1 of this document (form RDP 12(E)).
-
- (b) "employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on a EPWP;
 - (c) "worker" means any person working in an elementary occupation on a EPWP;
 - (d) "elementary occupation" means any occupation involving unskilled or semi- skilled work;
 - (e) "management" means any person employed by a department or implementing agency to administer or execute an EPWP;
 - (f) "task" means a fixed quantity of work;
 - (g) "task-based work" means work in which a worker is paid a fixed rate for performing a task;
 - (h) "task-rated worker" means a worker paid on the basis of the number of tasks completed;
 - (i) "time-rated worker" means a worker paid on the basis of the length of time worked.

C3.1.7.4 Terms of Work

- (a) Workers on an EPWP are employed on a temporary basis or contract basis.

C3.1.7.5 Normal Hours of Work

- (a) An employer may not set tasks or hours of work that require a worker to work–
a. more than forty hours in any week

- b. on more than five days in any week; and
- c. for more than eight hours on any day.
- (b) An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.
- (c) A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

C3.1.7.6 Meal Breaks

- (a) A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.
- (b) An employer and worker may agree on longer meal breaks.
- (c) A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.
- (d) A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

C3.1.7.7 Special Conditions for Security Guards

- (a) A security guard may work up to 55 hours per week and up to eleven hours per day.
- (b) A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

C3.1.7.8 Daily Rest Period

- (a) Every worker is entitled to a daily rest period of at least twelve consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

C3.1.7.9 Weekly Rest Period

- (a) Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

C3.1.7.10 Sick Leave

- (b) Only workers who work for more than 24 hours have the right to claim sick-pay in terms of this clause
- (c) A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.
- (d) A worker may accumulate a maximum of twelve days' sick leave in a year
- (e) Accumulated sick-leave may not be transferred from one contract to another contract.
- (f) An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- (g) An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
- (h) An employer must pay a worker sick pay on the worker's usual payday.
- (i) Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
- (j) absent from work for more than two consecutive days; or
- (k) absent from work on more than two occasions in any eight-week period.
- (l) A medical certificate must be issued and signed by a medical practitioner, a qualified nurse

or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.

- (m) A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

C3.1.7.11 Maternity Leave

- (a) A worker may take up to four consecutive months' unpaid maternity leave.
- (b) A worker is not entitled to any payment or employment-related benefits during maternity leave.
- (c) A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- (d) A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- (e) A worker may begin maternity leave –
- (f) four weeks before the expected date of birth; or
- (g) on an earlier date –
- a. if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
- b. if agreed to between employer and worker; or
- c. on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- (h) A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

C3.1.7.12 Family responsibility leave

Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -

- (a) when the employee's child is born;
- (b) when the employee's child is sick;
- (c) in the event of a death of –
- (d) the employee's spouse or life partner;
- (e) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

C3.1.7.13 Statement of Conditions

An employer must give a worker a statement containing the following details at the start of employment –

- (a) the employer's name and address and the name of the EPWP;
- (b) the tasks or job that the worker is to perform; and
- (c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
- (d) the worker's rate of pay and how this is to be calculated;
- (e) the training that the worker will receive during the EPWP.
- (f) An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- (g) An employer must supply each worker with a copy of these conditions of employment.

C3.1.7.14 Keeping Records

Every employer must keep a written record of at least the following –

- (a) the worker's name and position;
- (b) Certified ID copies of all locally employed labour
- (c) Signed Contracts between the employer and the EPWP Participants
- (d) Attendance Registers for the EPWP Participants
- (e) Monthly Reporting Template as per EPWP requirements
- (f) in the case of a task-rated worker, the number of tasks completed by the worker;
- (g) in the case of a time-rated worker, the time worked by the worker;
- (h) Proof of payments made to each worker.
- (i) The employer must keep this record for a period of at least three years after the completion of the EPWP.

COMMUNITY PARTICIPATION.

2.1 Purpose

In order to give effect to the need for participation and transparency in the process of appointing labour, the community should participate in the decision-making process throughout the life of a project. This shall be achieved through structured engagement between those responsible for the delivery of the project and the community.

2.2 Structure and Composition

A Project Liaison Committee (PLC) may be formed from representatives of the Employer, the Engineer, the Contractor and the Community if the project is such that a specific community can be identified.

2.3 Procedures

2.3.1 The PLC deals with labour and SMME involvement on the project and shall meet at least once every month until such time as it is of the opinion that it could fulfil its tasks by meeting less frequently.

2.3.2 The PLC shall make recommendations by consensus. If consensus cannot be reached, the decision of the Employer will be final in cases that have no financial implications for the Contractor or where payment is to be made from PC items. Where the financial responsibility for the successful completion of the works rests with the Contractor, the Contractor's decision shall be final. In fulfilling its tasks, the PLC shall be guided by the relevant sections of this specification and the supplementary documents.

C3.1.7.1 Payment for the Labour-Intensive Component of the Works:

Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

C3.1.7.2 Applicable Labour Law

The Ministerial Determination 4: Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment act of 1997 by the Minister of Labour in Government Notice NR347 of 4 May 2012, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers. An EPWP contract shall be signed between the contractor and the EPWP participant using the template appended. The contracts shall expire on earlier of (i) 31 March, (ii) at the end of the project; or (iii) completion of the works allocated.

C3.1.7.3 Introduction

This document contains the standard terms and conditions for workers employed in elementary occupations on an Expanded Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of an EPWP.

In this document –

- (a) “department” means any department of the State, implementing agent or contractor;
- (b) “employer” means any department, implementing agency or contractor that hires workers to work in elementary occupations on a EPWP;
- (c) “worker” means any person working in an elementary occupation on a EPWP;
- (d) “elementary occupation” means any occupation involving unskilled or semi- skilled work;
- (e) “management” means any person employed by a department or implementing agency to administer or execute an EPWP;
- (f) “task” means a fixed quantity of work;
- (g) “task-based work” means work in which a worker is paid a fixed rate for performing a task;
- (h) “task-rated worker” means a worker paid on the basis of the number of tasks completed;
- (i) “time-rated worker” means a worker paid on the basis of the length of time worked.

C3.1.7.11 Maternity Leave

- (a) A worker may take up to four consecutive months’ unpaid maternity leave.
- (b) A worker is not entitled to any payment or employment-related benefits during maternity leave.
- (c) A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- (d) A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- (e) A worker may begin maternity leave –
- (f) four weeks before the expected date of birth; or
- (g) on an earlier date –
 - a. if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
 - b. if agreed to between employer and worker; or
 - c. on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- (h) A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

C3.1.7.12 Family responsibility leave

Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -

- (a) when the employee’s child is born;
- (b) when the employee’s child is sick;
- (c) in the event of a death of –
- (d) the employee’s spouse or life partner;
- (e) the employee’s parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

C3.1.7.13 Statement of Conditions

An employer must give a worker a statement containing the following details at the start of employment –

- (a) the employer's name and address and the name of the EPWP;
- (b) the tasks or job that the worker is to perform; and
- (c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
- (d) the worker's rate of pay and how this is to be calculated;
- (e) the training that the worker will receive during the EPWP.
- (f) An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- (g) An employer must supply each worker with a copy of these conditions of employment.

C3.1.7.14 Keeping Records

Every employer must keep a written record of at least the following –

- (a) the worker's name and position;
- (b) Certified ID copies of all locally employed labour
- (c) Signed Contracts between the employer and the EPWP Participants
- (d) Attendance Registers for the EPWP Participants
- (e) Monthly Reporting Template as per EPWP requirements
- (f) in the case of a task-rated worker, the number of tasks completed by the worker;
- (g) in the case of a time-rated worker, the time worked by the worker;
- (h) Proof of payments made to each worker.
- (i) The employer must keep this record for a period of at least three years after the completion of the EPWP.

C3.1.7.15 Payment

- (a) An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
- (b) A worker may not be paid less than the minimum EPWP wage rate of R##.## per day or per task. This will be adjusted annually on the 1st of November in-line with inflation (available CPI as provided by StatsSA six (6) weeks before implementation).
- (c) A task-rated worker will only be paid for tasks that have been completed.
- (d) An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
- (e) A time-rated worker will be paid at the end of each month.
- (f) Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
- (g) Payment in cash or by cheque must take place –
 - a. at the workplace or at a place agreed to by the worker;
 - b. during the worker's working hours or within fifteen minutes of the start or finish of work;
 - c. in a sealed envelope which becomes the property of the worker.
- (h) An employer must give a worker the following information in writing –
 - a. the period for which payment is made;
 - b. the numbers of tasks completed or hours worked;
 - c. the worker's earnings;
 - d. any money deducted from the payment;
 - e. the actual amount paid to the worker.
- (i) If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.

-
- (j) If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

C3.1.7.16 Deductions

- (a) An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
- (b) An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- (c) An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.
- (d) An employer may not require or allow a worker to –
- repay any payment except an overpayment previously made by the employer by mistake;
 - state that the worker received a greater amount of money than the employer actually paid to the worker; or
 - pay the employer or any other person for having been employed.

C3.1.7.17 Health and Safety

- (a) Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
- (b) A worker must –
- work in a way that does not endanger his/her health and safety or that of any other person;
 - obey any health and safety instruction;
 - obey all health and safety rules of the EPWP;
 - use any personal protective equipment or clothing issued by the employer;
 - report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

C3.1.7.18 Compensation for Injuries and Diseases

- (a) It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on an EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- (b) A worker must report any work-related injury or occupational disease to their employer or manager.
- (c) The employer must report the accident or disease to the Compensation Commissioner.
- (d) An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

C3.1.7.19 Termination

- (a) The employer may terminate the employment of a worker for good cause after following a fair procedure.
- (b) A worker will not receive severance pay on termination.
- (c) A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.
- (d) A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

- (e) A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

C3.1.7.20 Certificate of Service

On termination of employment, a worker is entitled to a certificate stating –

- (a) the worker's full name;
- (b) the name and address of the employer;
- (c) the EPWP on which the worker worked;
- (d) the work performed by the worker;
- (e) any training received by the worker as part of the EPWP;
- (f) the period for which the worker worked on the EPWP;
- (g) any other information agreed on by the employer and worker.

C3.1.7.21 Contractor's default in payment to Labourers and Employees

- (a) Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.
- (b) The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

C3.1.7.22 Provision of Handtools

- (a) The Contractor shall provide his labour force with hand tools of adequate quality, sufficient in numbers and make the necessary provisions to maintain the tools in good and safe working conditions

C3.1.7.23 Reporting

The Contractor shall submit monthly returns/reports as specified below:

- (a) Signed Master rolls/pay sheets of temporary workers and permanent staff detailing the number, category, gender, rate of pay and daily attendance.
- (b) Certified ID copies of all locally employed labour
- (c) Signed Contracts between the employer and the EPWP Participants
- (d) Attendance Registers for the EPWP Participants
- (e) Monthly Reporting Template as per EPWP requirements
- (f) Plant utilization returns

Progress report detailing production output compared to the programme of works

UNEMPLOYMENT INSURANCE FUND

The contractor will be responsible for payment or contribution of UIF for all labour employed under the project. Proof of payment of UIF shall be available upon request.

B1233 WORKMEN'S COMPENSATION ACT

All labour employed on the site shall be covered by the Workmen's Compensation Act. The contractor shall pay in full, including the payment of the necessary levies, such amounts, as are due in terms of the Act. The contractor at the commencement of the contract shall resolve the manner in which Workmen's Compensation will be handled. Amounts paid by the contractor shall not be included in the wage rates but shall be an extra payment allowed for by the contractor.

Labour-intensive construction methods

Labour-intensive construction shall mean the economically efficient employment of as great a portion

of labour as is technically feasible to produce a standard of construction as demanded by the specifications with completion by the Due Completion Date, thus bringing about the effective substitution of labour for plant and equipment.

Appropriate portions of the Works included in the Contract shall be executed using labour-intensive construction methods.

Except where the use of plant is essential in order, in the opinion of the Engineer, to meet the specified requirements by the Due Completion Date, or where the use of plant is essential as a result of occupational health and safety considerations, the Contractor shall use only hand tools and equipment in the construction of those portions of the Works that are required in terms of these Project Specifications to be constructed using labour-intensive construction methods.

These portions of the Works shall be constructed utilizing only locally employed labour and/or the labour of local subcontractors, supplemented by the Contractor's key personnel to the extent necessary and unavoidable, unless otherwise instructed by the Engineer and in accordance with the further provisions of the relevant sections of Portion B of the Project Specifications.

Subject to considerations of occupational health and safety, the portions of the Works to be executed using labour-intensive construction methods are:

- ☐ Clearing and grubbing of the Site;
- ☐ Excavation for structures up to 1,5 m deep;
- ☐ Bedding, selected fill, backfilling and compaction of all pipe trenches irrespective of depth, but assisted by mechanical compaction equipment in order to achieve the specified densities;
- ☐ Transportation and spoiling of all trench materials, where the disposal site is located within 20 metres of the source;
- ☐ Dismantling and re-erection of fences;
- ☐ Mixing and placing of concrete;
- ☐ Construction of all brickwork required for structures; and
- ☐ Cleaning and tidying up of the Site.

Material

Where possible, the contractor shall source material from within ## km of the site utilizing local labour. The material which may be sourced from site includes:

- Rock for gabions and stone pitching.

Task Based Activities

Labour Intensive activities are to be planned as task based works where required. Task based refers to a specific amount of work to be performed which is clearly defined by a quantity and quality. Typically, a particular task can be completed within a working day.

REQUIREMENTS OF EXPANDED PUBLIC WORKS PROGRAMME EPWP Project Specification

As much as is economically feasible, all work shall be implemented by employing Labour Intensive Construction methods. Over and above the normal Building and Allied works to be implemented by employing skilled and unskilled labour the works specified in the “Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP)” shall be undertaken using Labour Intensive Construction

methods.

EMPLOYMENT OF UNSKILLED AND SEMI-SKILLED WORKERS IN LABOUR INTENSIVE WORKS

Requirements for the sourcing and engagement of labour.

C.1.1. Unskilled and semi-skilled labour required for the execution of all labour intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

C.1.2. The rate of pay set for the EPWP is R per task or per day.

C.1.3. Tasks established by the contractor must be such that:

a) the average worker completes 5 tasks per week in 40 hours or less; and b) the weakest worker completes 5 tasks per week in 55 hours or less.

C.1.4. The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.1.3.

C.1.5. The Contractor shall, through all available community structures, inform the local community of the labour intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

- a) where the head of the household has less than a primary school education;
- b) that have less than one full time person earning an income;
- c) where subsistence agriculture is the source of income.
- d) those who are not in receipt of any social security pension income

C.1.6. The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:

- a) 55 % women;
- b) 55% youth who are between the ages of 18 and 35; and
- c) 2% on persons with disabilities.

B2204 CONSTRUCTION METHODS

Add the following:

"in all cases where soft founding materials is classified as suitable for culvert beddings construction, the in-situ material shall be ripped, moistened and compacted to 90% to 93% modified aashto density. The depth of preparation and compaction of founding materials shall be indicated on drawings as specified by the engineer. Allowance for measurement and payment for this work is made in the bill of quantities under this section"

The generic labour-intensive specification below is the same as SANS 1921-5, construction and management requirement for works contracts- part 5: earthworks activities which are to be performed by hand and should be included in the scope of works without amendment or modification as set out below.

SCOPE

This specification establishes general requirements for activities which are to be executed by hand involving the following:

- a. Trenches having a depth of less than 1.5 metres
- b. Stormwater drainage
- c. Low-volume roads & sidewalks

C3.40

Contractor

Employer

PRECEDENCE

Where this specification is in conflict with any other standard or specification referred to in the scope of works to this contract, the requirements of this specification shall prevail.

HAND EXCAVATEABLE MATERIAL

Hand excavateable material is material:

- a. granular materials:
 - i. whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or
 - ii. where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;
- b. cohesive materials:
 - i. whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
 - ii. where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.

2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle

of 60° with respect to the horizontal) into the material being used.

Table 1: Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in upto 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation.	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

Trench excavation

All hand excavateable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

Compaction of backfilling to trenches (areas not subject to traffic)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers

- to 90% Proctor density;
- such that in excess of 5 blows of a dynamic come penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or
- such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

Excavation

All hand excavateable material including topsoil classified as hand excavateable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand.

The excavation of any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

MEASUREMENT AND PAYMENT

C3.42

Contractor

Employer

Add the following:

ITEM	UNIT
B22.01 (C) Extra over sub-item for excavation by hand using hand tool	cubic metre (m ³)

Measurement shall be as specified for pay item 22.01 of the standard specifications.
The tendered rate shall include full compensation for carrying out the excavation by hand where circumstances prevent the use of mechanical excavators. Va

PROVISION OF STRUCTURED TRAINING

CONTENTS

1 SCOPE

2 GENERIC TRAINING

3 ENTREPRENEURIAL SKILLS TRAINING

4 INSERVICE TRAINING

5 MEASUREMENT AND PAYMENT

1 SCOPE

This specification covers the requirements for the provision of structured training to be arranged by the contractor over the period of this contract.

2 GENERIC TRAINING

2.1 The contractor shall, from the commencement of the contract, implement a structured progressive training programme.

2.2 The generic training will inter alia comprise, but not be limited to the following subjects:

Course Description	Estimated No. Of Trainees	Estimated Duration (Days)
1. Road safety for construction workers		
2. Flagmen		
3. Concrete handling, placing and finishing		

4. Guardrails		
5. Gravel Road Layer		

2.3 Training shall be at or by an approved accredited organisation and shall be delivered by suitably qualified and experienced trainers.

2.4 The tenderer shall provide with his tender full details of the structured training programme he intends to implement, which details shall include the following:

- (a) The name of the training institution and programme
- (b) The manner in which the training is to be delivered.
- (c) The numbers and details of the trainers

Such details shall be entered on or attached to Form ##### included herein.

2.5 The contractor shall be responsible for the provision of everything necessary for the delivery of the generic training programme, including the following:

- (a) A suitable venue with sufficient furniture, lighting and power.
- (b) All necessary stationery consumables and study material
- (c) Transport of the students (as necessary)
- (d) Payment of wage to all trainees during the classroom training at a rate equal to the minimum wage as set in the Ministerial Determination for the Expanded Public Works Programme on an annual basis.
- (e) relevant PPE required for the project works
- (f) Additional supervision of learners during the practical learning stages of the works. Wage for the learners during this stage of the training will be paid through the outputs.

2.6 Generic training courses shall commence within one month of possession of site and be completed before the end of the contract period.

2.7 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.

2.8 The contractor shall keep comprehensive records of the training given to each student and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each student shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor.

3 ENTREPRENEURIAL SKILLS TRAINING

3.1 Small contractors and subcontractors will be entitled to receive a structured training programme, which will comprise both management skills as well as business development skills.

3.2 The contractor shall closely monitor the performance of all small subcontractors in the execution of their contracts and shall identify all such subcontractors who, in his opinion, display the potential to benefit from structured training as may be provided for in the contract and where required by the

engineer, shall make recommendations in this regard. The final list of candidates will be decided between the contractor and the engineer.

3.3 The training will be delivered by trainers who are accredited by the Civil Engineering Training Scheme (CEITS) or other institutions recognised by the Department of Labour. Accredited training refers to both the trainers as well as to the training material.

3.4 The contractor shall facilitate in the delivery thereof, by instructing and motivating the subcontractor regarding attendance and participation therein.

3.5 The contractor shall further make all reasonable efforts to co-ordinate the programming of the subcontractor.

3.6 The structured training will comprise out of the following as decided by the Employer:

Course Description	Estimated Duration (Days)
1. Basic Business Principles	
2. Basic Supervision	
3. Running A Business	
4. Legal Principles	
5. Achieving Standards	

3.7 The contractor shall provide with his tender, full details of the structured training programme, which he intends to implement, which details shall include the following:

- (a) The name of the training institution and programme
- (b) The various aspects of each type of training comprised in the programme
- (c) The manner in which the training is to be delivered
- (d) The numbers and details of the trainers to be utilised.

Such details of the proposed entrepreneurial training programme shall be entered on schedule of training to be completed by the tenderer.

3.8 The contractor shall be responsible for the provision of everything necessary for the delivery of the entrepreneurial training programme, including the following:

- (a) A suitably furnished venue (if required) with lighting and power.
- (b) All necessary consumables, stationery and study material
- (c) Transport of the subcontractors (as necessary)

3.9 All entrepreneurial training shall take place within normal working hours.

3.10 The contractor's training programme shall be subject to the approval of the engineer, and the contractor shall if so instructed by the engineer alter or amend the programme and course content if a need is identified once the contract commences.

3.11 The contractor shall keep comprehensive records of the training given to each subcontractor and whenever required shall provide copies of such records to the engineer. At the successful completion of each course each subcontractor shall be issued with a certificate indicating the course contents as proof of attendance and completion.

In addition to the above, a monthly return shall be submitted by the contractor.

4. IN SERVICE TRAINING

4.1 The contractor shall in addition to the structured (accredited) training as provided for in Part C of this document implement an in-service training programme, from the commencement of the contract, in which the various skills required for the execution and completion of the works are imparted to the labourers engaged thereon, in a programmed and progressive manner. Labourers shall be trained progressively throughout the duration of the contract, in the various stages of a particular type of work.

4.1.1 Details of in-service training

(i) The contractor shall attach to applicable returnable form the basic details of his proposed in- service training programme, which details shall inter alia include the following:

- the details of training to be provided
- the manner in which the training is to be delivered
- the number and details of trainers to be utilised.

(ii) The in-service training programme shall be submitted with the initial works programme. The progress in relation to this programme will be recorded monthly and attached to the site meeting minutes and payment certificate.

(iii) The contractor shall provide on site, sufficient skilled and competent trainers to train all labourers engaged on the contract, in the various skills required for the execution and completion of the works.

(iv) All labourers shall be remunerated in respect of all time spent undergoing training.

(v) Every worker engaged on the contract shall on the termination of his participation on the contract, be entitled to receive from the contractor, a certificate of service in which the following information shall be recorded:

- the name of the contractor
- the name of the employee
- the name of the project/contract
- the nature of the work satisfactorily executed by the worker and the time spent thereon
- the nature and extent of training provided to the worker
- the dates of service.

(vi) The cost of the above obligations shall be deemed to be covered by the sums and rates tendered for items B13.01(a), (b) and (c) in the bill of quantities. The performance of the contractor in providing in-service training, shall be taken into consideration should the contractor fail to reach his CPG at the completion of the project.

4.1.2 Lead time for training

The training of labour as specified shall, as far as possible, take place before commencement of each activity and the contractor shall take into account in his programme the lead-time he requires for such training. All training herein specified shall be deemed to be a construction activity and a non-negotiable condition of the contract”.

All formal training is to be documented in terms of the National/Provincial submission forms, and accompanied by an attendance register for the applicable days.

5 MEASUREMENT AND PAYMENT

	ITEM	UNIT
	E12.05 Provision for training	
(a)	Generic skills Provisional (list training courses)	sum
(b)	Entrepreneurial skills Provisional	sum
(c)	Handling cost and profit in respect of sub-item E12.05(a) and (b) above	percentage (%)
(d)	Training venue (only if required)	lump sum
(e)	Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site. (provisional sum)	sum
(f)	Additional supervision during practical training	lump sum

The prime cost sums are provided to cover the actual costs (including wages, tools and PPE) for attendance of accredited training courses as agreed with the engineer and shall be expended in accordance with the provisions of sub-clause 48(2) of the general conditions of contract. The tendered percentage in sub-item 4.1(c) is a percentage of the amount actually spent under sub-items 4.1(a) and (b) which shall include full compensation for the contractor's handling cost, profit, mentoring, record keeping, reporting and all other costs in connection therewith.

The lump sum tendered for 4.1(d) shall include full compensation for the provision of the training venue, for all necessary lighting, power, furniture, stationery, consumables and study material and for transportation of the students to and from the training venue. Payment of the lump sum will be made in two instalments as follows:

(i) The first instalment, 75% of the lump sum, will be paid after the contractor has met all his obligations regarding the provision of the training venue as specified.

(ii) The second and final instalment, 25% of the lump sum, will be paid after the provision of all the accredited training as specified in the document.

The lump sum tendered for 4.1 (e) shall include full compensation for the provision of additional supervisory staff to manage the output generated from the learners during practical training.

F4. JOB CREATION REPORTING FOR EPWP

In order to assist the Employer in complying with the goals of creating EPWP job opportunities, the Contractor must provide the following information for reporting purposes:

F4.1 Type of project data required per project

Every EPWP project shall collect and keep specific project data for the purpose of EPWP progress reporting. ***The data that is required to be kept and maintained for each project includes:***

F4.1.1 Beneficiary data

A beneficiary list must be maintained for every project. The data required in this beneficiary list is indicated below. This data shall be recorded, checked and signed off by the Contractor on a weekly basis, and shall be submitted to the Employer at each monthly site meeting. The beneficiary list shall contain the following data and shall be kept and maintained on site for audit purposes:

- (a) Beneficiary identity – name, surname, initials, date of birth and identity number (or other unique identifier) plus certified copy of ID book (or other unique identifier).
- (b) Beneficiary profiles – nationality, gender, age, education level and disability status.
- (c) Monthly work data for beneficiaries – daily wage to be received, number of calendar days training attended and number of calendar days worked.

F4.1.2 Project work data

This generally seeks to confirm the number of people at work daily on the project. The following data must be recorded and maintained on site by the Contractor, in order that it can be provided by the Employer to the National Department of Public Works upon request when the latter is undertaking sample auditing. The documentation that should be kept includes:

- (a) Daily attendance register – register for each day showing all the workers that were registered as being at work on that day. Attendance registers shall be completed on site on a daily basis and signed off by the Contractor on a weekly basis.
- (b) Summary of monthly attendance.

F4.1.3 Project payment data

This generally seeks to confirm what was paid, for how much work and to whom. It is required that the Contractor adopt one of the following methods as standard procedure for recording and maintaining this information:

- (a) Payment register – this is a list of the workers showing the wages paid to each worker, and signed off by each worker as proof of receipt and acceptance of payment. Information on this register must include the name of the worker, either an identity number or other unique identifier, the number of calendar days that the pay period covers, the wage rate and the total wages paid.

Alternatively,

- (b) Bank records showing the transfers to each worker account, signed off by the Contractor as proof of payment – these bank records must specifically show the name of the worker, either an identity number or other unique identifier, the period which the pay covers and the total wages paid.

The project payment data, as recorded and maintained by the Contractor in terms of either (a) or (b) above, must be available and applicable for the entire period for which the Employer claims an incentive reward for person-days of work created in terms of the project.

F4.1.4 Employment output data

The Contractor shall submit to the Employer at each monthly site meeting the data necessary to enable the Employer to calculate the following employment output data:

- (a) Number of work opportunities created (where one work opportunity = paid work created for one individual on an EPWP project, for any period of time).
- (b) Number of person-days of work created (where one person-day = one day of work carried out by one individual). The total number of person-days of work created on a particular EPWP project shall be obtained by summing the total number of person-days worked by each individual employed during the course of that EPWP project.
- (c) Number of Full Time Equivalents (FTEs) created (= total number of person-days of work created on the EPWP project divided by 230 working days). In terms of EPWP policy, one year of work created for one individual is assumed to comprise a total of 230 days of paid work carried out by that individual.
- (d) Average duration of work opportunities created (= total number of person-days of work created on the EPWP project divided by the number of work opportunities created on that EPWP project).
- (e) Average daily wage rates paid (= accumulated total of the wages paid to all individuals employed on an EPWP project divided by the total number of person-days of work created on that EPWP project).

The employer's objectives are to deliver public infrastructure and services using labour-intensive methods in accordance with EPWP Guidelines

Labour-intensive works

Labour-intensive works comprise the activities such as those described in SANS 1921-5, Earthworks activities which are to be performed by hand, and its associated specification data. Such works shall be constructed using local workers who are temporarily employed in terms of this Scope of Work.

C3.4.6 VARIATIONS AND ADDITIONS TO STANDARDISED SPECIFICATIONS

SANS 1200 A: GENERAL

PSA 1 SCOPE

Replace the content of sub clause 1.1 including the note, with the following:
This specification cover requirements, principles and responsibilities of a general nature which are generally applicable to civil Employer's Agenting construction and building work contract, as well the requirements for contractor's establishment on the site."

PSA 2 INTERPRETATIONS

PSA 2.3 Definitions (sub clause 2.3)

In the opening phrase between the words "Specification" AND "the following", insert the words "the definitions given in the Conditions of the Contract and".

a. General

"General conditions and Conditions of contract: The General Conditions of the contract, together with the special conditions of contract as applicable.

"Specified": As specified in the standardized specifications, the Drawings or the project Specifications. Specifications shall have the corresponding meaning."

b. Measurement and Payment

Replace the definition for "Fixed charge", Time related charge" and "Value – related charge" with the following:

Fixed charge: a charge that is not subject to adjustment on account of variations in the value of the contract Price or the time allowed in the contract for the completion of the work.

Time related charge: A charge, the amount of which varies in accordance with the time for Completion of the work, adjusted in accordance with the provisions of the contract.

Value related charge: A charge the amount of which varies pro rata with the final value of the measured work executed and valued in accordance with the provisions of the contract.

PSA 3 MATERIALS

PSA 3.1 Quality (sub-clause 3.1)

Add the following:

"All manufactured materials supplied shall be new materials unless the contrary is specified. All materials specified in accordance with SABS Specifications shall bear the SABS mark, whether so specified or not.

The Contractor shall arrange for all necessary process control tests for soil properties, density, etc, and concrete cube tests and is responsible for the cost of all testing to ascertain that the materials do comply with the relevant minimum requirements and all such costs shall be deemed to be included in the tendered rates. The cost of acceptance control tests done by the Employer's Agent, of which the results do not comply with the minimum requirements, shall be for the Contractor's account. The tests must be carried out by an independent laboratory approved by the Employer's Agent.

The Contractor shall inform the Employer's Agent of any process control testing to be done at least 48 hours before such test are required and must allow in his programme for the time necessary for the tests and the processing of the results thereof."

Add the following sub-clauses to Clause 3 :

PSA 3.3 Ordering of Materials

The quantities set out in the Schedule of Quantities have been carefully determined from calculations based on data available at the time and should therefore be considered to be only approximate quantities. The liability shall rest entirely and solely with the Contractor to determine before ordering, the required types and quantities of the various materials required for completion of the Works in accordance with the Specifications and the Drawings issued to the Contractor for construction purposes.

Any reliance placed by the Contractor on the estimated quantities stated in the Schedule of Quantities issued for tendering purposes, or measurements made by the Contractor from the drawing issued for tendering purposes, shall be entirely at the Contractor's risk, and the Employer accepts no liability whatever in respect of materials ordered by the Contractor on the basis of Tender Documents."

PSA 3.4 Materials Supplied by the Employer

Material designated in the contract documents to be supplied by the Employer shall not be obtained by the Contractor from any other source than from the Employer. Requisitions for materials to be supplied by the Employer shall be submitted timeously by the Contractor in writing and shall be signed by the Contractor or his authorized representative and countersigned by the Employer's Agent.

The Contractor or his authorized representative shall, upon delivery of all such materials, sign a receipt only for such defects and deficiencies as may have been recorder by the Contractor, such material will, expect only for such defects and deficiencies as many have been recorded by the Contractor in writing on the said receipt, be deemed to be in a sound and satisfactory condition and will then be deemed to be his sole responsibility, as such materials has been supplied by the Contractor himself.

The onus shall be entirely on the contractor to ensure that he accepts only sound materials from the employer, and notwithstanding the supply of material on the Site of the Work which, in his option, is unsound, defective or in any way not in compliance with the specifications. The Contractor shall immediately remove such rejected from the site of the works and shall replace them at his own expense, with new and sound materials which are in accordance with the specifications to the satisfaction of the Employer's Agent.

In the event of circumstance arising which necessitate the replacement of any materials which were supplied by the Employer, the Contractor shall, unless otherwise instructed in writing by the Employer's Agent, obtain such replacement materials only from the employer. In such circumstances, the contractor shall be liable to and pay to the Employer, all costs incurred by the Employer in supplying such replacement materials, irrespective of whether the Contractor could have obtained the said replacement materials from another source at lesser cost than the Employer.

The aforesaid shall always apply, provided the Contractor will not be held liable for the costs of replacement by the employer of unsound materials which were not accepted by the Contractor as aforesaid.

PSA 4 PLANT

PSA 4.2 Contractor's Office, Stores and Services (sub-clause 4.2)

Add the following paragraph before the existing first paragraph:

The Contractor's building, sheds and other facilities erected or utilized on the site for the purposes of the Contract shall be fenced off and shall contain all offices, store, workshop, testing laboratories, toilet facilities, etc, as may be required by the Contractor. The facilities shall always be kept in the neat and orderly condition.

No personnel may reside on the Site. Only night watchmen may be on the Site after hours."

Delete "and first-aid services" in the second paragraph and add the following: The Contractor shall provide on the Site and close proximity to the actual locations where the work is being executed, one toilet per 10 workmen, which toilets shall be relocated from time to time as the location of the work being executed changes, so as to ensure that easy access to the toilets is maintained.

The Contractor shall, where applicable, make all necessary arrangements and pay for the removal of night soil."

Neither housing nor shelters are available for the Contractor's employees, and

the Contractor shall make his own arrangement to house his employees and transport them to the site.

PSA 5 CONSTRUCTION

PSA 5.1 Survey

PSA 5.1.1 Setting Out of the Works (sub-clause 5.1.1)

Add the following

The Contractor will be required to set out the various sections of the Works in the order that he proposes to undertake the work as per his programme, at least one week prior to commencing work on these sections, to enable the Employer's Agent to check the design proposals in the field and thereafter to make any minor changes which he may deem necessary. Any additional survey work or setting out required as a result of these changes shall be undertaken on a daywork basis."

Setting out of the works is the sole responsibility of the Contractor and shall be done from the layouts given to him. The proposed network pipes must be placed as indicated on the typical drawings away from the erf boundaries. Any discrepancy shall immediately be reported in writing to the Employer's Agent. Any costs or subsequent costs arising from discrepancies, which had not been reported to the Employer's Agent, shall be the sole responsibility of the Contractor.

The Employer's Agent may alter any part of the works to suit local conditions. The Contractor must therefore contact the Employer's Agent immediately after the preliminary setting out of any part of the works before starting with detail setting out, or construction. Only after the Employer's Agent has approved a specific site or part of the works, may the detail setting out and construction commence.

PSA 5.1.2 Preservation and replacement of beacons and pegs subject to Land Survey Act (sub-clause 5.1.2)

Cadastral stand pegs and any other survey or reference pegs indicated on site, and on plan, and/or recorded in writing during any stage of construction of the works remain the responsibility of the Contractor until completion of the works.

These pegs have to be verified before commencement of the works and all disturbed pegs noted in writing and submitted to the Employer's Agent.

Should any pegs be disturbed during the contract by the Contractor, the pegs must be replaced by a registered land surveyor at the Contractor's cost.

On completion of the Contract a letter from a registered Land Surveyor, certifying that all cadastral stand pegs have been checked and found correct, must be submitted to the Employer's Agent. A pay item has been included for this verification of stand pegs.

PSA 5.2 Watching, Barricading, Lighting and Traffic Crossings (Subsclause 5.2)

Add the following:

The road crossings of existing bitumen surfaced roads and gravel roads must be done in half widths, while the total traffic is accommodated in the other lane.

Road traffic signs shall comply with the requirements of the "South African Road Traffic Signs Manual" and shall be approved by the Employer's Agent before construction commences.

PSA 5.4 Protection of Overhead and Underground Services (sub-clause 5.4)

Add the following sub-clauses.

PSA 5.4.1 Location of existing services

The Contractor shall make the necessary arrangements with the statutory authority (Municipality, Eskom and Telkom) concerned for the timely relocation of all overhead and underground public services. No claim for extension of time will be considered due to any delay to earthworks operations as a result of obstructions caused by existing services.

Any existing manholes which fall within the road formation area shall be reset to the design road levels and be provided with a heavy duty manhole cover.

Before commencing with any work in an area, the Contractor shall ascertain the presence and actual position of all services which can reasonably be expected by an experienced and competent contractor to be present on, under over or within the Site.

Without in any way limiting his liability in terms of the Conditions of Contract in relation to damage to property and inference with services, The Contractor shall, in collaboration with the Employer's Agent, obtain the most up to date plans as are available, showing the positions of services existing in the area where the intends to work. Neither the Employer nor the Employer's Agent offers any warranty as to the accuracy or completeness of such plans and because services can often not be reliably located from plans, the Contractor shall ascertain the actual location of services depicted on such plans by means of careful inspection of the Site.

Thereafter the Contractor shall by the use of appropriate methodologies, carefully expose the services at such positions as are agreed to by the Employer's Agent, for the purposes of verifying the exact location and position of the services. Where the expose of verifying the exact location and position of the services. Where the exposure of existing services involves excavation to expose underground services, the further requirements of subclauses 4.4 and 5.1.2.2 of SABS 1200 D (as amended) shall apply.

The aforesaid procedure shall also be followed in respect of services not shown on the plans but which may reasonably be anticipated by an experienced Contractor to be present or potentially present on the site.

All services, the positions of which have been determined as aforesaid at the critical points, shall henceforth be designated as known services and their positions shall be indicated by the Contractor on a separate set of drawings, a copy of which shall be furnished to the Employer's Agent without delay.

As soon as any service which has not been identified and located as described above is encountered on, under over or within the site, it shall henceforth be deemed to be a known service and the aforesaid provisions pertaining to locating, verifying and recording its position on the balance of the site shall apply. The Contractor shall notify the Employer's Agent immediately when any such service is encountered or discovered on the Site.

Whilst he is in possession of the Site, the Contractor shall be liable for all loss of or damage as may occur to.

- a) Known services, anywhere along the entire lengths of their routes, as may reasonably be deduced from the actual locations at which their positions were verified as aforesaid, due cognizance being taken of such deviations in line and level which may reasonably be anticipated, and
- b) Any other service which ought reasonably to have been a known service in accordance with the provisions of this clause,

The Contractor shall also be liable for consequential damage in regard to (a) and (b), whether caused directly by the Contractor's operations or by the lack of proper protection.

No separate payment will be made to the Contractor in respect of his cost of providing, holding available on the Site and utilising the said detecting and testing equipment, nor for any costs incurred in preparing and submitting to the Employer's Agent the Drawings as aforesaid. These costs shall be deemed included in the Contractor's other tendered rates and price included in the Contractor.

Payment to the Contract in respect of exposing services at the positions agree by the Employer's Agent and as Described above will be made under the payment items (if any) as may be provided for in the respective sections of the specifications pertaining to the type of work involved.

PSA 5.4.2 Protection during Construction

The Contractor shall take all reasonable precautions and arrange its operations in such a manner as to prevent damage occurring to all known

services during the period which the contractor has occupation and / or possession of the Site.

Services left exposed shall be suitably protected from damage and in such a manner as will eliminate any danger arising therefrom to the public and/ or workmen, all in accordance with the requirements of the prevailing legislation and related regulations.

Unless otherwise instructed by the Employer's Agent, no services shall be left exposed after its exact position has been determined and all excavations carried out for the purpose of exposing underground services shall be promptly backfilled and compacted. In roadways, the requirements of subclause 5.9 of SABS 1200 DB should be observed. In other areas compaction is to be to 90% modified AASHTO density.

PSA 5.4.3 Alterations and Repairs to Existing Services

Unless the contrary is clearly specified in the contract or ordered by the Employer's Agent, the Contractor shall not carry out alterations to existing services. When any such alterations become necessary, the Contractor shall promptly inform the Employer's Agent, who will either make arrangement for such work to be executed by the owner of the service, or instruct the Contractor to make such arrangements himself.

Should damage occur to any existing services the Contractor shall immediately inform the Employer's Agent, 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 appropriate steps to minimize damage to and interruption of the service. No repairs of telecommunication cables or electric power lines and cable shall be attempted by the Contractor.

PSA 5.4.4 Protection of Structures

Where work is carried out in proximity of buildings, tanks or other structures the Contractor shall take the necessary precautions required, including shoring, to ensure the safety of structures that are at risk.

PSA 5.4.5 Hand Tools

The contractor shall provide and maintain all hand tools required for the execution of the Works.

Add the following sub clauses to clause 5

PSA 5.5 Site Meetings

The Contractor or his authorized agent will be required to attend regular site meetings, which shall normally be held once a month on dates and at times determined by the Employer's Agent, but in any case whenever reasonably

required by the Employer's Agent. Unless otherwise indicated in the contract or instructed by the Employer's Agent, such meetings shall be held at the Contractor's office on the site. At such monthly meetings, matters such as general progress on the work, quality of work, problems, claims, payments, and safety shall be discussed, but not matters concerning the day to day running of the contract.

PSA 5.6 Training

Structure training shall be provided to temporary personnel involved with the Contractor in accordance with the prior approval of the Employer's Agent. The Contractor's selection of candidates to be trained shall be subject to the approval of the Employer's Agent and subject to the required entrance levels. All the training courses and venues with sufficient lighting, electric power point and furniture must be offered through approved accredited training organizations.

The Contractor shall provide the following for the training:

- a) All the necessary stationery , consumables and study material:
- b) Transport and from the training venue if the training is not delivered on site
- c) Wage not less than the statutory minimum for non-qualified labour for candidates attending Employer's Agenting (technical) skills training during working hours
- d) Payment to approved training organisations for the provision of training.

NB: Only technical skills and entrepreneurial training may take place during normal working hours. Generic training may only take place after hours. All training courses shall commence within one month of handing over the site and be complete before the end of the Contract period.

PSA 5.7 Employer's Agenting Surveys and Investigations

The Employer's Agent may order or conduct testing, surveys, investigations or any other actions for obtaining additional information about the site , or for facilitating services in connection with the execute of any work in terms of the Contract, or for investigating or facilitating the design of the works. Such testing may include but shall not be limited to:

- Testing of Boreholes
- Land Surveys
- Geotechnical Investigations
- Environmental impact assessments
- Provision of OHS specifications"

PSA 5.9 EPWP LABOUR FORMS

Labour Forms and the "Local Labour – person days – Schedule" bound into

the document in the appendices, are to be completed as part of the contractual requirements. Correct completion and submission by the contractor or original “Contractor’s Monthly Report” as bound into the Bid Document with Payment Certificates, will be a pre-requisite to payment.

Should forms not be completed correctly, or submitted, processing of the Payment Certificate by the Engineer will be delayed until the forms are correctly attended to and resubmitted, with no effect on the time of the Employer’s obligation to pay as per sub-clause 6.10.4 of the 2015 “General Conditions of Contract”. The 7-day period allowed for the Engineer will only commence upon receipt of correctly completed labour forms.

PSA 6 TOLERANCES

PSA 6.2 Degrees of Accuracy (sub-clause 6.2)

Degree of accuracy II shall be applicable throughout the works unless as specified on the drawings which shall take precedence.

Add the following sub clause to clause 6:

PSA 6.4 Use of Tolerances

No guarantee is given that the full specified tolerance will be available independently of each other, and the contractor is cautioned that the liberal or full use of any one or more of the tolerance may deprive him of the full or any use of tolerances relating to other aspects of the work.

Except where the contrary is specified, or when clearly not applicable, all quantities for measurement and payment shall be determined from the authorized, dimensions. These are specified dimensions or those shown on the Drawings or if changed as finally prescribed by the Employer’s Agent, without any allowance for the specified tolerances. Except if otherwise specified, all measurements for determining quantities for payment will be based on the authorized’ dimensions.

If the work is constructed in accordance with the authorized dimensions plus or minus the tolerance allowed, the calculation of quantities will be based on the authorized dimensions, regardless of the actual dimensions to which the work has been constructed.

When the work is not constructed in accordance with the authorized dimensions plus or minus the tolerance allowed, the Employer’s Agent may nevertheless, at his sole discretion, accept the work for payment, In such cases no payment shall be made for quantities of work or material in excess of these calculated for the authorized dimensions minus the tolerance allowed, quantities for payment shall be calculated based on the actual dimensions as constructed.

PSA 8 MEASUREMENT AND PAYMENT

PSA 8.1.2 Fixed-Charge and Value-Related Items

The tendered amounts for fixed-charge and value-related items will not be increased, if extension of time for the completion of the works is awarded.

PS A 8.2.1 Fixed–Charge and Value-Related Items

“Payment of fixed charge” will be made as follow:

- a) EIGHTY PER CENT (80%) of the sum tendered will be paid when the facilities have been provided and approved:
- b) The remaining TWENTY PER CENT (20%) will be paid when the works have been completed, the facilities have been removed and the site of the Contractor’s establishment has been cleared and cleaned to the satisfaction of the Employer’s Agent.

No adjustment will be made to the sum tendered in respect of item 8.3.1 should the value of the works finally executed or the time for completion vary in any way from that specified in tender.

No value related payments shall be applicable.

PSA 8.2.2 Time-Related Items

The tendered amount for a time-related item will be increased; if an extension of time for the completion of the works is awarded on the condition that the activity related to the item tendered for must be sustained during the extended period.

The ratio between the increased amount for a time-related item and the tendered amount must be the same as the ratio between the extension of the time period for the completion of the works and the original time period allowed for completion of the works.

If the works is completed before the end of the original time period allowed for completion of the works, the tendered amount of a time related item that is influenced by the earlier completion would be reduced similarly.

Subject to the provisions of sub clauses 8.2.3 and 8.2.4 payment under item 8.4.1 (time related item) will be made monthly in equal amount, calculated by dividing the sum tendered for the item by the tendered contract period in months, provided always that the total of the monthly amount so paid for the item is out of proportion to the value of the progress of the work as a whole.

PSA 8.2.5 Adjusted Payment for Time-related Items

The payment to the Contractor for time-related items shall be adjusted in accordance with the following formula in the event of the contract being extended by means of a variation order:

$$\frac{\text{Sum of Tendered amounts for time-related items}}{\text{Extended contract period as X}} \times \frac{\text{Tendered contract period}}{\text{authorised by variation order}}$$

The above-mentioned adjustment of the payment for time-related items shall be made in the Completion Payment Certificate and shall be the only payment for additional time-related costs.

PSA 8.3 Scheduled Fixed-Charge and Value-Related Items

PS A 8.3.3 Other Fixed-Charge Obligations

This item as listed under Section 1 of the bill of quantities is as specified in the standardised specification SABS 1200 A.

PSA 8.4 Scheduled Time Related Items

PSA 8.4.5 Testing (Sub clause 8.4.5)

Add the following:

The cost of all sampling and testing executed by the Contractor or approved laboratory must be included in the amount for other time related items and no separate payment shall be made for this. This condition also relates to the placing, curing and testing of concrete cubes.

PSA 8.5 Sums Stated provisionally by the Employer's Agent (Sub clause 8.5)

Add the following:

PSA 8.5.1 Testing

A provisional sum is allowed for testing of soils and materials by the Employer's Agent, and the cost of transporting samples to the testing laboratory. It should be noted that this is completely unconnected with the general testing of materials in accordance with clause 7 of the standardized specifications, for which the Contractor is solely responsible, and the cost of which is included in the scheduled rates.

The cost of all sampling and testing executed by the Contractor or approved laboratory must be included in the amount for other time related items and no separate payment shall be made for this. This condition also relates to the placing, curing and testing of concrete cubes.

PSA 8.6 Prime Cost Items (sub clause 8.6)

C3.40

Contractor

Employer

Replace sub clause 8.6 with the following:

PSA 8.7 Dayworks (Sub clause 8.7)

Replace the last contents of sub clause 8.7 with the following:

“Measurement and payment shall be in accordance with the provisions of sub clause 37(2) of the General Conditions of Contract

PSA 8.8 Temporary Works

PSA 8.8.4 Existing Services (sub-clause 8.8.4)

In the related sections of the Schedule of Quantities, rates are to be listed for the detection and exposing of existing services.

Excavate in all materials for the detection of existing services per specified depth category. (Category to be stated) Unit: m³

These rates shall cover all costs including time and machinery (if necessary) involved in the detection of existing services and different depth classifications. The rate shall cover the Contractor's costs of excavating by hand in all materials to expose or locate existing services and shall include the backfilling and compaction thereof.

Add the following to sub clause 8.8

PSA 8.8.7 Setting Out of the Works

The costs for the setting out of the works and level control shall be deemed to be covered by the rate for the particular item.

The Contractor shall set out the works in accordance with the drawings

PSA 8.8.8 Compliance with OHS Act and Regulations including the construction regulations 2003.....Unit Sum

The tendered sum shall include full compensation to the Contractor for compliance with all the requirements of the OHS Act and Regulations (including the Construction Regulations 2014) all times for the full duration of the Contract, as described in the Project Specifications. The successful tenderer shall provide the Employer's Agent with the complete breakdown of this tendered sum.

This sum will be paid to the Contractor in equal monthly amount subject to proper/ substantial compliance.

PSA 8.9 Testing of Materials and Workmanship

When instructed to do so by the Engineer, the Contractor shall arrange with an approved SANAS accredited laboratory to carry out various tests on materials or elements submitted by the Contractor for testing. Tests shall be carried out strictly in accordance with the relevant SABS specification. The Engineer will be afforded open access to the laboratory concerned and will be allowed to inspect the laboratory's premises and methods of testing, if so desired.

Tests that fail will be for the Contractor's account. Re-imbursement will only be made for tests that are successful and in accordance with the project specifications.

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 AB: EMPLOYER'S AGENT'S OFFICE

PSAB 3 MATERIALS

PSAB 3.1 Nameboards (sub-clause 3.1)

The Contractor shall supply, erect where directed, maintain and remove on completion (1 No.) project name board of substantial construction, with the project description, and names of the Employer, Employer's Agent and Contractor printed on, in accordance with the Employer's Agent's detail or as approved. The board shall be mounted 3m above the ground level on two steel supports or suitable gumpoles firmly set in the ground.

PSAB 3.2 *Office Buildings (sub-clause 3.2)*

Office space for the Employer's Agent or his representative is required. The Contractor must allow for an office for the Resident Employer's Agent whose office must be accessible to the Employer's Agent or his representative. The office shall have 2 windows and a minimum floor space of 12m². Furniture required is a desk of 1.2m², three chairs, a plan table of 2m² and at least one lock-up cabinet for the Employer's Agent or his representative.

The office shall be equipped with a suitable air conditioning unit and be well insulated.

PSAB 5 CONSTRUCTION

PSAB 5.5 Survey Assistants (sub-clause 5.5)

The Contractor shall at all times make available to the Employer's Agent two suitably trained labourers for use on and about the site on survey and other work as directed by the Employer's Agent at all reasonable times.

PSAB 8 MEASUREMENT AND PAYMENT

Add the following

PSAB 8.1 One Standard Name Board Unit : Sum

The rate shall cover all fixed and time-related costs pertaining to the supply, erection and dismantling of the name board as prescribed in PSAB 3.1.

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 C: SITE CLEARANCE

PSC 3 MATERIAL

PSC 3.1 DISPOSAL OF MATERIAL

Substitute the first sentence of 3.1 with the following:

Material obtained from clearing and grubbing shall be disposed of at a suitable site approved by the Employer's Agent. The Contractor shall obtain his own dumping site for the disposal of material and all transport costs shall be included in the rates for site clearance.

No overhaul will be paid for any spoil materials from the "clear and grubbing" operation. All costs relating to this activity shall be deemed to be included in the rates tendered for site clearance.

PSC 5 CONSTRUCTION

PSC 5.1 AREAS TO BE CLEARED AND GRUBBED

Substitute the first sentence of 5.1 with the following:

Unless otherwise indicated by the Employer's Agent, clearing and grubbing are limited to be cleared to a distance of 1.5m on both sides of the pipeline centre line or a width as indicated on the applicable drawing along the designated route.

An area 2.0m wider on all sides of reservoirs and pump stations shall be cleared

Measurement and payment for clearing and grubbing shall only occur for areas as required in writing by the Employer's Agent. Such works shall be undertaken in compliance with Environmental report.

Route pegs or markers shall not be destroyed or damaged during clearing operations.

The Contractor may proceed with clearing and grubbing after the handing over of the site.

PSC 5.2 Cutting of Trees

PSC 5.2.3.2 Individual trees (sub clause 5.2.3.2)

Add the following:

Trees outside the pipe route or road prism must be left standing and undamaged, except where otherwise ordered in writing by the Employer's Agent. Those trees falling within the designated area for clear and grubbing may only be removed on instruction of the Employer's Agent. Such works shall be undertaken in compliance with Environmental report

A penalty of R2 500, 00 per tree for trees damaged and/or removed will be charged.

PSC 5.5 Re-clearing of Vegetation (sub clause 5.5)

Add the following

When areas have to be re-cleared on the written instructions of the Employer's Agent, such re-clearing shall be carried out at the Contractor's own cost and the Contractor is therefore advised not to clear the areas too soon.

Add the follow sub clause to clause 5

PSC 5.9 Existing Fencing

The fencing parallel to the proposed route must be maintained and repaired where it was damaged. The fencing must only be removed and re-erected at the positions indicated and approved by the Employer's Agent. When the pipeline crosses fencing or gates, temporary wire gates must be provided that must be kept closed.

PSC 8 MEASUREMENT AND PAYMENT

PSC 8.1 Basic Principals

Add the following:

No separate item will be made for removal of topsoil along the pipe routes or road prism. The contractor is to excavate in such a manner that the top 100mm of materials is kept separate from other excavations for replacement upon completion of the backfill operations or finishing of the road prism. All costs related to the excavation of this topsoil shall be deemed to be included in the tendered rates for the related excavation works.

PSC 8.2 Scheduled Items

PSC 8.2.1 Clear and Grub

Replace the first line with the following:

The area designated by the Employer's Agent to be cleared and grubbed will be the nearest square meter or hectare,"

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 D: EARTHWORKS

PSD 2 DEFINITIONS

Replace the definition “Borrow” with the following:

“Borrow Material: Materials, other than materials obtained from excavations required for the works, obtained from sources such as borrow pits or the authorized widening of cuttings”.

PSD 3 MATERIALS

PSD 3.1.2 Classes of Excavation (Sub clause 3.1.2)

The excavation of material for the purposes of measurement and payment on this Contract will not be classified as intermediate excavation nor as Boulder excavation Class A or Class B. Soft excavation will be held to include material classified in Subclause 3.1.2 as intermediate excavation

PSD 3.2

PSD 3.2.3 Materials Suitable for Backfill or Fill against Structures. (Sub clause 3.2.3)

Replace the contents of this sub clause with the following:

“Material used for backfill behind structures shall generally be the material excavated, subject to the following conditions:

- a) The materials shall not contain an excessive number of stones retained on the 50mm sieve
- b) The materials shall not contain large clay lumps that do not break up under the action of the compaction equipment; and
- c) The liquid limit of the material shall not exceed 40, neither shall the PI exceed 18”

PSD 3.3 Selection

PSD 3.3.1 General (sub clause 3.3.1)

Substitute the second paragraph with the following:

The Contractor shall deal selectively with material from general excavation. Any imported material in road reserves that do not comply with the minimum requirements for the respective layers, shall be removed, and replaced with suitable material, all at the Contractor's expense.

The Contractor shall deal in such a way with materials from all excavations for 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 suitable 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.

All unsuitable material shall be removed prior to importing fill material in such areas.

PSD 5 CONSTRUCTION

PSD 5.1 Precautions

PSD 5.1.1 Safety

PSD 5.1.1.1 Barricading and lighting (sub clause 5.1.1.1)

Replace "Machinery and Occupational Safety Act, 1983 (Act 6 of 1983)" with "Occupational Health and Safety Act, 1993 (Act 85 of 1993)"

PSD 5.1.1.2 Safeguarding of excavations (sub clause 5.1.1.2)

Replace "Machinery and Occupational Safety Act, 1983 (Act 6 of 1983)" with "Occupational Health and Safety Act, 1993 (Act 85 of 1993)"

PSD 5.1.1.3 Explosives (sub clause 5.1.1.3)

Replace the contents of this sub clause with the following:

The Contractor will generally be permitted to use explosives for breaking up hard material during excavations, for demolishing existing structures and for other purposes where explosives are normally required, subject to the following conditions.

The Employer's Agent may prohibit the use of explosives in cases where, in his option, the risk of injury to persons or damage to property or to adjoining structures is too high.

Such action by the Employer's Agent does not entitle the Contractor to additional payment for having to resort to less economical methods of construction

- a) The Employer's Agent's prior written approval shall be obtained for each and every blasting operation. This approval may be withheld if the Contractor does not use explosives responsibly and carefully.
- b) The Contractor shall comply fully with the requirements of the Explosives Act, 1997 (Act No 83 of 1997) and all other legislation and regulations as may be applicable to blasting and use of explosives.

- c) Before blasting is undertaken, the Contractor shall satisfy the Employer's Agent that he has established whether or not the insurers concerned require pre and post blasting inspections of buildings and structures within certain radius of proposed blasting.
- d) Should such inspections be required, the contractor shall together with the Employer's Agent and the insurer, examine and measure the buildings, houses or structures in the vicinity of the proposed blasting site and establish and record together with the owner, lessee or occupier, the extent of any existing cracking or damage before blasting operations commence.
- e) When there is possibility of damage to power and telephone lines or any other services or property, the Contractor shall adapt his method of blasting and the size of the charges and shall use adequate protective measures (eg cover blasting) to reduce the risk of damage.
- f) All accidents, injury to persons and animals and damage to property shall be reported to the Employer's Agent in detail and in writing as soon as is practicable.
- g) The Employer's Agent shall be given 24 Hours notice by the Contractor before each blasting operation is carried out.
- h) When the blasting to specified profiles, the Contractor shall so arrange the holes and charges that the resulting exposed surfaces are as the nature of the material permits. The Contractor shall make good at his own expense, any additional excavation necessitated by the shattering of rock in excess of any over break allowance specified in the Project Specifications or given on any Drawing.

Notwithstanding the Contractor's compliance with the above provisions, the Contractor shall remain liable for any injury to persons and animals and loss of or damage to property occurring as a result of blasting operations.

PSD 5.1.2 Existing services

PSD 5.1.2.2 Detection, location and exposure (sub clause 5.1.2.2)

Add the following to:

If existing services are not shown on the drawings, but the existence thereof can be reasonably expected, the Contractor shall, in conjunction with all relevant authorities, determine the exact depth and location of such services before the commencement of construction. After locating the exact position of services, whether indicated on the drawings or not, such services shall be deemed to be known services and the Contractor shall be liable for all costs and subsequent costs arising from the damage thereof as a result of the Contractor's activities. These services must also be indicated on the "As Built" drawings.

A minimum of three trial cross trenches per street block must be excavated by hand perpendicular to the pipeline route to establish the position of existing services and the final portion of the network pipeline.

All services must be located and opened for inspection by the Employer's Agent before commencing trench excavation. Any costs or losses suffered by the Contractor as a result of not abiding by this specification will be for the Contractor's account.

PSD 5.1.3 Stormwater and Groundwater (sub clause 5.1.3)

Add the following:

The Contractor shall, where applicable and at the earliest practicable opportunity, install the permanent drainage specified or shown on the Drawings and shall at his own cost provide the temporary drainage required to protect the works.

PSD 5.1.4.1 Dust Nuisance (sub clause 5.1.4.1)

Add the following:

The Contractor is responsible for dust control and is liable for all claims that may result from dust nuisance on all parts of the site and at all times from the date of handing over of the site to the completion date of the contract. No payment regarding the above-mentioned will be made and all costs shall be deemed to be covered by the tendered rates.

PSD 5.1.6 Road Traffic Control (sub clause 5.1.6)

Add the following:

- a) Sufficient road signs must be erected in such a way that motorists will be warned in time of works, eg. at the closing of a street sufficient signs to direct traffic must be erected at the preceding intersection.
- b) Bypasses and/or road signs shall be provided and/or erected at all locations where the free flow of traffic is obstructed and shall be approved by the Employer's Agent before the commencement of construction. Where main roads are crossed, detours and temporary traffic signs must be provided as shown on the attached drawings.
- c) Where a trench crosses a street or any place where a trench crosses the direction of traffic flow, drums must be placed in the street and not just along the sides of the street with danger tape in between.
- d) Danger tape must be put up between drums and tied around the drums.
- e) Drums may not be filled with stones. The spacing of drums must be in such a way (maximum 5 m) that they are visible from all directions.
- f) Sufficient safety measures must be utilised for pedestrians.
- g) Vehicular and pedestrian access must be maintained to all stands, businesses, etc at all times.

The Contractor's attention is drawn to the fact that pipelines must be constructed under main roads and access roads. The Contractor must

arrange his work in such an order to assure free flow of traffic. No additional payment for any discomfort, extra costs, or delaying as a result of the provision of this facility will be made except for the item as allowed under PSA 8.8.2

PSD 5.2 Methods and Procedures

PSD 5.2.2 Excavation (sub clause 5.2.2)

Add the following:

Hand Excavation

The Employer's Agent may order that excavation be done by hand, using shovels only, in the vicinity of underground services. A special item for such hand excavation has been measured in the Bill of Quantities.

PSD 5.2.2.1 Excavation for General Earthworks and for structures (sub clause 5.2.2.1)

Add the following:

The contractor shall be required to provide working space around all structures. The excavation, backfilling and compaction of this materials shall be deemed to be included in the tendered rates for particular the structure.

PSD 5.2.2.2 Borrow Pits (sub clause 5.2.2.2)

Add the following

The contractor must construct and maintain at his own cost the necessary access roads and borrow pits. The position of borrow pits must be approved by the Employer's Agent before opening up the borrow pits.

It is to be noted that no extra over payment will be affected for intermediate or hard rock excavations on mmaterials obtained from borrow pits and commercial off-site sources. The contractor is to allow for this in his rates.

PSD 5.2.2.3 Disposal (sub clause 5.2.2.3)

Substitute the second sentence with the following:

All surplus and unsuitable material shall be dumped and neatly finished off in the area pointed out by the Employer's Agent within the freehaul distance.

PSD 5.2.5 Transport of earthworks

PSD5.2.5.1 Freehaul (sub clause 5.2.5.1)

Add the following:

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Contractor

Employer

The transport of all excavated materials, irrespective of the distance and source, shall be deemed to be freehaul, the costs of which is included in the Contractor's tendered rates and prices for the excavation of the materials. No separate compensation shall apply for the transportation of excavated materials.

Free haul of material on site from borrow pit areas, as well as to dumping areas within 10km will be regarded as freehaul. This freehaul distance is applicable to the whole of the contract.

PSD 8.3 Scheduled Items

PSD 8.3.3 Restricted excavation

The excavation of valve chambers, stand posts etc. Is not measured separately and is included in the tariff of the chambers.

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 DB: EARTHWORKS (PIPE TRENCHES)

PSDB 3 MATERIALS

PSDB 3.1 Classes of Excavation (Sub clause 3.1)

Substitute 3.1 the following:

The Employer's Agent shall classify excavated materials as Soft excavation.
Rock will be measured individually as an extra-over item.

TABLE 1: CLASSIFICATION OF MATERIALS

CLASSIFICATION	DESCRIPTION
Soft	All material other than rock
Rock	Material which cannot be economically fragmented and loosened for removal by hand implements and pneumatic tools, except by drilling and blasting or the use of rock breaking equipment.

In the first instance, the classification shall be based on the descriptions given in Table 1. In the event of disagreement between the Contractor and the Employer's Agent, the Employer's Agent shall reclassify the material in accordance with relevant specifications and without being unreasonable to the Contractor. The decision of the Employer's Agent on the classification shall then, subject to the provisions of the Contract, be final and binding.

The Contractor shall notify the Employer's Agent of the presence of what he considers to be rock immediately upon discovery thereof. The Employer's Agent will inspect the material and decide whether or not it warrants the use of pneumatic tools or rock breaking equipment. In the case of isolated boulders set in a soil matrix, the Employer's Agent may order the Contractor to either widen the excavation or roll the boulders sideways or lift the boulders out from the trenches.

In the event that the Employer's Agent decides that the use of pneumatic tools, rock breaking equipment, or blasting is necessary, he will classify the material accordingly and arrange for the quantity thereof to be measured. The Contractor will supply the necessary pneumatic equipment and arrange for others to break up rock into manageable pieces.

PSDB 3.5 Backfill Materials

- a) Substitute "from trenches" in 3.5 (a) with "from trenches and street excavations".

Add the following to 3.5(c):

- c) Road crossings, access to services, farms and camps and any section that fall within the road prism shall be classified as areas subject to loads from road traffic and must be compacted accordingly to the top of the trench (natural ground level).

Add the following paragraph to sub clause 3.5

- d) Cement – Stabilized Backfilling

Backfilling shall, where directed by the Employer's Agent, be stabilized with 5% cement. The aggregate shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed with 5% cement and shall be compacted in layers of 100 mm thick to 90% of modified AASHTO density.

- e) Solcrete Backfilling

The aggregate for soilcrete shall be mixed with 5% cement and shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed in a concrete mixer with the cement and enough water to acquire a consistency that allows the mixture to be placed with vibrators to fill all voids between the pipe and the sides of the trench. Shuttering shall be used where necessary.

PSDB 3.7 Selection

Replace the words "If he so wishes: in the first line of the second paragraph with the words "at his own cost"

If the excavation of a pipeline damages an existing road surface, the Contractor must stockpile material from the top 200mm of such a road surface in order to reuse it as sub base for the repairing of the road crossing.

If necessary gravel material that is suitable for the reparation of road surfaces must be imported.

The Contractor must make provision in his tariffs for compaction in road reserves for the selection of excavated material as specified above.

PSDB 4 PLANT

PSDB 4.1 Excavation Equipment (Sub clause 4.1)

Add the following:

An adequate number of suitable tools, including hand stampers, wheelbarrows and hosepipes shall be provided by the Contractor. The Contractor will supply mechanical compaction equipment and when required pneumatic and rock breaking equipment.

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.

PSDB 5 CONSTRUCTION

PSDB 5.1 Precautions

PSDB 5.1.2.2 Special Water Hazards (Sub clause 5.1.2.2)

Add the following:

Water in Trenches

Water in pipe trenches may cause movement of the pipes as a result of flotation and backfilling must therefore be executed as quickly as possible. If movement of the pipes does occur the contractor must, unless otherwise instructed by the Employer's Agent, remove the pipes from the trench and reinstall it at his own expense.

No provision has been made in the Schedule of Quantities for separate payment for dealing with water. The unit rate for excavation shall cover the cost of dealing with water in the excavations.

PSDB 5.1.3 Accommodation of Traffic and Access to Properties (Sub clause 5.1.3)

Replace the semicolon and the word "and" at the end of sub clause 5.1.3(a) with a full stop and replace item (b) with the following:

Where necessary to achieve compliance by the Contractor with his obligations in terms of the Project Specifications to provide and maintain pedestrian and vehicular access to properties affected by the works, the Contractor shall construct and maintain to the satisfaction of the Employer's Agent, such temporary access roads around and /or steel or timber bridges over excavations in roads, pavements, entrances or accesses to properties.

Temporary pedestrian access bridges shall be at least 1,2 m wide and temporary access bridges for vehicles shall be at least 3,6 m wide. All temporary access bridges shall be fitted with handrails as well as protective mesh fencing on both sides.

On Completion of the work, the contractor shall dismantle and remove all such temporary constructions and reinstate these areas to their former condition.

Except only where the Employer's Agent has included in the schedule of Quantities, particular payment items specifically therefore, the contractor will not be paid directly for the construction and maintenance of temporary access roads and/ or the provision and maintenance of bridges as aforementioned, and the costs thereof shall be deemed included in the Contractor's bid rates of excavation.

PSDB 5.2 Minimum Base Widths (sub clause 5.2)

Replace paragraph (a) with the following

Where two pipes are placed in the same trench, they shall be 300 mm apart and the specified side allowance shall still be applicable except where stated to the drawings which shall take president.

Add the following after paragraph (b):

The above is not applicable to trenches for subsurface drains.
Trenches for subsurface drain shall be excavated to the dimensions and gradients shown on the Drawing or directed by the Employer's Agent.

The specification width of trenches and the width of the excavation measured for payment shall not be less than 0.5 m, but the Contractor may reduce the actual width with the Employer's Agent's permission.

PSDB 5.4 Excavation (sub clause 5.4)

Add the following:

Excavation and backfilling of pipe trenches on sidewalks in the residential area shall be done in such a manner as to ensure the least possible disruption to the public and access to the properties. No additional payment shall be made for this and all relevant costs shall be deemed to be included in the tendered rates.

PSDB 5.5 Trench Bottom (sub clause 5.5)

Substitute "90 %" in the second paragraph of 5.5 with "93 %".

Add the following:

Where pipe trenches are excavated deeper than specified or shown on the drawings, these excavations must be backfilled with suitable approved selected material in layers of not more than 150mm uncompacted thickness and must be compacted to the thickness of the adjoining in-situ material or as prescribed by the Employer's Agent.

PSDB 5.6 Backfilling

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PSDB 5.6.1 General (sub clause 5.6.1)

Backfilling in road reserves must be compacted in 100mm layers up to natural ground level.

Where prescribed by the Employer's Agent all surplus material must be neatly piled over the real trench width to a height not more than 150mm higher than the adjoining level.

PSDB 5.6.3 Disposal of Soft Excavation Material (sub clause 5.6.3)

Add the following:

All surplus and unsuitable material as described in DB 5.6.3 shall be disposed of at the spoil site, as described in PSD 5.2.2.3 and levelled.

The disposal of surplus excavation will not be confined to the trench servitude. The Employer's Agent may order the Contractor to dispose of surplus material elsewhere on the site, within the haul free distance. All costs related thereto must be included in the contractor's rates as scheduled under item 8.2.2 & 8.2.3 SABS 1200 DB.

Add the following clauses

PSDB 5.11 Labour intensive excavations and backfilling

All excavations must be labour intensive where possible and local labour must be hired for this purpose. Provision for machine rates have been made in the list of quantities and must be priced accordingly. All backfilling regardless of whether excavation was done by hand or machine, will be done by hand. Mechanical compaction equipment must however be used to obtain the required compaction. (See Conditions of Tender in relevant paragraphs).

PSDB 5.12 Excavation Restrictions and Payment

A maximum length of 500m of open trench only will be allowed on the project, conditional that it is continuous. Under no circumstances will leap frogging of trenches be allowed unless written permission is granted by the Employer's Agent.

PSDB 5.13 Shoring

No item has been scheduled for shoring or other safety precautionary measures for working in trenches. This must be allowed for in the contractor's rates as scheduled under item 8.3.2 & 8.3.3 SABS 1200 DB.

PSDB 8 MEASUREMENT AND PAYMENT

PSDB 8.2 Computation of Quantities

PSDB 8.2.4 Shoring (sub clause 8.2.4)

Add the following to:

The rate for shoring shall be deemed to be measured and paid under the respective excavation rate for pipe trenches.

PSDB 8.3 Scheduled Items

PSDB 8.3.2 Excavation (sub clause 8.3.2)

- PSDB 8.3.2 (a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material Unit: m

Replace “of 1, 0 m” In the first sentence of 8.3.2(a) with:
As specified in the schedule of quantities.

Add the following to DB 8.3.2 (a):

The depth of excavation in street reserves shall be measured from the final finished level.

In cases where services lie parallel to steep slopes, the depth of the excavation will be measured along the centre of the trench (on the route of the service).

- b) Extra over items (a) above for:

Add the following to 8.3.2(b)2:

The extra over rate shall include where blasting occurs for the exposing of the rock, backfilling prior to blasting and excavation of the trench again to the required depth and level.

Add the following at the end of the existing sub item 2

No payment will be made under sub items (1) and (2) in respect of any materials measured and paid for under sub items 3 below.

Add the following new sub items in 8.3.2(b)

3. Hand excavation where ordered by the Employer’s Agent in:

Soft Material	Unit : m ³
Hard Material	Unit : m ³

The unit of measurement shall be the cubic meter of material, measured in place according to the authorized dimensions, which was excavated by hand on the specific prior written instructions of the Employer’s Agent, provided

always that the Employer's Agent's said instruction shall have stated that measurement and payment for such hand excavation will be in accordance with this item.

The bid rate shall include full compensation for the additional cost, effort and time resulting from excavating in the respective materials using hand methods only.

The Employer's Agent shall not be obliged to authorize payment under this item in respect of any hand excavation carried out (whether ordered in writing or otherwise), which hand excavation was in any case necessary to achieve compliance by the Contractor with his obligations under the Contract to:

- Utilise construction appropriate to the nature of the specific parts of the works and/or
- Protect existing structures and/or services and /or
- Comply with all prevailing legislation and regulations

4. Backfill stabilized with 5% cement where directed by the
Employer's Agent
Unit: m³

The unit of measurement shall be the cubic meter of backfill material, measure in place after compaction according to the authorized dimensions, which was stabilized on the Employer's Agent's instructions in accordance with subclause PSDB 3.5(c)

The bid rate shall include full compensation for supply the cement and for selecting, mixing, backfilling and compacting the stabilized material to 90% of modified AASHTO density.

5. Soilcrete backfill where directed by the
Employer's
Agent.....Unit: m³

The unit of measurement shall be the cubic meter of soilcrete placed on the Employer's Agent's instructions in accordance with subclause PSDB 3.5 (d), measure in place according to the authorized dimensions.

The bid rate shall include full compensation for supplying the cement and for selecting, mixing and placing the soilcrete as well as for the cost of shuttering if required.

PSDB 8.3.2 (c) Excavate Unsuitable Material From Trench Bottom Unit: m³

Delete "within free haul distance" and replace with "within 10 km from an excavation".

PSDB 8.3.3 Excavation Ancillaries

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Contractor

Employer

PSDB 8.3.3.3 Compaction in Road Reserves

Unit : m³

Replace the following sentence: "The volume will be measured as specified in 8.2.2, 8.2.3 and 8.3.3.1 "with the following:

To determine the volume in the case of gravel roads, the depth will be measured from the underside of the gravel wearing course to the top of the fill blanket, and in the case of bitumen roads, from the underside of the subbase to the top of the fill blanket.

The rest of the trench shall be backfilled as specified in clauses 5.9.3, 5.9.4 and 5.9.5 as applicable, and payment will be made under item 8.3.6.1

PSDB 8.3.3.4 Overhaul

Replace the contents of this item with the following:

Measurement and payment shall be in accordance with sub clause PSD 5.2.5.2

PSDB 8.3.4 Particular Items (sub clause 8.3.4)

(a) Shore trench

Unit : m

Add the following to DB 8.3.4(a):

This must be allowed for in the contractor's rates as scheduled under item 8.3.2 & 8.3.3 SABS 1200 DB.

Delete DB 8.3.4(b) and replace with the following:

(b) Control of Ground Water

Unit : m

The tendered rate for the effective control of ground water shall cover for all equipment, plant, material as well as the labour involved to use the well points, pumps and pipes, etc to control the ground water before and during excavation. The rate shall also cover the maintenance of the equipment for the total contract period. Payment for this item will only be made if the Contractor used well points and pumps to control ground water before or during excavation and measurement will be done on the length of pipe laid in trenches where ground water control had been applied.

PSDB 8.3.5 Existing Services that Intersect or Adjoin a Pipe Trench (sub clause 8.3.5)

PSDB 8.3.5(a) Services that intersect a trench

Unit : m³

Add the following to DB 8.3.5(a):

Existing services with a depth of cover exceeding 300 mm, measured from the bottom of excavation to the top of the existing service shall not be measured and paid for. There will be distinguished between existing trunk services and existing erf connections.

- i. The rate shall also allow for the following costs:
- ii. Sufficient photo's have to be taken of existing services and handed over to the Employer's Agent before they are being crossed, if there is a possibility of a difference in opinion over the condition of those services, especially on private property.
- iii. If such a service is damaged, it has to be repaired to its original condition or if possible, to a standard agreed to in writing with the relevant owner. This agreement has to be approved by the Employer's Agent.
- iv. If such a service is removed, it has to be replaced as per original.

The unit of measure shall be per cubic meter per depth category

PSDB 8.3.5(b) Services that adjoin a trench

Unit : No or m

Add the following to DB 8.3.5 (b):

The unit "number" will only be used for services such as poles and trees. The cost for shoring shall be deemed as covered by the listed items and no additional payment will be made for this.

No payment will be made for overhead services that do not directly rest on the ground except where allowance is made for this in the bill of quantities.

Existing services that rest directly on the ground e.g. poles, trees, walls, and structures are handled in the same way as underground services, but the axle of the service will be determined as follows:

The vertical axle is defined as the nearest side or corner of the existing structure to the excavation, measured at the point where the structure and natural ground level intersect.

The horizontal axle will be at the point where the structure and the natural ground level intersect. In this instance, where the excavation falls above the 45° line but within 1,0 meter horizontally from the structure, the service will also be measured as adjoining.

If the structure, according to the abovementioned, does not qualify as an adjoining service but the foundation of the structure is such that if a 45° line drawn from the nearest bottom corner thereof cuts through the excavation, the structure will be measured as an adjoining service **if approved by the Employer's Agent.**

If there is more than one service adjoining the same trench and such a service is on the same side of the trench, payment will only be made for the nearest service to the trench, or if they are the same distance from the trench for the top one. The maximum number of services that will be paid for, is therefore one on each side.

There will be distinguished between existing trunk services and existing erf connection.

PSDB 8.3.7 Accommodation of Traffic Unit : Sum

This item shall include for the accommodation of traffic and all road signage, flagmen as prescribed in the road signage manual of SA.

This item shall further also include for providing vehicle access to adjacent properties. Allowance shall be made for the provision of ramps over the trenches if necessary to allow for access.

A penalty of R500-00 (five hundred rand) per day per stand will be deducted from the payment certificate for every day that vehicle access is not possible to a particular stand.

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 L: BEDDING (PIPES)

PSL 3 MATERIALS

PSL 3.1 General

Add the following paragraphs:

Each type of pipe delivered to the site shall be of a standard length corresponding to the standard lengths offered by the pipe manufacturer in the catalogue, with a maximum permissible variation in length PF-+ 2%

A Pipe that is shorter or longer than the defined standard will be rejected by the Employer's Agent, except when such non-standard lengths are required in terms of the Contract and have been specifically manufactured or cut as such by the pipe manufacture or supplier.

PSL 3.4 Steel Pipes, Fittings and Specials

PSL 3.4.2 Pipes of nominal bore up to 150 mm (sub clause 3.4.2)

Add the following:

The pipes shall be normalised or seamless steel pipes and shall be used with malleable cast-iron fitting complying with the requirements of SABS 509.

Where flanges are required they shall comply with SABS 1123 table 1600 unless otherwise shown on the Drawings.

PSL 3.7 Other Types of Pipes

PSL 3.7.2 Polyethylene Pipes (sub clause 3.7.2)

Replace the contents of this clause with the following:

Polyethylene pipes shall be SABS ISO 4427 PE 100 PN10 HDPE pipes with compression fittings and shall comply with SABS 533 Part II.

Add the following sub clause:

PSL 3.7.3 Ductile Iron Pipes

Ductile iron pipes shall be class K9 pipes complying with SANS 50542-2003 (Edition 2) EN 545:2002 (EDITION 2) and shall be manufactured with spigot and socket push –in joint and Tyton rubber gaskets.

PSL 3.9 Corrosion Protection

PSL 3.9.2 Steel pipes

PSL 3.9.2.1 Steel pipes of nominal bore up to 150 mm (sub clause 3.9.2.1)

Add the following:

Steel pipes shall be galvanized where shown on the Drawings.

PSL 3.9.2.2 Steel pipes of nominal bore over 150 mm (sub clause 3.9.2.2)

Add the following:

Steel pipes shall be hot-dip galvanized where shown on the Drawings and as specified in sub-clause 3.9.2.2

Galvanized steel pipework, fittings, specials, etc. Shall comply with SABS 934 and 763 and be entirely coated with zinc after fabrication by complete immersion in a zinc bath. The finished surface shall be clean, uniform and any excess being removed. The zinc deposit shall exceed the followings:

Coastal areas:	0.735 kg/m ²
Inland areas:	0.400 kg/m ²

PSL 3.9.6 Corrosive Soil (sub clause 3.9.6)

Add the following:

Where shown on the Drawings, steel pipes in contact with corrosive soil shall be wrapped with Densopol 80 HT or an equivalent approved product, strictly in accordance with the manufacturer's instructions.

Add the following subclause:

PSL 3.9.7 Ductile Iron Pipes

Ductile iron pipes shall be coated internally with a 5 mm thick cement mortar lining complying with SANS 5054: 2003 (Edition 2) and or EN 545: 2003 (Edition 2) and externally with a metallic zinc spray coating plus a layer of bituminous varnish to a total minimum film thickness of 70 micro, all in accordance with SANS 5054:2003 (edition 2)

Any pipes with damage to the lining or coating shall not be repaired but shall be removed from the site and replaced with pipes having undamaged linings and coatings.

PSL 3.10 Valves (sub clause 3.10)

Replace the contents of this subclause with the following:

PSL 3.10.1 Gate Valves

Gate valve shall, unless otherwise specified, be of the standard waterworks pattern with resilient seal gates and shall comply with the requirements of SABS 664. The gate valves shall be double flanged for all pipework.

In addition to the SABS specification the following special requirements shall be met:

- a) The valve class shall be at least equal to that of the pipework in which it is to be installed. All valves shall be rated for a working pressure of at least 1,6 MPa (Class 16).
- b) The valves shall be double flanged
- c) The valves shall be supplied with a non-rising type spindle. Spindles shall be threaded such that two turns of the hand wheel shall effect a movement of 25mm on the gate valve.
- d) The valves shall be fitted with a cast iron cap attached to the spindle by means of a "Stout brass screw" with a hexagonal head.
- e) The valves shall be **Anticlockwise closing**.
- f) The lugs on the gate and the spindle are to conform to 3.2.3 of SABS 664 and are to be machined to a good fit and finish.
- g) The design of the valve guides shall be such that all valves supplied can be mounted in any position
- h) Valve trim shall be either Type B (gun metal trim) or Type C (stainless steel trim) as specified in SANS 664 Clause 3.5.5.
- i) Seat rings shall comply with clause 3.5.6 of SABS 664 and shall be pinned into position.
- j) The stuffing box may either be of the conventional type with gland packing with a gland secured with 2 No. bolts and nuts. The nuts shall be of the Tee pattern and the gland stuffing box shall be capable of holding four rings of a standard size of gland packing. The gland packing box shall be capable of being repacked under working pressure, preferably with the gate in the open position. The gland shall fit neatly and snugly into the stuffing box. The base of the gland stuffing box shall be chamfered to force the packing against the spindle.
- k) Alternatively the sealing of the spindle body may be by means of "O" rings which are retained in position by means of machined grooves in the valve body and which seals against the spindle.
- l) The valves shall be double flanged and drilled in accordance with SABS 1123/1977 for the required pressure rating.
- m) Each valve shall be supplied with 2 No. full face rubber gaskets and the required number of nut, bolts and washers to suite the valves. The costs of these items shall be included in the rates tendered.
- n) Valves which incorporate a thrust plate of the horseshoe type will not be considered.

- o) Every sluice valve shall be provided with substantial guides cast on each side of the gate, preferably extending to the top of the nut box and operating along corresponding guides cast in the sides of the valve body (Brass trim only). Bronze guides shall be of phosphor bronze to BS 1400 PB 2-0.
- p) The valves shall be drop tight at the specified working pressure applied to one side of the gate and the other side subject to open conditions.
- q) The gate valves shall be supplied with the gland packing installed and shall be either “Maxmech Style M57, Chesterton 1724” or similar approved.
- r) All valves shall be coated and lined by means of a powder (sintered) epoxy coating with a dry film of a least 250 micron.

PSL 3.10.2 Butterfly valves

Butterfly valve shall comply with the requirements of BSA 5155 and shall be of the double-flanged, lugged or water types, as specified. They shall be designed to fit between flanges drilled in accordance with SABS 1123.

Butterfly valve shall be controlled by weather-proof actuators fitted with hand wheels. Electrical actuators shall be provided if so specified on the drawings. Safety devices such as shear pins shall be built into the actuators to prevent damage to the valve should excessive force be applied to the hand wheel in the fully open or closed positions. If so specified, valves with a 10 mm diameter and smaller shall be controlled by direct-mounted ratchet handles.

Closure of valve shall be by clockwise movement of the hand wheel or ratchet handle and the fully open and fully closed positions shall be positively stopped.

Valve discs shall be of single casting, with a streamlined shape, and shall have smooth surfaces. Where resilient seats are specified, these shall be moulded to the shape of the valve body but shall be bonded to the body, so that they can be easily replaced.

Butterfly valves of class 16 and higher or with a 350 mm diameter and larger shall be fitted with self-lubricating, two-way, adjustable thrust bearings to permit precise disc to seat positioning at all times.

Valve shafts shall preferably be continuous, but if stub shafts are provided, they shall each extend into the disc hub for a distance of at least 1,5 times the shaft diameter.

Butterfly valves shall be installed with valve shafts in vertical position and hand wheels in a horizontal position.

PSL 3.10.3 Air Valves

Air valves shall have a single or double openings as specified and shall be manufactured, when applicable, to the same standards of quality and finish as laid down in SABS 664 for Gate Valves.

PSL 3.10.4 Non-Return Valves for Pumping Mains

Non-return valves shall be the Fig WDV 25 or similar approved and the following requirements shall be met:

- a) Quiet operation
- b) Water hammer to be minimized
- c) Adapt to fluctuations in flow rate
- d) Drop tight sealing
- e) Reliable

PSL 5 CONSTRUCTION

PSL 5.1 Laying

Add the following:

Where connecting to the existing pipeline the position of the existing pipeline must be established by the excavation of test holes (Hand excavation) before any trench excavation to the planned connection point is undertaken. The Contractor will not be compensated for excavation and any other works that is executed and proves to be unnecessary because this specification was not followed.

PSL 5.4 Concrete Encasing (sub clause 5.4)

Replace the first sentence with the following:

Concrete encasing with concrete with a strength of 20/19 MPa must be provided at positions as indicated by the Employer's Agent. Provision must be made to keep the pipe in position during the concrete encasing. The length of concrete encasing will be determined by means of an instruction from the Employer's Agent.

Add the following:

Soilcrete Encasing

A mixture of Portland cement and gravel of sub base quality (G6) that is mixed in a ratio as prescribed must be provided at positions and lengths as instructed by the Employer's Agent.

PSL 5.6 Valve and Hydrant Chambers

PSL 5.6.1 General (sub clause 5.6.1)

Replace the words “Drawing L-1 “in the second line with “The Drawings”

PSL 5.6.2 Construction of Chambers (sub clause 5.6.2)

Replace the words “drawing L-1, L-2 and L-3” in the fourth line with “The Drawings”

Add the following subclauses:

PSL 5.11 Pipeline Route Markers

Route markers for the pipeline shall be erected at all changes in direction and 500 m intervals on straight sections and shall be manufactured according to details shown on the Drawings.

PSL 7 TESTING

PSl 7.3 Standard Hydraulic Pipe Test

PSL 7.3.1 Test Pressure and Time of Test

PSL 7.3.1.2 Replace 1, 25 in the first line with 1, 5. The maximum working pressure for different pipes in indicated by the class of the pipe.

PSL 8 MEASUREMENT AND PAYMENT

PSL 8.2 Scheduled Items

PSL 8.2.1 Supply, lay and bed pipes complete with couplings (sub clause 8.2.1)

The bid rates shall also include full compensation for the cost of all labour, material, plant, chemicals and overheads for complete sterilization of the entire pipeline and disposal of the sterilizing solution as approved by the Employer’s Agent.

PSL 8.2.11 Anchor blocks / Trust blocks and Pedestals (sub clause 8.2.11)

Insert “concrete” before “and” in the last line of the last paragraph

Add the following:

The tendered rates shall also include the wrapping of uPVC pipes and fittings with Densopol 80 or a similar approved material where the pipes and fittings come into contact with concrete.

**VARIATIONS AND ADDITIONS TO
STANDARDISED SPECIFICATIONS**

SABS 1200 LB: BEDDING (PIPES)

PSLB 1 SCOPE

Add the following:

This specification also covers the bedding required for sleeve pipes.

PSLB 3 MATERIALS

PSLB 3.1 Selected Granular Material (sub clause 3.1)

Substitute the clause with the following:

Selected granular material shall be an aggregate, sand or granular material, all of a non-cohesive nature and free from any organic material, of which the grading analysis shows 100 % passing a 13,2 mm sieve and not more than 5 % passing a 0,075 mm sieve.

Selected granular material shall have a PI not exceeding 6 and shall be free from sharp- edged particles exceeding 19 mm

Only if approved by the Employer's Agent may sand from the trench excavations be used as selected material.

PSLB 3.2 Selected Fill Material (sub clause 3.2)

Substitute with the following:

Selected fill material shall be material that has a PI of less than 12 and does not contain vegetation or stones exceeding 20mm. Selected fill material may occur in-situ, be imported or selected from trench excavation.

PSLB 3.3 Bedding (sub clause 3.3)

Add the following:

All pipes shall be classified as flexible pipes and shall have a bedding of selected granular material and selected fill material.

uPVC and HDPE pipes are deemed to be flexible pipes for the purposes of this subclause.

Pipes shall be laid on Class B bedding (Rigid Pipes).

PSLB 3.4 Selection

PSLB 3.4.1 Suitable Material from Trench Excavation Available (sub clause 3.4.1)

Replace the first sentence with the following:

Notwithstanding the requirements DB 3.7 and LB 3.4.1 relating selected excavation methods, the Contractor must follow selected excavation methods and provide or use plant that will prevent material that is suitable and necessary for bedding being contaminated.

Provision in the rates shall be made for sifted sand for all the bedding, irrespective whether imported or in situ. Bedding shall include both the blanket and cradle layers. Under no circumstances will the contractor deviate from this specification unless written permission has been granted by the Employer's Agent. Items 8.3.2.1 of the SABS 1200 LB schedule must be allowed for under either item 8.3.2 (a) SABS 1200 LB or item 8.2.1 SABS 1200 LB scheduled in the bill of quantities.

Replace the words "(but is not requires)" in the fifth line with the words" (at his own cost)"

PSLB 5 CONSTRUCTION

PSLB 5.1 General

PSLB 5.1.4 Compacting (sub clause 5.1.4)

Substitute "90 % of modified AASHTO" in with "93 % of modified AASHTO

If sand is used the compaction grade must be 100% modified AASHTO.

PSLB 5.2.2.3(d) Borrow (sub clause 5.2.2.3(d))

If insufficient cut material is available to complete the earthworks in any particular section of the work, the Contractor shall locate other economic sources of borrow material, within the freehaul distance.

PSLB 5.2.5.1 Freehaul (sub clause 5.2.5.1)

All haul of material on site from borrow pit areas, as well as to dumping areas within 10 km will be regarded as freehaul. This freehaul distance is applicable to the whole of the contract.

PSLB 5.10 Borrow pits and, Commercial Off-site Sources (sub clause 5.10)

It is to be noted that no extra over payment will be effected for intermediate or hard rock excavations under these items. The contractor is to allow for this in his rates.

PSLB 8 MEASUREMENT AND PAYMENT

PSLB 8.1 Principles

PSLB 8.1.1 Supply of Bedding Materials Measured Separately (sub clause 8.1.1)

Add the following:

Payment for bedding material and selected fill material is only made if the selected trench excavation material cannot be used in the same position as bedding material but has to be obtained from another part of the site of works or designated borrow pits, or from commercial sources.

PSLB 8.1.5 Disposal of Displaced Material (sub clause 8.1.5)

Add the following:

Surplus displaced material shall be dumped and levelled at the spoil site.

PSLB 8.2 Scheduled Items

PSLB 8.2.2 Supply only of Bedding by Importation

PSLB 8.2.2.4 From stockpile (provisional)

a) Selected granular material Unit : m³

b) Selected fill material Unit : m³

The rate shall cover the cost of obtaining, handling and transport regardless the distance, of the required bedding material from the stockpile, the delivery thereof at positions that are spaced along the trench in such a way as suits the working method of the Contractor, as well as the removal of material displaced by this importation within a free haul distance of 0,5 km.

PSLB 8.2.5 Overhaul Of Material For Bedding Cradle And Selected Fill Blanket

Unit : m³.km

Substitute LB 8.2.5 with the following:

a) Limited overhaul (0,5 km to 1,0 km) Unit : m³

b) Long overhaul Unit : m³.km

Except that the volume is calculated according to LB 8.1.3, the requirements of D 8.3.6 or DA 8.3.3, as applicable, shall apply for overhaul.

C3.4.6 PARTICULAR SPECIFICATIONS

The following sections comprise particular specifications and shall form part of the contract:

PA	:	OHSA 1993 Health and Safety Specification
PB	:	Environmental Management Plan
PC	:	Provisions of Workers
PD	:	Task Work
PE	:	Management of the Works
PF	:	General Specification Electrical & Mechanical Installations
PG	:	Electrical Installations
PH	:	Mechanical Installations
PI	:	Pipes, Fittings and Valves

PA: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

PA.1 SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2003, and all other safety codes and specifications referred to in the said Construction Regulations.

In terms of the OHSA Agreement in Section C1.2.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations 2014.

This safety specification and the Contractor's own Safety Plan as well as the Construction Regulations 2014, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

The following are possible risks associated with this project:

- Work in close proximity to main roads and the need to adequately educate workers as to the dangers associated therewith and to take adequate steps to ensure their safety;
- Work in close proximity to main roads and the need to warn drivers as to the associated dangers of workmen, construction vehicles etc and to take adequate steps to erect the necessary signage and monitor driver activity etc;
- Steps are to be taken to warn local residents of the dangers of any open excavations especially in so far as children are concerned. The Employer will make the services of a facilitator available to the Contractor;
- All workmen are to be given proper training in the safe use of their tools, the tools used by others on the Contract and the dangers associated therewith;
- Dangers associated with the handling and lifting of heavy items; and
- The Contractor's plant shall be left in a safe and managed environment when not in use.
- Dangers associated with working close to water bodies and the need to have trained personnel and safety equipment around.

Additional risks may arise from specific methods of construction selected by the Contractor which are not necessary covered in the above.

PA.2 DEFINITIONS

For the purpose of this contract the following shall apply:

Employer where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as **"client"** as defined in the Construction Regulations 2014. **"Employer"** and **"client"** is therefore interchangeable and shall be read in the context of the relevant document.

- (a) **"Contractor"** wherever used in the contract documents and in this specification, shall have the same meaning as **"Contractor"** as defined in the General Conditions of Contract.

In this specification the terms “**principal contractor**” and “**contractor**” are replaced with “**Contractor**” and “**subcontractor**” respectively.

For the purpose of this contract the **Contractor** will, in terms of OHS Act 1993, be the mandatory, without derogating from his status as an employer in his own right.

- (b) “**Engineer**” where used in this specification, means the Engineer as defined in the General Conditions of Contract. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

PA.3 TENDERS

The Contractor shall submit the following with his tender:

- (a) a documented Health and Safety Plan as stipulated in Regulation 7 of the Construction Regulations. The Safety Plan must be based on the Construction Regulations 2014 and will be subject to approval by the Employer;
- (b) a declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Construction Regulations 2014;
- (c) a declaration to the effect that he made provision in this tender for the cost of the health and safety measures envisaged in the Construction Regulations; and
- (d) Failure to submit the foregoing with his tender, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely in accordance with the Construction Regulations.

PA.4 NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor shall, in terms of Regulation 4, notify the Provincial Director of the Department of Labour in writing if the following work is involved:

- (a) Include excavation work
- (b) Include working at a height where there is a risk of falling
- (c) Include the demolition of a structure or
- (d) Include the use of explosives to perform construction work

The notification must be done in the form of the pro forma as Annexure 2 of the Regulations.

A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

PA.5 RISK ASSESSMENT

Before commencement of any construction work during the construction period, the Contractor shall have a risk assessment performed and recorded in writing by a competent person. (Refer Regulation 9 of the Construction Regulations 2014).

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The risk assessment shall be available on site for inspection by inspectors, Employer,

Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

PA.6 APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

PA.6.1 Health and Safety plan

The Contractor shall appoint his employees and any subcontractors to be employed on the contract, in writing, and he shall provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

PA.6.2 Health and safety induction training

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site.

The Contractor shall ensure that every employee on site shall at all times be in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

PA.7 APPOINTMENT OF SAFETY PERSONNEL

PA.7.1 Construction Supervisor

The Contractor shall appoint a full-time Construction Supervisor with the duty of supervising the performance of the construction work.

He may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

PA.7.2 Construction safety officer

Taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor shall appoint in writing a full-time or part-time **Construction Safety Officer** if so decided by the Inspector of the Department of Labour. The Safety Officer shall have the necessary competence and resources to perform his duties diligently.

Provision shall be made by the Contractor in his rates, to cover the cost of this dedicated construction safety officer appointed after award of the contract.

PA.7.3 Health and safety representatives

In terms of **Section 17 and 18 of the Act (OHSA 1993)** the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a **health and safety representative** whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 100 employees.

The function of health and safety representative(s) will be to review the effectiveness of

health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery etc. on a regular base, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

PA.7.4 Health and safety committee

In terms of Sections 17 and 18 of the Act (OHSA 1993) the Contractor (as employer), shall establish one or more health and safety committee(s) where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals, but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, and to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

PA.7.5 Competent persons

In accordance with the Construction Regulations the Contractor has to appoint in writing **competent persons** responsible for supervising construction work on each of the following work situations that may be expected on the site of the works.

- (a) Risk assessment and induction training as described in Regulation 9 of the Construction Regulations;
- (b) Fall protection as described in Regulation 10;
- (c) Structures as described in Regulation 11;
- (d) Temporary structures as described in Regulation 12
- (e) Excavation work as described in Regulation 13;
- (f) Demolition work as described in Regulation 14;
- (g) Scaffolding work as described in Regulation 16;
- (h) Suspended platform operations as described in Regulation 17;
- (i) Material hoists as described in Regulation 19;
- (j) Batch plant operations as described in Regulation 20;
- (k) Explosive powered tools as described in Regulation 21;
- (l) Cranes as described in Regulation 22;
- (m) Construction vehicle and mobile plant inspections on a daily basis by a
- (n) competent person as described in Regulation 23;
- (o) Control of all temporary electrical installation on the construction site as described in Regulation 24
- (p) Water environments as described in Regulation 26;
- (q) Housekeeping and general safeguarding on construction sites as described in Regulation 27; and
- (r) Stacking and storage on construction sites as described in Regulation 28
- (s) Fire precautions as described in Regulation 29.
- (t) Construction employees' facilities as described in Regulation 30

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with **all** requirements of

the Construction Regulations.

PA.8 RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials and subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

- (q) A copy of the OHS Act 1993 Construction Regulations 2003;
- (r) A copy of this Health and Safety Specification;
- (s) A copy of the Contractor's Health and Safety Plan (Regulation 7);
- (t) A copy of the Notification of Construction Work (Regulation 4);
- (u) ...A health and safety file in terms of Regulation 7(1) (b) with inputs by the Construction Safety Officer
- (v) A copy of the risk assessment described in Regulation 9;
- (w) A full protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 10;
- (x) Drawings pertaining to the design of structures (Regulation 11 and formwork and support work structures (Regulation 12) must be kept on site;
- (y) Pronouncement of the safety of excavations must be recorded in a register to be kept on site (Regulation 13);
- (z) A copy of the certificate of the system design for suspended platforms (Regulation 17(2));
- (aa) A notice must be affixed around the base towers of material hoists to indicate the maximum mass load, which may be carried at any one time by material hoists (Regulation 19(5));
- (bb) Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site (Regulation 19(8));
- (cc) A record of any repairs to or maintenance of a batch plant must be kept on site (Regulations 20(8));
- (dd) A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used (Regulation 21(2));
- (ee) A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant (Regulation 23(1)(k)).

PA.9 CONTRACTORS RESPONSIBILITIES

For this contract the Contractor will be the mandatory of the Employer (Client), as defined in the Act (OHS Act 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHS Act 1993) and the Construction Regulations 2014.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status as mandatory (employer) for the contract under consideration.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations 2014, and are not repeated in detail but some important aspects are highlighted hereafter, without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations.

- (a) Contractor's position in relation to the Employer (Client) (Regulation 7)

In accordance with Section 7 of the Regulations, the Contractor shall liaise closely with the Employer or the Engineer on behalf of the Employer, to ensure that all

requirements of the Act and the Regulations are met and complied with.

(b) The Principal Contractor and Contractor (Regulation 7)

The Contractor is in terms of the definition in Regulation 1 the equivalent of Principle Contractor as defined in the Construction Regulations, and he shall comply with all the provisions of Regulation 7.

Any subcontractors employed by the Contractor must be appointed in writing, setting out the terms of the appointment in respect of health and safety. An independent subcontractor shall however provide and demonstrate to the Contractor a suitable, acceptable and sufficiently documented health and safety plan before commencement of the subcontract. In the absence of such a health and safety plan the subcontractor shall undertake in writing that he will comply with the Contractor's safety plan, the health and safety specifications of the Employer and the Construction Regulations 2003.

(c) Supervision of construction work (Regulation 8)

The Contractor shall appoint the safety and other personnel and employees as required in terms of Regulation 8. Appointment of those personnel and employees does not relieve the Contractor from any of the obligations under Regulation 7.

(d) Risk assessment (Regulation 9)

The Contractor shall have the risk assessment before commencement of the work and it must be available on site for inspection at all times. The Contractor shall consult with the health and safety committee or health and safety representative(s) etc. on a regular basis to ensure that all employees, including subcontractors under his control, are informed and trained by a competent person regarding health hazards and related work procedures.

No subcontractor, employee or visitor shall be allowed to enter the site of works without prior health and safety induction training, all as specified in Regulation 7.

(e) Fall protection (Regulation 10)

Fall protection, if applicable to this contract shall comply in all respects with Regulation 10 of the Construction Regulations.

(f) Structures (Regulation 11)

The Contractor will be liable for all claims arising from collapse or failure of structures if he failed to comply with all the specifications, project specifications and drawings related to the structures, unless it can be proved

That such collapse or failure can be attributed to faulty design or insufficient design standards on which the specifications and the drawings are based.

In addition, the Contractor shall comply with all aspects of Regulation 9 of the Construction Regulations.

(g) Temporary work (Regulation 12)

The Contractor will be responsible for the adequate design of all formwork and support structures by a competent person.

All drawings pertaining to formwork shall be kept on site and all equipment and materials used in formwork, shall be carefully examined and checked for suitability by a competent person.

The provisions of Regulation 12 of the Construction Regulations shall be followed in every detail.

(h) Excavation work (Regulation 13)

It is essential that the Contractor shall follow the instructions and precautions in the Standard Specifications and Project Specifications as well as the provisions of the

Construction Regulations to the letter as unsafe excavations can be a major hazard on any construction site. The Contractor shall therefore ensure that all excavation work is carried out under the supervision of a competent person, that inspections are carried out by a Professional Engineer or Technologist, and that all work is done in such a manner that no hazards are created by unsafe excavations and working conditions.

Supervision by a competent person will not relieve the Contractor from any of his duties and responsibilities under Regulation 13 of the Construction Regulations.

(i) Demolition work (Regulation 14)

Whenever demolition work is included in a contract, the Contractor shall comply with all the requirements of Regulation 14 of the Construction Regulations. The fact that a competent person has to be appointed by the Contractor does not relieve the Contractor from any of his responsibilities in respect of safety of demolition work.

(j) Tunneling (Regulation 15)

The Contractor shall comply with Regulation 15 wherever tunneling of any kind is involved.

(k) Scaffolding (Regulation 16)

The Contractor shall ensure that all the provisions of Regulation 16 of the Construction Regulations are complied with. [Note: Reference in the Regulations to “Section 44 of the Act” should read “Section 43 of the Act”].

(l) Suspended platforms (Regulation 17)

Wherever suspended platforms will be necessary on any contract, the Contractor shall ensure that copies of the system design issued by a Professional Engineer are submitted to the Engineer for inspection and approval. The Contractor shall appoint competent persons as supervisors and competent scaffold erectors, operators and inspectors and ensure that all work related to suspended platforms is done in accordance with Regulation 17 of the Construction Regulations.

(m) Rope Access (Regulation 18)

Where rope access is required on the construction site, the Contractor shall comply with Regulation 18.

(n) Material Hoists (Regulation 19)

Wherever applicable, the Contractor shall comply with the provisions of Regulation 19 to the letter.

(o) Batch plants (Regulation 20)

Wherever applicable, the Contractor shall ensure that all lifting machines, lifting tackle, conveyors, etc. used in the operation of a batch plant shall comply with, and that all operators, supervisors and employees are strictly held to the provisions of Regulation 18. The Contractor shall ensure that the General Safety Regulations (Government Notice R1031 of 30 May 1986), the Driven Machinery Regulations (Government Notice R295 of 26/2/1988) and the Electrical Installation Regulations (Government Notice R2271 of 11/10/1995) are adhered to by all involved.

In terms of the Regulations, records of repairs and maintenance shall be kept on site.

(p) Explosive powered tools (Regulation 21)

The Contractor shall ensure that, wherever explosive-powered tools are required to be used, all safety provisions of Regulation 21 are complied with.

It is especially important that warning notices are displayed and that the issue and return of cartridges and spent cartridges be recorded in a register to be kept on site.

(q) Cranes (Regulation 22)

Wherever the use of tower cranes becomes necessary, the provisions of Regulation 20 shall be complied with.

(r) Construction vehicles and mobile plant (Regulation 23)

The Contractor shall ensure that all construction vehicles and plant are in good working condition and safe for use, and that they are used in accordance with their design and intended use. The vehicles and plant shall only be operated by workers or operators who have received appropriate training, all in accordance with all the requirements of Regulation 23.

All vehicles and plant must be inspected on a daily basis, prior to use, by a competent person and the findings must be recorded in a register to be kept on site.

(s) Electrical installation and machinery on construction sites (Regulation 24)

The Contractor shall comply with the Electrical Installation Regulations (Government Notice R2920 of 23 October 1992) and the Electrical Machinery Regulations (Government Notice R1953 of 12 August 1993). Before commencement of construction, the Contractor shall take adequate steps to ascertain the presence of, and guard against dangers and hazards due to electrical cables and apparatus under, over or on the site.

All temporary electrical installations on the site shall be under the control of a competent person, without relieving the Contractor of his responsibility for the health and safety of all workers and persons on site in terms of Regulation 24.

(t) Use of temporary storage of flammable liquids on construction (Regulation 25)

The Contractor shall comply with the provisions of the General Safety Regulations (Government Notice R1031 of 30 May 1986) and all the provisions of Regulation 25 of the Construction Regulations to ensure a safe and hazard-free environment to all workers and other persons on site.

(u) Water environments (Regulation 26)

Where construction work is done over or in close proximity to water, the provisions of Regulation 26 shall apply.

(v) Housekeeping on Construction sites (Regulation 27)

Housekeeping on all construction sites shall be in accordance with the provisions of the environment Regulations for workplaces (Government Notice R2281 of 16 October 1987) and all the provisions of Regulation 27 of the Construction Regulations.

(w) Stacking and storage on construction sites (Regulation 28)

The provisions for the stacking of articles contained in the General Safety Regulations (Government Notice R1031 of 30 May 1986) as well as all the provisions Regulation 28 of the Construction Regulations shall apply.

(x) Fire precautions on construction sites (Regulation 29)

The provisions of the Environmental Regulations for Workplaces (Government Notice R2281 of 16 October 1987) shall apply.

In addition the necessary precautions shall be taken to prevent the incidence of fires, to provide adequate and sufficient fire protection equipment, sirens, escape routes etc. all in accordance with Regulation 29 of the Construction Regulations.

(y) Construction employees' facilities (Regulation 30)

The Contractor shall comply with the construction site provisions as in the Facilities Regulations (Government Notice R1593 of 12 August 1988) and the provisions of Regulation 30 of the Construction Regulations.

(z) Non-compliance with the Construction Regulations 2014

The foregoing is a summary of parts of the Construction Regulations applicable to all construction projects.

The Contractor, as employer for the execution of the contract, shall ensure that all provisions of the Construction Regulations applicable to the contract under consideration are complied with to the letter.

Should the Contractor fail to comply with the provisions of the Regulations 3 to 30 as listed in Regulation 33, he will be guilty of an offence and will be liable, upon conviction, to the fines or imprisonment as set out in Regulation 33.

The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations as ignorance of the Act and the Regulations will not be accepted in any proceedings *related to non-conformance to the Act and the Regulations*.

PA.10 MEASUREMENT AND PAYMENT

PA.10.1 Principles

It is a condition of this contract that Contractors, who submit tenders for this contract, shall make provision in their tenders for the cost of all health and safety measures during the construction process. All associated activities and expenditure are deemed to be included in the Contractor's tendered rates and prices.

(a) Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

(b) Records and Registers

The keeping of health and safety-related records and registers is regarded as a normal duty of the Contractor for which no additional payment will be considered, and which is deemed to be included in the Contractor's tendered rates and prices.

PB : **ENVIRONMENTAL MANAGEMENT PLAN**

PB.1 **PLANS**

Prior to establishment of the site camp(s), the Contractor shall produce a plan showing the positions of all buildings, laydown yards, vehicle wash areas, fuel storage areas, batching areas and other infrastructure for approval by the Engineer.

PB.2 **USE OF LAND**

The Contractor shall not use the land comprising the Works or any land connected to the Works, for any purpose whatsoever other than for the proper carrying out of the Works and shall place any camps that may be required for himself and his employees only on sites approved by the Engineer.

No trees or bushes shall be damaged or cut down by the Contractor or by any of his employees whether for use in the Works or otherwise without the written consent of the Engineer.

PB.3 **VEGETATION CLEARANCE**

PB.3.1 **Woody vegetation**

PB.3.1 .1 Prior to the start of construction, woody vegetative matter shall, where directed in writing by the Engineer, be stripped. This material shall either be spread randomly throughout the surrounding veld so as to provide biomass for other micro organisms and habitats for small mammals and birds, or it may be stockpiled for later redistribution over the reinstated topsoiled surface.

PB.3.1.2 No vegetative matter shall be burnt or removed for firewood.

PB.3.2 **Herbaceous vegetation**

During clearing of woody vegetation, no basal cover or grass and topsoil shall be removed and damage to this layer shall be minimized as far as possible.

PB.4 **PROTECTION OF VEGETATION**

The Contractor shall ensure that all works are undertaken in such a manner that vegetation outside the Works area is not damaged.

PB.4.1 **Vegetation within or adjacent or outside the Works area**

The following provisions shall apply with respect to the protection of areas of vegetation.

PB.4.1.1 No tree or shrub shall be felled, lopped, cut or pruned without the prior written approval of the Engineer;

PB.4.1.2 No tree or shrub shall be felled, lopped, cut or pruned until it has been clearly marked for this purpose by the Engineer;

PB.4.1.3 No tree shall be burned for any reason;

PB.4.1.4 For every tree protected by these specifications, which is removed or, in the opinion of the Engineer, is unduly damaged by the Contractor, the Contractor shall pay a penalty of R2 000,00 per tree to the Employer;

PB.4.1.5 Trees which have been selected for preservation by the Engineer shall be fenced around their drip line. The fence shall be clearly marked with danger tape. No open fires shall be allowed within this fenced area, nor shall vehicles be parked underneath these trees. The area shall also not be used for material storage or as allocation for temporary buildings; and

PB.4.1.6 Where such trees are located within the working width of the pipeline, the pipeline shall be aligned to avoid these trees wherever possible.

PB.4.2 Transplantation of rare and endangered plant species

Prior to vegetation clearing, any rare or endangered plant species which have been identified by the Engineer or his environmental representative must be removed and transplanted as instructed herein.

PB.4.2.1 Transplanting of small trees (1 to 1,5m height) and small shrubs (0,5 to 1m height)

- a. Trees and shrubs shall only be transported between the months of April and September. Deciduous trees and shrubs shall be transplanted only when they are in a leafless condition.
- b. Holes for transplanting trees and shrubs shall be dug before these plants are dug out. Trees shall be planted in holes of 1m x 1m x 1m and shrubs shall be transplanted in holes of 600mm x 600mm x 600mm.
- c. Trees and shrubs shall be planted so that their stems or trunks are at the same depth as in their original location. The orientation of the transplanted plants must be the same as in their original location (i.e. the north-facing side of the plant must remain north-facing after it has been planted.)
- d. Transplanted plants shall be pruned to limit transpiration. Plants shall also be sprayed with an evapotranspiration retardant liquid if they are evergreen.
- e. Transplanted plants shall be watered once a week for 5 weeks and thereafter once every 2 weeks.

PB.4.2.2 Transplanting aloes, succulents and bulbous plants

- a. Aloes, succulents and evergreen bulbous plants may be transplanted at any time of the year.
- b. Aloes and bulbous plants shall be planted in similar conditions and to the same depth as they were before they were removed.
- c. Transplanted aloes and bulbs shall be watered once directly after transplanting to settle the soil.

PB.4.3 Alien vegetation

The Engineer may instruct the Contractor to remove alien vegetation from the works area for the duration of the construction and maintenance period. Such vegetation will be identified by the Engineer or his environmental representative and the method of eradication will be specified by him/her.

The use of topsoil for rehabilitation contaminated with the seed of alien vegetation will not be permitted.

PB.5 PROTECTION OF FAUNA

The Contractor shall ensure that all Works are undertaken in such a manner which minimizes the impact on the local fauna and shall apply the following specifications with respect to fauna management and protection:

- PB.5.1 Under no circumstances shall any animals be handled, removed, killed or interfered with by the Contractor, his subcontractors or his subcontractors' employees;
- PB.5.2 The Contractor and his employees shall not bring any domestic animals onto the site;
- PB.5.3 The contractor shall ensure that the work site is kept clean and tidy and free from rubbish which would attract animal pests;
- PB.5.4 There shall be no feeding of animals;
- PB.5.5 The Contractor shall ensure that domestic and native animals belonging to the local community shall be kept away and are safe from unprotected works; and
- PB.5.6 The Contractor shall advise his workers of the penalty associated with the needless destruction of wildlife, as set out in the Animals Protection Act (Act 71 of 1962) sec. 2 (fine of R2 000 and/or 12 months imprisonment).

PB.6 ARCHAEOLOGICAL ARTIFACTS

- PB.6.1 Known archaeological sites shall be indicated by the Engineer and shall be protected by a three-strand fence which will be at least 2m outside the extremities of the site. The fence shall be clearly marked with danger tape.
- PB.6.2 Should the Contractor expose any archaeological artefacts during excavation, work on the area where the artefacts were found shall cease immediately and the Engineer shall be notified as soon possible.
- PB.6.3 Upon receipt of such notification, the Engineer will arrange for the excavation to be examined by an Archaeologist as soon as practicable. Acting upon the advice from the Archaeologist, the Engineer will advise the Contractor of the necessary actions to be taken.
- PB.6.4 Under no circumstances shall archaeological artefacts be removed, destroyed or interfered with by the Contractor, his employees, his subcontractors or his subcontractors' employees.
- PB.6.5 The Contractor shall ensure that none of his employees gain access to any archaeological areas (whether fenced or unfenced), except when authorised to do so by the Engineer.
- PB.6.6 The Contractor shall stay strictly within the 20m working width of the Works in order to prevent disturbance of possible grave sites and remnant settlements. Should any work be necessary outside of the working width, then this shall only be done in areas approved by the Engineer.

PB.7 SCENIC QUALITY

- PB.7.1 The Contractor shall not establish or undertake any activities which, in the opinion of the Engineer, are likely to adversely affect the scenic quality of the area. The Engineer may direct the Contractor to refrain from such activities or to take

ameliorative actions to reduce the adverse effect of such activities on the scenic quality of the environment.

PB.7.2 No painting or marking of natural features shall be done. Marking for surveying and other purposes shall only be done with pegs and beacons.

PB.7.3 All cut and fill forms shall be rounded at the edges to blend then with the surrounding landforms.

PB.7.4 Where instructed by the Engineer, all packed and exposed rock cuttings shall be treated in order to blend their colour with the colours of the natural weathered rocks of the adjacent environment.

PB.7.5 Where instructed by the Engineer, all concrete structures shall be treated so as to blend in with the colours of the surrounding landscape. This shall be done either through painting or through treatment with a staining or coloration compound. All other permanent structures shall have colours which are chosen to blend in with the dominant colours of the surrounding landscape. Painted surfaces shall be painted with non-reflective (matt) colours.

PB.8 WORKING AREA

PB.8.1 The area of construction as reasonably indicated on the general layout drawings, drawings.

PB.9 ACCESS ROADS AND VEHICLE TURNING AREAS

PB.9.1 No new permanent access roads other than those agreed to by the Engineer shall be developed by the Contractor.

PB.9.2 Existing roads shall be used as far as possible for inspection purposes.

PB.10 MATERIAL LAYDOWN AREAS

VIP units may only be offloaded in areas approved by the Engineer.

PB.11 FIRES

No open fires shall be permitted except in areas specifically prepared and controlled for this purpose.

PB.12 FENCING

PB.12.1 Where instructed by the Engineer, fencing shall be erected around sensitive natural or cultural elements to protect them from damage. No pedestrian or vehicular access shall be allowed into such fenced areas.

PB.12.2 In places where temporary fencing is required, the Contractor shall erect such fencing when and where required by the Engineer and re-erect and maintain temporary fencing as necessary. Temporary fencing shall remain in position either until it is replaced by permanent fencing or until completion of the whole of the Works, unless the Contractor requires, or the Engineer directs its earlier removal.

PB.12.3 If any fencing is removed temporarily for the execution of any part of the Works it shall be reinstated as soon as practicable by the Contractor.

PB.12.4 The clearing for permanent fencing shall be limited to the removal of trees and shrubs within 1m of the fence line. Where, possible, the fence line must be aligned to retain

trees or groups of trees. There shall be no removal of the grass cover or topsoil within this width.

PB.12.5 Any fences damaged by the Contractor shall be repaired as soon as practicable at his cost.

PB.13 TOPSOIL

PB.13.1 Source of topsoil

Topsoil shall be stripped from all areas that are to be utilized during the construction period and where permanent structures are required.

The topsoil is regarded as the top 150mm of the soil profile, irrespective of the fertility appearance, agricultural potential, structure and composition of the soil.

PB.13.2 Topsoil stripping

PB.13.2.1 Not applicable.

PB.13.3 Topsoil stockpiling

PB.13.3.1 Stripped topsoil shall be stockpiled on sites adjacent to where it has been stripped.

PB.13.3.2 No vehicles shall be allowed access onto the stockpiles after they have been placed. Topsoil stockpiles shall be clearly demarcated in order to prevent vehicle access and later for identification as being the resource for rehabilitation and vegetation establishment.

PB.13.3.3 Stockpiles shall not be allowed to become contaminated with oil, diesel, petrol, garbage or any other material which may inhibit the later growth of vegetation in the soil.

PB.13.4 Topsoil placement

PB.13.4.1 Topsoil shall be placed to the depth indicated in the project specification over all areas where it has been stripped after construction in those areas has ceased. Topsoil placement shall be done concurrently with construction or as soon as construction in an area has ceased.

PB.13.4.2 Topsoil shall be placed in the same soil zone from which it has been stripped. However, if there is insufficient topsoil available from a particular soil zone to produce the minimum specified depth, topsoil of similar quality may be bought from other soil zones of similar quality at the approval of the Engineer.

PB.13.4.3 Where insufficient topsoil has been stripped by the Contractor to provide the minimum specified depth, the Contractor shall obtain suitable substitute material from other sources at no cost to the employer. The suitability of the substitute material shall be determined by means of a soil analysis which is acceptable to the Engineer or Environmental Officer.

PB.13.4.4 After topsoil placement is complete, cleared and stockpiled vegetation matter shall be spread randomly by hand over the topsoiled area as instructed by the Engineer.

PB.14 BORROW PITS AND QUARRIES

PB.14.1 If a borrow pit is to be developed or an existing one is to be excavated, all topsoil from the area that is to be quarried must be stripped and stored for later rehabilitation for the pit.

- PB.14.2 Stripping and excavation actions shall be progressive in such manner that those parts of the borrow pit or quarry where work is complete can be rehabilitated while other areas are still being quarried.
- PB.14.3 Cut slopes of borrow pits and quarries shall have a vertical : horizontal gradient of not steeper than 1:3 (about 18 degrees), and preferably 1:5.
- PB.14.4 During excavation, work will be carried out in such a way that slopes of open works are not made dangerously steep.
- PB.14.5 Borrow pits shall be used as dump sites for excess rock spoil. On completion of spoiling the pits shall be reshaped and covered with layer of topsoil. On no account may spoil or rock be placed in drainage ways without the prior consent of the Engineer. On sites where old excavations are to be found, rock, waste and mud from new excavations will be used to fill in the old excavations.
- PB.14.6 Stormwater cut off drains shall be provided at the top of the cut slope, where identified as necessary by the Engineer, to prevent erosion of the rehabilitated surface of the borrow pit or quarry.
- PB.14.7 No borrow pit shall be used as a dump site for refuse material or for toxic material e.g. cement, oil, diesel, rubber and similar materials.
- PB.14.8 There will be no workshops, chemical or fuel stores on the borrow pit site.
- PB.14.9 Sufficient soil conservation works for preventing soil erosion will be established at the rehabilitated areas.

PB.15 BATCHING

Concrete shall be mixed only in areas which have been specially demarcated for this purpose. All concrete that is spilled outside these areas, shall be promptly removed by the Contractor and taken to an approved dump site. After all concrete mixing is complete, all waste concrete shall be removed from the batching area and disposed of at an approved dump site. Storm water shall not be allowed to flow through the batching area. Water laden with cement shall be collected in a retention area for evaporation.

PB.16 EROSION PREVENTION

- PB.16.1 The Engineer will instruct the Contractor on the measures to be taken to ensure that there is no undue storm water damage and soil erosion resulting from the construction activities. The Contractor shall nevertheless take interim measures to ensure that no undue erosion damage occurs and shall advise the Engineer of all potential problem areas.
- PB.16.2 Surface storm water shall, where possible, not be allowed to be concentrated and to flow down cut or fill slopes or along the pipeline route without erosion protection measures being place.
- PB.16.3 Storm water deflection berms or stone pitched channels shall be constructed at regular intervals (plus minus every 15-30m) diagonally across the pipeline servitude on slopes as directed by the Engineer.

PB.17 EARTHWORKS

- PB.17.1 All cut and fill forms shall be rounded on the edges to allow them to blend with the

surrounding landforms.

- PB.17.2 Where the backfill over the pipe trench will impede the natural flow of water, the backfill shall be shaped to allow an even flow across the line.

PB.19 SPOIL AND WASTE MATERIAL

- PB.19.1 The Contractor shall load and haul excess spoil to fill in the borrow pits or to dump sites approved by the Engineer. The dumped material must be finally rounded to have slopes not steeper than 1:3.
- PB.19.2 The Contractor shall remove all foundations and similar waste and transport all such waste material off site to dump areas which have been approved by the Engineer.

PB.20 REFUSE DISPOSAL

The Contractor shall dispose of all refuse generated by him or his subcontractor on a weekly basis at an approved refuse disposal site.

PB.21 ABLUTION FACILITIES

Portable toilets shall be placed within easy access of the Contractor's employees. These toilets shall be moved to follow the progression of the Works. Waste generated by these toilets shall be disposed of in an acceptable manner following consultation with the Engineer.

PB.22 CLEARANCE OF SITE ON COMPLETION

- PB.22.1 On completion of the Works, the Contractor shall clear away and remove from the works area all constructional plant, signboards, surplus rock and other material, foundations, plumbing and other fixtures, rubbish and temporary works of every kind. Areas thus cleared shall be graded and scarified to restore the ground to its original profile as near as practicable before topsoil placement and re-vegetation.
- PB.22.2 The Contractor shall load and haul excess spoil to fill the borrow pits or to dump sites approved by the Engineer. The dumped material must be finally rounded off to have slopes not steeper than 1:3.

PB.23 ENVIRONMENTAL AWARENESS OF EMPLOYEES

The Contractor shall arrange that all his employees and those of his subcontractors receive environmental awareness and/or training before commencement of construction to the satisfaction of the Engineer, in order that they:

- (a) acquire a basic understanding of the key environmental features of the work site and environs;
- (b) are thoroughly familiar with the requirements of these Environmental Protection and Control Specifications as they apply to the Works;
- (c) if required by the Engineer, receive basic training in the identification of archaeological artifacts, and rare and endangered flora and fauna that may be encountered along the route; and
- (d) are made aware of any other environmental matters which are deemed to be necessary by the Engineer.

PB.24 COMPLIANCE WITH ENVIRONMENTAL PROTECTION SPECIFICATION

- PB.24.1 All persons employed by the Contractor or his subcontractors shall abide by the requirements of these specification as they apply to the Works.

PB.24.2 Any employees of the Contractor or his subcontractors found to be in breach of any of the Environmental Protection Specifications may be ordered by the Engineer to leave site forthwith. No extension of time will be granted for any delay or impediment to the Contractor brought about by a person ordered to leave the site.

PB.24.3 Supervisory staff of the Contractor and his subcontractor shall not direct any person to undertake any activities which would place such a person in contravention of the Environmental Protection and Control Specification.

PB.25 COMPLIANCE AND MONITORING

The Engineer shall be responsible for implementing a consistent monitoring programme to ensure that construction specifications are upheld and that negative environmental impacts are regularly assessed and mitigated against.

The Contractor shall obtain written approval from the Engineer that the site is rehabilitated to their satisfaction at the end of the contract (practical closure) as well as after a 12-month liability period (final closure). If, in the opinion of the Engineer, the Environmental Protection and Control Specifications have not been complied with, further rehabilitation measures can be specified, the costs of which will be borne by the Contractor.

SPECIFICATION PC: PROVISION OF WORKERS

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C1 SCOPE

This Specification sets out the provisions and requirements in addition to Special Public Works Programme (SPWP) terms and conditions relating to the provision of the workers. The said terms and conditions of the SPWP are contained in Contract Data: Labour Laws, of the Special Conditions of Contract of this document.

C2 INTERPRETATIONS

C2.1 SUPPORTING DOCUMENTS

Where this Specification is required, the following documents shall *inter alia* be read in conjunction with this Specification:

- (a) The Instructions to Tenderers
- (b) The Conditions of Contract including Labour Laws in Contract Data
- (c) The Project Specifications
- (d) The Drawings (where applicable)
- (e) The statutory minimum requirements relating to the employment and remuneration of labour. Refer to the Basic Conditions of Employment Act, 1997 (Act No 75 of 1997) as amended by the requirements of the Expanded Public Works Programme (EPWP).

C2.2 DEFINITIONS AND ABBREVIATIONS

For the purposes of this Specification, the definitions given in the Conditions of Contract, the Standardized Specifications and the Project Specifications, together with the following additional definitions shall, unless the context dictates otherwise, apply:

- (a) **"Key personnel"** means all Contract Managers, Site Agents, materials and survey technicians, trainers, supervisors, foremen, skilled plant operators and the like, and all other personnel in the permanent employ of the Contractor or subcontractor who possess special skills and/or who play key roles in the Contractor's or subcontractor's operation.
- (b) **"Targeted worker"** shall have the meaning given in SANS 1914-5.

- (c) **"Worker"** means any worker, not being a local worker.
- (d) **"Project Coordinating Committee"** means a committee consisting of the Employer's Agent, the Contractor (or their nominated representatives), as well as representatives of the local community and other interested parties, which is convened from time to time at the discretion of the Employer's Agent, for the purposes of acting as an avenue for effective communication and liaison between all the parties referred to, in all matters pertaining to the Contract.
- (e) **"Subcontractor"** means any person or group of persons in association, or firm, or body corporate (whether formally constituted or otherwise) not being the Contractor, to whom specific portions or aspects of the Works are sublet or subcontracted by the Contractor in accordance with the provisions of the Contract.
- (f) **"The Contractor"** and **"Contractor"**, without further qualification, means the Contractor as defined in the Conditions of Contract.
- (g) **"Worker"** for the purposes of this Specification means any person, not being one of the Contractor's key personnel, nor any key personnel of any subcontractor, who is engaged by the Contractor, a subcontractor or the Programme Management Unit, to participate in the execution of any part of the Works and shall include unskilled labour, semi-skilled and skilled labour, artisans, clerical workers and the like.
- (h) **"Workforce"** means the aggregate body comprising of all workers and shall, unless the context dictates otherwise, include the workforces of the Contractor and all subcontractors.

C2.3 **STATUS**

Where any provisions or requirements of this Specification are in conflict with anything specified in terms of the EPWP and SANS 1914-5 (Part 5: Participation of targeted labour), the latter two shall prevail.

C3 **ALLOWABLE SOURCES FOR WORKERS**

C3.1 The Contractor shall make maximum use of the human resources existing within the targeted group/community, and accordingly the workers who are to be utilised in the execution of the Works shall comprise only targeted workers (as defined in SANS 1914:2002 attached as Appendix C).

C3.2 Notwithstanding the provisions of sub-clause C3.1, the Employer's Agent may at his discretion, upon receipt of a written and fully motivated application from the Contractor and where he deems the circumstances so warrant, authorise in writing that non-targeted workers, not being his key personnel, be included in the workforce. Without limiting the generality of application of this sub-clause, circumstances which may be considered by the Employer's Agent to warrant such authorisation of the inclusion in the temporary workforce of non-targeted workers, may include:

- (a) the unavailability of sufficient numbers of local workers to execute the Works, provided always that the Contractor has proven that he has exercised his best endeavours and taken all reasonable actions to recruit sufficient local workers and has exhausted all reasonable recruitment options;
- (b) the unavailability within the local community, of sufficient of the required skills necessary for the execution of the Works or specific portions thereof, in cases where the completion period allowed in the Contract is insufficient to facilitate the

creation of the necessary skills through the provision of training as contemplated in this Contract;

- (c) any other circumstances which the Employer's Agent may deem as constituting a warrant.

C4 EMPLOYMENT GENERATION

C4.1 CRITERIA

The Contractor shall give no preference to any particular gender, and the requirement of this specification is to ensure that at least 50% women and 50% youth be employed on this Contract.

C4.2 UNITS OF MEASURE

Through the execution by labour-intensive construction methods included in the contract, temporary employment opportunities are to be created by the Contractor in the course of the Contract.

The numbers of employment opportunities will be measured in terms of "man-days" and the minimum task rate payable to workers employed in terms of the EPWP shall be as specified in clause 1.1.2 of A5.2.3 (h).

C4.3 EMPLOYMENT RECORDS TO BE PROVIDED

C4.3.1 The Contractor shall maintain accurate and comprehensive records, as required in terms of Clause 13 of clause 4.6 of Contract Data: Labour Laws, of all workers engaged on the Contract and shall provide the to the Employer's Agent at two-weekly intervals from the commencement of the Contract, interim records substantiating the actual numbers of employment opportunities which have been generated to date and the amounts actually paid in respect thereof. Such interim records shall be in a format approved by the Employer's Agent.

C4.3.2 The Contractor shall, on completion of the Contract, and as a prerequisite event to the release of any retention money or retention money guarantees in terms of the Conditions of Contract, provide the Employer's Agent with independently audited documentary evidence of the total number of employment opportunities actually generated during the Contract.

C4.4 VARIATIONS IN WORKER PRODUCTION RATES

Notwithstanding anything to the contrary as may be stated in or inferred from any other provision of this Contract, the Contractor shall not be entitled to any additional payment or compensation whatsoever, in respect of any differences as may result between the production rates actually achieved by workers in the course of the execution of the Works and those production rates on which he based his tendered labour requirements.

C4.5 TERMS AND CONDITIONS OF EMPLOYMENT

The employment of all labour shall be done in terms of Labour Laws (refer clause 4.6 of Contract Data) and requirements of the EPWP.

C4.6 WRITTEN EMPLOYMENT AGREEMENT

The Contractor shall enter into a written agreement with each and every worker engaged by him on the Contract, which agreement shall be compliant with the requirements of clause 12 of Labour Laws (refer clause 4.6 of Contract Data). Copies of all such agreements shall be forwarded without delay to the Employer's Agent.

C4.7 CONTRACTOR TO EXPLAIN

The Contractor shall, before entering into any such Labour Agreement with any worker, explain the meaning and impact of the entire contents of the agreement and

shall ensure that the worker fully understands his liabilities, obligations and rights under the employment agreement.

C4.8 PAYMENT OF WORKERS

All amounts due to the employer shall be made in terms of clause 14 of Labour Laws (refer clause 4.6 of Contract Data).

C5 TRAINING OF THE WORKFORCE

The Contractor shall be responsible for the provision, at his own cost, of all training of the workers, as may be necessary for the achievement of the execution and completion of the Works over and above the training specified in the terms and conditions of the Contract. The cost thereof will be deemed included in the unit rates tendered.

C6 RECRUITMENT AND SELECTION PROCEDURES

The Contractor shall be responsible for the recruitment and selection of workers to constitute the temporary workforce but in doing so, shall adhere to the procedures and principles set out below.

C6.1 The Contractor shall advise the Employer's Agent in writing, of the numbers of each category of worker, which he requires, together with the personal attributes which he considers desirable that each category of worker shall possess (taking due cognisance of the provisions of the Contract pertaining to training).

C6.2 The Contractor shall, at his own cost, take all necessary actions to advertise within the local community comprising the allowable personnel resources, the fact that employment opportunities exist in respect of the EPWP and the time and place where recruiting will occur.

C6.3 The Contractor shall record in writing, the details of all persons applying for employment, including *inter alia*:

- (a) Name, address, age and sex
- (b) Marital status and number of dependants
- (c) Qualifications and previous work experience (whether substantiated or not)
- (d) Period since last economically active
- (e) Preference for type of work or task.

C6.4 The Contractor shall make his selection of workers from amongst the applicants, in accordance with the described below, taking due cognisance of his requirements for the workforce and the provisions of the Contract in regard to the provision of training to the workforce:

- (a) No potential worker shall be precluded from being employed by the Contractor on the execution of the Works, by virtue of his lack of skill in any suitable operation forming part of the Works, unless:
 - (i) all available vacancies have been or can be filled by workers who already possess suitable skills; or
 - (ii) the completion period allowed in the Contract, or the remaining portion of the Contract Period (as the case may be) is insufficient to facilitate the creation of

the necessary skills.

- (b) Preference shall be given to the long-term unemployed and single heads of households irrespective of gender.
- (c) The Contractor shall, in so far as is reasonably practicable, give priority to accommodating the applicants' expressed preferences regarding the types of work for which they are selected.
- (d) The selection process shall not be prejudicial to youth over the age of eighteen years and women.

C6.5 After making his selection the Contractor shall advise the Employer's Agent thereof in writing.

C6.6 The provisions of this clause C6 shall apply *mutatis mutandis* in respect of the selection of additional or replacement members of the workforce as may be necessary from time to time during the Contract.

C7 **TERMS AND CONDITIONS PERTAINING TO THE EMPLOYMENT OF THE TEMPORARY WORKFORCE**

All workers shall be engaged in accordance with the provisions of Labour Laws (clause 4.6 of Contract Data) and the EPWP.

C8 **LABOUR RELATIONS AND WORKER GRIEVANCE PROCEDURES**

C8.1 The Contractor shall at his own cost be fully responsible for the establishment and maintenance of satisfactory labour relations on Site and the resolution of all grievances of temporary workers as may occur.

C8.2 The Contractor shall at all times adhere to the accepted norms and standards of labour relations prevailing generally in the Civil Employer's Agenting Construction Industry and shall conduct himself in a fair and reasonable manner, within the constraints as may be imposed upon him by the terms of the Contract.

C8.3 In the event of any worker engaged by the Contractor in terms of the Contract, being aggrieved on any issue, he shall have the right, at his discretion, to be supported in any inquiry or disciplinary hearing or investigation instituted by the Contractor in terms of sub-clause C8.2 above, by one member of the workforce and one community representative who is a member of the Project Coordinating Committee, which persons shall be nominated by the worker.

C8.4 In the event of any grievance not being satisfactorily resolved through the application of normal dispute resolution procedures in accordance with sub-clauses C8.2 and C8.3, then either the Contractor or the worker concerned may require that the matter be referred to the Project Coordinating Committee for further consideration, with a view to facilitating resolution thereof.

C9 **MEASUREMENT AND PAYMENT**

The Contractor will not be separately reimbursed or compensated in respect of the provision of the workforce and the creation of employment opportunities and all the Contractor's costs associated with compliance with the provisions of this Particular Specification shall, as relevant, be deemed to be included in the rates tendered for the various items of work listed in the Schedule of Quantities.

SPECIFICATION PD: TASK WORK

D1	SCOPE
D2	INTERPRETATIONS
D3	ALLOWABLE WORKER SOURCES
D4	TASK WORK
D5	LABOUR RELATIONS AND GRIEVANCE PROCEDURES
D6	MEASUREMENT AND PAYMENT
D7	PROPOSED TASK RATES
D8	HAND EXCAVATEABLE MATERIAL

D1 SCOPE

This Particular Specification covers the requirements relating to the workers engaged on the on the Works, on a task work basis.

D2 INTERPRETATIONS

D2.1 SUPPORTING DOCUMENTS

Where this Specification is required for a project, the following documents shall inter-alias be read in conjunction with this Specification:

- (a) The Instructions to Tenderers
- (b) The Conditions of Contract
- (c) The Project Specifications
- (d) The Drawings (where applicable)
- (e) The statutory minimum requirements relating to the employment and remuneration of labour.

D2.2 DEFINITIONS AND ABBREVIATIONS

For the purposes of this Specification, the definitions given in the Conditions of Contract, Standardized Specifications and the Project Specifications, together with the following additional definitions shall apply:

- (a) "**Daily task**" means a task which, under the prevailing conditions, can reasonably be expected to be completed by an average worker or average group of workers within an average normal working day. "**Weekly task**" shall be similarly and appropriately construed.
- (b) "**Daily task**" means that portion of a weekly group task, or weekly individual task, or daily group task as is executed, or to be executed by an individual worker during a single average normal working day.
- (c) "**Daily task rate**" means the rate of remuneration which is paid to an individual worker in respect of an individual daily task.
- (d) "**Task**" means a defined quantity of work to be executed in a pre-defined period of time by a specified number of workers. "**Individual task**" and "group task" shall be similarly and appropriately construed.

- (e) "**Task rate**" means the rate at which workers are remunerated for the completion of a task. "**Daily task rate**" and "weekly task rate" shall have similar meanings.
- (f) "**Task work**" means the engagement of workers on terms and conditions in which they are remunerated only for tasks successfully completed, regardless of the time spent completing the task.

D2.3 STATUS

Unless and to the extent that exemptions from compliance with the statutory requirements are applicable to the project, where the provisions of this Specification are in conflict with any prevailing laws or statutory requirements relating to the terms and conditions of the employment and remuneration of workers, the statutory requirements shall take precedence.

D3 ALLOWABLE WORKER SOURCES

The provisions of Particular Specification Part C shall be applicable in respect of sources which the Contractor may utilise in the recruitment and employment of workers for the Contract, with addition of the following terms and conditions:

- D3.1.1** Workers shall be engaged on a task work basis, as defined in sub-clause D2.3 and as further described in clause D4 below.

D4 TASK WORK

D4.1 FORMULATION OF THE TASKS

D4.1.1 Responsibility

- (a) The Works are specified and measured generally in accordance with the format described in the Standardized Specification or Particular Specifications, and the Contractor shall be responsible for the division of the work into tasks and the formulation of the individual tasks.
- (b) Save and except as provided in the Contract, the formulation of the individual tasks shall be at the Contractor's discretion.

D4.1.2 Documentation

- (a) The Contractor shall, together with the submission of the programme referred to in Clause 12.2 of the Conditions of Contract, provide to the Employer's Agent a full list of all tasks, describing in detail the nature and extent of each task and the numbers of workers to be employed on such tasks.
- (b) Should the Contractor deem it necessary to vary or amend the formulation of tasks at any stage, he shall without delay, provide the Employer's Agent with a revised list indicating all his revisions thereto.
- (c) The submission to and approval by the Employer's Agent of any such list of the task formulation or any revision thereto, shall not relieve the Contractor of any of his liabilities under the Contract and shall not limit the right of the Employer's Agent to instruct the Contractor to vary the formulation of tasks should the circumstances so warrant.

D4.2 STRUCTURE AND EXTENT OF TASKS

- D4.2.1** A task shall, in accordance with the provisions of sub-clause D4.1.1 above and Contract Data: Labour Laws, be determined by the Contractor on the basis of what an average worker from his labour force can reasonably be expected to complete in a **standard 8-hour working day**, taking due cognisance of the specific prevailing physical conditions on the Site (including soil character, hardness and density, climatic conditions, difficulty of the work) and other regulatory conditions (e.g. meal break, etc).
- D4.2.2** Unless the circumstances preclude, tasks shall be formulated on the basis of daily tasks. Where the nature of the work is such that the formulation of the task on a daily task basis is impractical, such tasks may be formulated as weekly tasks.
- D4.2.3** The extent of any particular task (e.g. trench excavation) shall be varied on a daily basis to accommodate the hardness of the soil and the difficulty of the specific task for the day.
- D4.2.4** The extent of any particular task shall, as stated above, be based on what the average worker can achieve and shall be identical for all workers. The exploitation of particularly competent and productive workers through the increasing of the extent of their specific tasks shall be strictly prohibited.
- D4.2.5** Tasks shall wherever possible be structured as individual tasks for each worker. Notwithstanding, where the nature of the work to be executed is such that the circumstances so warrant, tasks may be formulated as group tasks.
- D4.2.6** Where workers are engaged on work for which no specific productivity can be specified (e.g. during the provision of specific non-productive training, an office cleaning or messenger tasks, etc) the duties which the worker is expected to perform during the normal working day shall never the less be appropriately defined in the format of a daily task, without specific reference to productivity.
- D4.2.7** The Contractor shall formulate all tasks in such a manner as to facilitate the implementation of all training programmes (including any structured training programmes) as provided for in the Contract, and the employment of workers progressively through the various stages of each type of work.

D4.3 DEMARCATION OF TASKS

The Contractor shall at all times, physically and clearly demarcate the extent of each individual or group task in such a manner that the extent of the daily or weekly task of each individual worker or group of workers can be clearly perceived by both the workers and the Employer's Agent.

The Table of Proposed Task Rates included in these Specifications should be used as a base to set out the specific task to an individual worker or group of workers to complete, which shall also be the basis of task rate remuneration explained below.

D4.4 REMUNERATION OF TASK WORKERS

D4.4.1 Base rate for task work remuneration

- (a) The rate at which workers engaged in task work are remunerated for the completion of any particular task, shall be in accordance with the rate of pay set for SPWP projects in clause 19.1.2 of A5.2.3 (h).

- (b) Workers engaged in "non-production" oriented tasks shall be remunerated at a rate which is not less than the applicable daily task rate.
- (c) The daily task rate shall be the same rate for all daily tasks. Differences in the difficulties of the various types of work shall be reflected in the extent of the daily task assigned by the Contractor.
- (d) Where a worker is required by the Contractor to execute task work on a Sunday, the daily task rate shall be doubled.

D4.4.2 Remuneration for completed tasks

Workers engaged in task work activities shall be remunerated at the daily task rate only in respect of completed tasks as specified in Clause 14 of Labour Laws (clause 4.6 of Contract Data).

D4.5 PROVISION OF MATERIALS, TOOLS, PLANT AND EQUIPMENT

D4.5.1 The Contractor shall at his own cost, provide to all workers engaged in task work activities, all materials, tools, Plant, safety clothing and other equipment as may be necessary to facilitate the uninterrupted execution and completion of the respective tasks.

D4.5.2 The Contractor shall ensure that all tools, plant and equipment are at all times maintained in good working condition.

D4.6 VERIFICATION AND ADJUSTMENT OF THE EXTENT OF TASKS

D4.6.1 Irrespective of any deductions made, or inferences which may be drawn by the Contractor for any item in the Schedule of Quantities, where it becomes evident that the extent of the work included by the Contractor in any particular task exceeds the requirements of this Specification, the Contractor shall forthwith reduce the extent of the work included in the task such that it complies with the requirements of this Specification.

D4.6.2 The Employer's Agent shall have the right at any time, to verify that the amount of work included by the Contractor in any general or specific task does not exceed the limits stated in sub-clauses D4.2 and to this end the Contractor shall whenever so required by the Employer's Agent, make available to the Employer's Agent, those workers as may be selected by the Employer's Agent, together with the necessary supervision, and shall physically demonstrate that the task can reasonably be completed by the average worker in the required time.

D4.6.3 Where any such demonstration reveals that the extent of the work included by the Contractor in any task is excessive, the Contractor shall immediately reduce the extent of the task appropriately, so that it complies with the provisions of the Contract.

D4.6.4 All additional costs resulting from the reduction of the extent of any task or tasks in terms of these sub-clauses shall be entirely for the Contractor's account and the Contractor shall have no claim in this regard. Similarly, any delays which may occur, consequent on the reduction of the extent of any task in terms of the said sub-clauses, shall be the Contractor's liability and no claims for extension of time will be considered on such grounds.

D4.7 PRODUCTION OF TASK WORKERS

D4.7.1 Non-productive workers

The Termination of a worker shall be done in accordance with clause 18 of Labour Laws (clause 4.6 of Contract Data). Examples of poor work performance shall include, but not necessarily be limited to cases where:

- (a) the worker has taken more than three (3) times the specified time to complete the task; or
- (b) the low production level of a particular worker involved in group tasks is persistently objected to by the group and is severely affecting the group's productivity;

Provided always that the worker cannot be accommodated on other tasks at which he is more capable.

D4.7.2 Contractor's liability

The Contractor shall remain fully responsible for the employment of sufficient task workers, the provision of sufficient skilled and competent key personnel and trainers to ensure that the production achieved by the task workers and the quality of their work is adequate to construct and complete the project in accordance with the requirements of the Contract.

D4.8 CERTIFICATE OF SERVICE

Every worker engaged on the Contract shall on the termination of his participation on the Contract, be entitled to receive from the Contractor, a certificate of service in which the information as specified in clause 19 of Labour Laws (clause 4.6 of Contract Data) shall be recorded.

D5 LABOUR RELATIONS AND GRIEVANCE PROCEDURES

The provisions of Labour Laws (clause 4.6 of Contract Data) shall be applicable.

D6 MEASUREMENT AND PAYMENT

The recruitment of the labour force, the formulation of tasks and the appropriate organisation, supervision and execution of task work will not be separately nor directly measured and paid for and all costs associated therewith shall be deemed to be included in the various rates and prices tendered for the various items of work as listed in the Schedule of Quantities.

D7 PROPOSED TASK RATES

For proposed task rates, refer to Table 8.2 under clause A5.2.3 (n) (3) of the Scope of Works.

D8 HAND EXCAVATEABLE MATERIAL

Hand excavate-able material shall be determined in accordance with the classification of material provided in A5.2.3 (n) (2) of the Scope of Works.

C3.5 MANAGEMENT

C3.5.1 MANAGEMENT OF THE WORKS

C3.5.1.1 Applicable SANS and SANS Standards

The provisions of these Specifications take precedence over the provisions of any part of SANS 2001 that is applicable to the contract. The variations and additions to these specifications are described in the section “Applicable SANS 1200 Standardized Specifications”.

The SANS 1200 Standardized Specifications listed in C3.4.1.1 are applicable.

C3.5.1.2 Particular/Generic Specifications

The Particular Specifications listed in C3.4.6 apply to this Contract.

C3.5.1.3 Methods and Procedures

(a) Maintenance of access and streets

The operation of construction vehicles on existing roads or streets, or streets that have been completed to the level of subbase, base or surfaced treatment, shall be limited to the traffic with an axle load not exceeding that allowed by the Road Traffic Ordinance of the authority concerned, or any amendment thereof. Hauling is strictly forbidden on sections of road or streets that have been completed as described above. The Contractor shall make use of a 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 of street. 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, except for payment made under payment item A8.3.2.2 of SANS 1200 A.

Should the Contractor make use of existing roads or streets for haulage, he shall be held responsible to clear the road or street 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.

(a) Blasting operation

All blasting shall be carried out by a competent, registered blaster. The blaster shall furnish to the Employer's Agent copies of all the permits required to purchase, transport, use and dispose of unused blasting material. The Contractor shall inform the commander of the local SAPS at least 1 day prior to the date and time blasting is about to take place.

No blasting operations shall take place on weekends or holidays or week days after 17h00.

The Contractor shall ensure that sufficient suitable material, to the satisfaction of the blaster, is available and in place before the blast is initiated. The Contractor shall be

responsible to note in writing (photographs) the structural status of structures before blasting for comparison after blasting.

(c) Normal working hours

Normal working hours shall be from 07h00 until 17h00 on weekdays from Monday to Friday. It shall be from 07h00 until 13h00 on Saturdays.

Work on other days will only be allowed after written approval has been granted by the Employer's Agent.

(d) Interference with municipal staff and operations

The Contractor shall ensure that none of his staff interfere in any way with any municipal staff member or their functions or with the operations of the water treatment works in any way.

Any person ignoring this shall be removed permanently from site, all at the expense of the Contractor.

(e) Access for other contractors

The Contractor shall provide reasonable access to other Contractors carrying out work on the site from time to time, as and when such access is required. The Contractor is entitled to request reasonable notification of at least 24 hours before access by others is required.

The contractual responsibilities of the Contractor shall remain in full force in spite of the other Contractors having access to the site.

(f) Giving notice of work to be covered up

The Contractor shall give the Employer's Agent 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 Employer's Agent found that the works or materials are not yet ready for inspection, the Contractor shall reimburse the Employer's Agent within 30 days of invoice for all expenses incurred as a result.

(g) Sequence of the works

The Contractor shall arrange with the mechanical and electrical Contractor and the Employer's Agent the sequence of the works to ensure the existing plant remains in operation.

C3.5.1.4 Quality plans and control (Testing)

Refer to Section C3.4.2.5 (b).

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, hostels, offices, lay down yards, 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 Employer's Agent.

(b) Construction camp

The Contractor shall provide the Employer's Agent with a plan showing the positions of all buildings, yards, vehicle wash areas, batching areas and other infrastructure for approval by the Employer's Agent at least ten (10) days prior to the commencement date.

(c) Fencing of site

If a temporary fence is required, 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 Employer's Agent.

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) Workshops

All workshops shall be located inside the demarcated construction camp area as approved by the Employer's Agent prior to establishment. The workshop shall have a smooth impermeable concrete floor sloped to one side where oil is trapped in an oil trap or sump to contain any spillages of substances such as oil.

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

(e) Eating areas

The Contractor's employees shall eat in a designated eating area indicated on the drawing approved by the Employer's Agent. The Contractor shall provide adequate shade and provide scavenger proof and waterproof refuse bins. Cooking will only take place in this area on well maintained gas cookers with fire extinguishers present. Open fires other than the gas cookers shall not be allowed.

(f) Watchmen

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

(g) Ablution facilities

The exact location of toilets shall be approved by the Employer's Agent. 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 Employer's Agent. Burial of waste on site is strictly forbidden. Leaking or broken toilets shall be removed and replaced immediately by the Contractor.

(h) 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 Employer's Agent 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.

(i) Wastewater

Water shall be used sparingly on site. Where possible, wastewater shall be recycled. A wastewater management plan shall be submitted to the Employer's Agent for approval 10 days prior to the commencement date.

The management plan shall detail the expected extent of the contamination of each wastewater stream and how the Contractor plans to deal with it.

Wastewater shall be prevented from flowing into the Olifants River.

(j) Fuel storage area

Fuel shall be stored on site in a depot at a location as agreed with the Employer's Agent. 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.

(k) Concrete batching area

Cement and concrete is hazardous to the environment due to the high pH of the material and the chemicals it contains.

The Contractor shall furnish to the Employer's Agent for approval a method statement for the mixing of concrete. Concrete shall not be mixed directly on the ground. Care must be taken to ensure that wastewater and contaminated material is collected and disposed of correctly.

(l) 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 Employer's Agent 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 Employer's Agent.

(m) 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 the 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 Employer's Agent 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 Employer's Agent.

Where possible, the Contractor shall ensure that the refuelling of vehicles takes place only at the fuel storage area in the construction camp. If this is not possible, the Contractor shall obtain permission from the Employer's Agent to refuel at any other place. Contaminated material and wastewater at the refuelling area shall be contained and disposed of correctly.

(n) Emergency procedures

The Contractor shall ensure that emergency procedures for the following situations are submitted for approval to the Employer's Agent;

Fire – the Contractor shall inform the relevant authority immediately as soon as a fire starts. The Contractor shall ensure that his staff and subcontractors are fully aware of the procedures to be followed in the event of a fire.

Spillages – the Contractor shall ensure that his staff and subcontractors are fully aware of the procedures to be followed in the event of a spillage. The Employer's Agent must be informed immediately about a spill. The Contractor shall ensure that the necessary materials and equipment is on site to deal with spills and leaks. The cleanup of spills and leaks shall be for the account of the Contractor.

(o) Care of surrounding areas

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

C3.5.1.6 Planning and programming

Early completion of the extensions to the water treatment works is important.

The existing water treatment works must remain fully operational.

Immediately after handing over the site, the Employer's Agent 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 the mechanical and electrical Contractor is not unnecessarily delayed by the Contractor.

Before handing over a structure to the mechanical and electrical Contractor for the installation of mechanical and or electrical equipment, the Contractor shall ensure the absence of scaffolding, formwork, building materials, rubble or open trenches.

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

C3.5.1.7 Other Contractors on site

A mechanical and electrical Contractor will be on site during the latter part of the contract period to install mechanical and electrical equipment. Close cooperation is required between the Contractor and this mechanical and electrical Contractor to ensure neither delays the other.

C3.5.1.8 Recording of weather

The Contractor shall record the weather conditions on a daily basis in the site diary. Rainfall figures and strong wind which could delay the Works shall be noted, recorded and confirmed by the signature of the Employer's Agent's Representative on site.

C3.5.1.9 Format of communications

All communication regarding the Contract shall be channelled through the Employer's Agent or his representative. Formal contractual communication shall be in writing.

Instructions will only be given by the Employer's Agent or his representative. The Contractor shall not take any instructions from the Employer, the local municipality or the superintendent or operators.

C3.5.1.10 Progress meetings, 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 also ensure that the CLO attend all such meetings.

The Contractor shall furnish to the Employer's Agent a Gantt chart programme with the critical path indicated in red. This shall be done on MS Project and shall be furnished in hard copy and electronically to the Employer's Agent.

C3.5.1.11 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.

All visitors shall be required by the CLO to complete the site diary.

C3.5.1.12 Site Instructions

Only the Employer's Agent or his representative 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.

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 Employer's Agent 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 Employer's Agent.

The Health and Safety Specification is attached as section C3.4.6 and must be referred to when compiling the Health and Safety Plan.

(a) Construction Regulations, 2014

The Contractor shall be required to comply with the Occupational Health and Safety Act, 1993: Construction Regulations, 2014 (the regulations) as promulgated in Government Gazette No 25207 and Regulation Gazette No 37305 of 7 February 2014. Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.

The proposed type of work, materials to be used and potential hazards likely to be encountered on this Contract are detailed in the Project Specifications, Schedule of Quantity and Drawings, as well as in the Employers' Health and Safety Specifications (regulation 5(1)) of the Construction Regulations 2014.

The Contractor shall in terms of regulation 7(1) provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the Employer.

The Contractor shall at all times be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

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.

C3.6.2 PROTECTION OF THE PUBLIC

The site is not accessible to the general public. However, the existing water treatment works must remain in operation for the duration of the Contract. The Contractor shall ensure that all personnel entering the construction site is fully informed about the dangers, dos and don'ts on the site. The Contractor shall ensure that non-construction personnel are protected within the guidelines of the OHS Regulations.

C3.6.3 BARRICADES AND LIGHTING

All excavations and openings in walls and slabs into which or through which a person may fall, shall be securely barricaded in accordance with the requirements of the applicable OHS Regulations.

C3.6.4 VEHICULAR AND PEOPLE TRAFFIC CONTROL

The Safety Officer shall take full responsibility for the vehicular and people traffic control in and around the site. The personnel of the existing water treatment works shall be fully informed and trained by the Safety Officer if required.

C3.6.5 MEASURES AGAINST DISEASE AND EPIDEMICS

No particular measures have to be taken against disease and epidemics on site.

Untreated water from the Olifants River may not be used for human consumption on the Site.

C3.6.6 AIDS AWARENESS

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

PART 4: SITE INFORMATION

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C4 SITE INFORMATION

C4.1 GENERAL

This section describes the site at the time of tender to enable the tenderer to familiarise and to decide upon his method of working and programming and risks.

C4.2 SITE LOCATION

The sites are situated within the Abaqulusi Municipality area.



C4.3 ACCESS TO SITE AND RESTRICTIONS

Permission as may become necessary shall be the responsibility of the Contractor to obtain.

Having been granted access to works areas by the Employer, other service authorities and private owners, the Contractor shall adhere to any agreed conditions of access and ensure the works area is left in a condition similar to when it was first accessed.

C4.4 SECURITY

The Contractor shall be responsible for the security of his personnel, materials, equipment and construction plant on and around the site of the Works and for the security of his camp (if applicable). The Employer in this regard will consider no claims.

C4.5. BORROW-PIT

The contractor must take note that the borrow-pit may be available from 1km up to 40km away from site and the road leading to the borrow-pit may result uneven and in natural gravel. The contractor is advised to take note and price accordingly that all necessary costs are factored within the haulage rate. There will be no additional compensation that will be allowed should the contractor fail to take note of the above statement and client may not be held liable for any loss or damage of plant and any property during the haulage.

Kindly note when sourcing G2 crushed material the rate be based on the worst-case scenario, material normally is available from Glencoe quarry which is 75km away from site. A tendered rate for subitem (b) shall include full compensation for procuring and providing the material from commercial source and hauling it from the source to the point on the site where required and processing.

PRO FORMA

EXPANDED PUBLIC WORKS PROGRAMME
CONTRACT OF EMPLOYMENT BETWEEN

CONTRACTOR

Name:
Address:
ID:

AND

WORKER

Name:
Details:
ID:

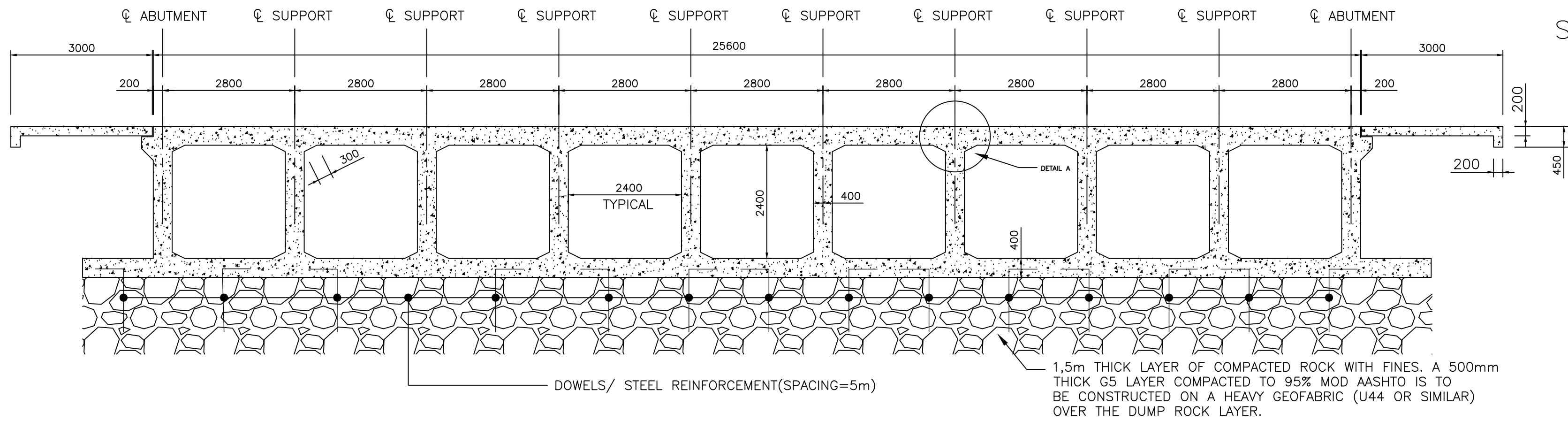
1. I am pleased to confirm that you have been appointed to work on a task based employment contract within the Expanded Public Works Programme (EPWP) project. Within this employment contract you will undertake numerous groups of tasks.
2. This employment contract must be read in conjunction with the standard terms and conditions of employment on EPWP attached herewith.
3. The project where you will be employed is located at.....
4. This employment contract will start on and on end on
5. You must be aware that this employment contract is a limited term contract and not a permanent job. This employment contract may be terminated for any one of the following reasons:
 - a) The contractor does not get additional contracts through the EPWP.
 - b) Funding for the programme in your area comes to an end.
 - c) You repeatedly do not perform in terms of the tasks set out in your work programme.
 - d) You have worked a maximum of 24 months within a 60 month cycle.
6. You will be employed as a within the team.
7. While you are working you will report to
8. Payment
 - a) You will be paid a fixed amount of R..... for completing a fixed amount of work.
 - b) The amount of work required for the agreed rate of pay will vary from task to task. You will be informed at the beginning of each task or group of tasks how much work you are expected to complete per day.
 - c) You will only be paid for work completed.
9. In addition to the conditions above, all the terms and conditions of employment on EPWP apply to your employment. If you breach any of these terms your contract may be terminated.
10. Signatures:
Signed on this day of.....

Contractor: Date:

Worker: Date:

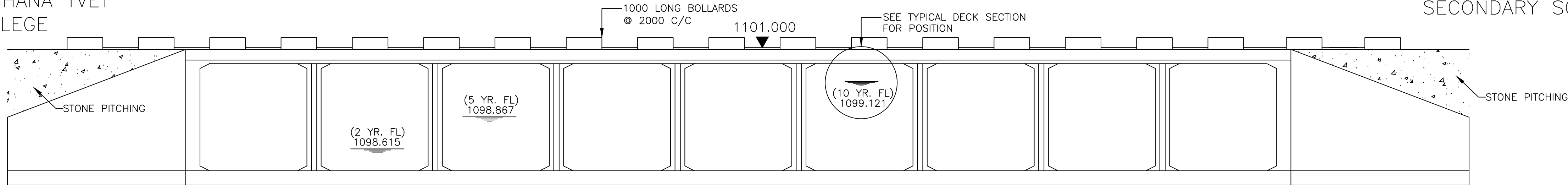
Witness: Date:

TO MTHASHANA TVET COLLEGE



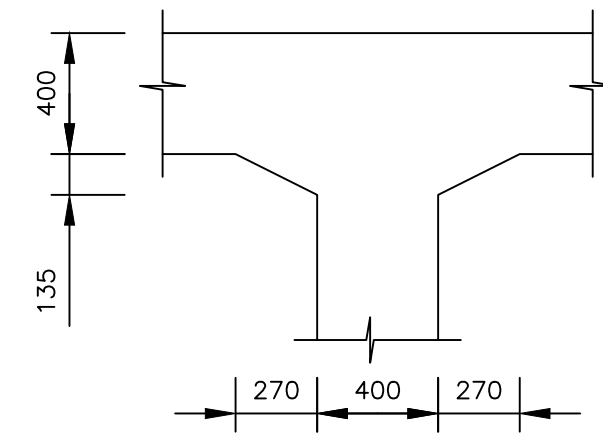
LONGITUDINAL SECTION
SCALE 1 : 75

TO MTHASHANA TVET COLLEGE



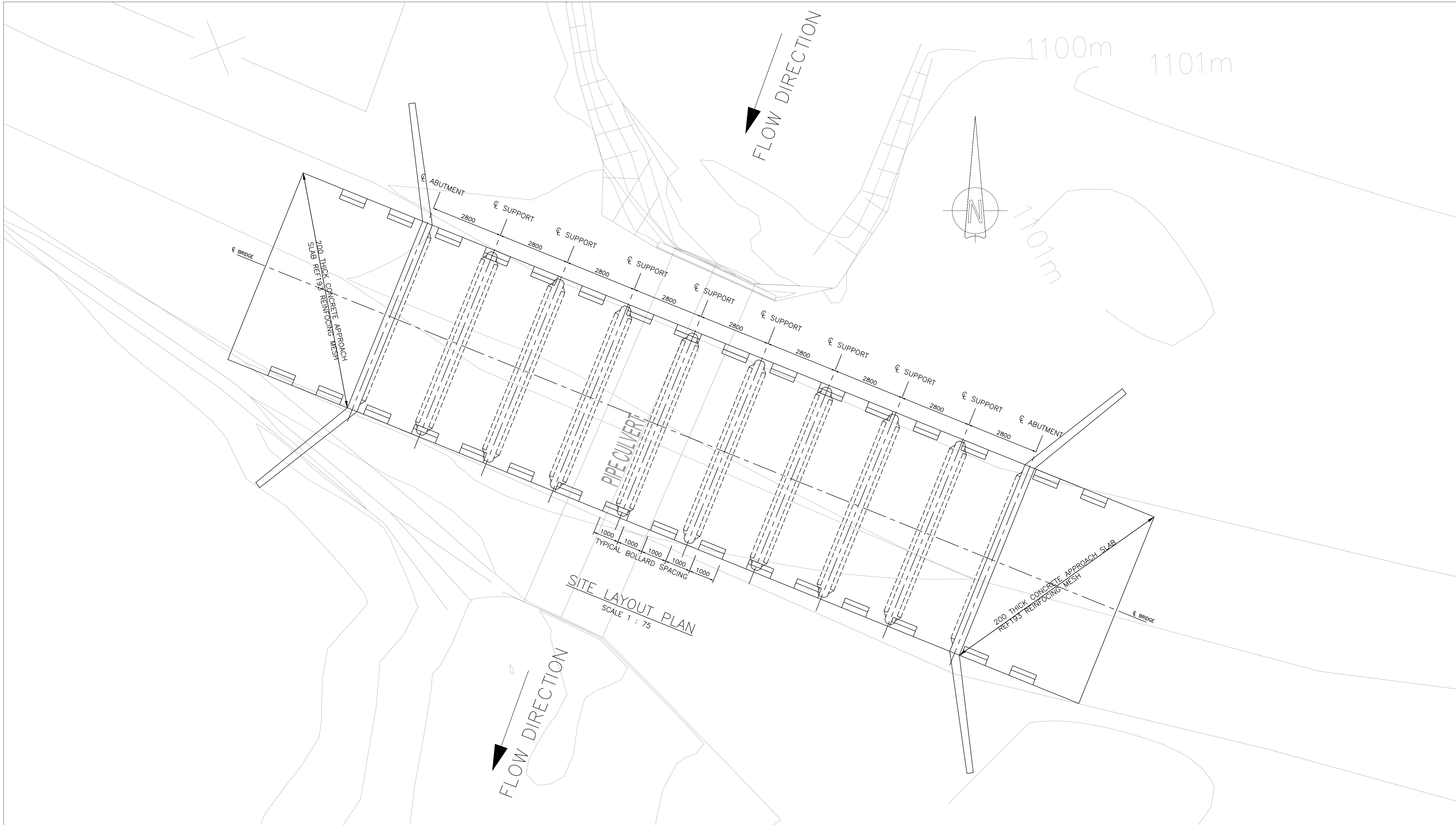
LONGITUDINAL ELEVATION
SCALE 1 : 75

TO KWABHANYA SECONDARY SCHOOL



DETAIL A
SCALE 1 : 25

TO KWABHANYA SECONDARY SCHOOL



NOTES

- DESCRIPTION OF STRUCTURE
THE STRUCTURE IS A THREE CELL (2.4 x 2.4) REINFORCED CONCRETE CULVERT.
THE ABUTMENTS ARE BOX TYPE SUPPORTED ON A REINFORCED CONCRETE SLAB
- DESIGN CRITERIA
THE BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH
TMH 7 PARTS 1, 2 & 3 (AS AMENDED 1989)
LIVE LOAD : NA
- STRUCTURAL ANALYSIS & PARAMETERS
THE STRUCTURE HAS BEEN DESIGNED USING ELASTIC ANALYSIS
& LIMIT STATE DESIGN METHODS IN ACCORDANCE WITH TMH 7

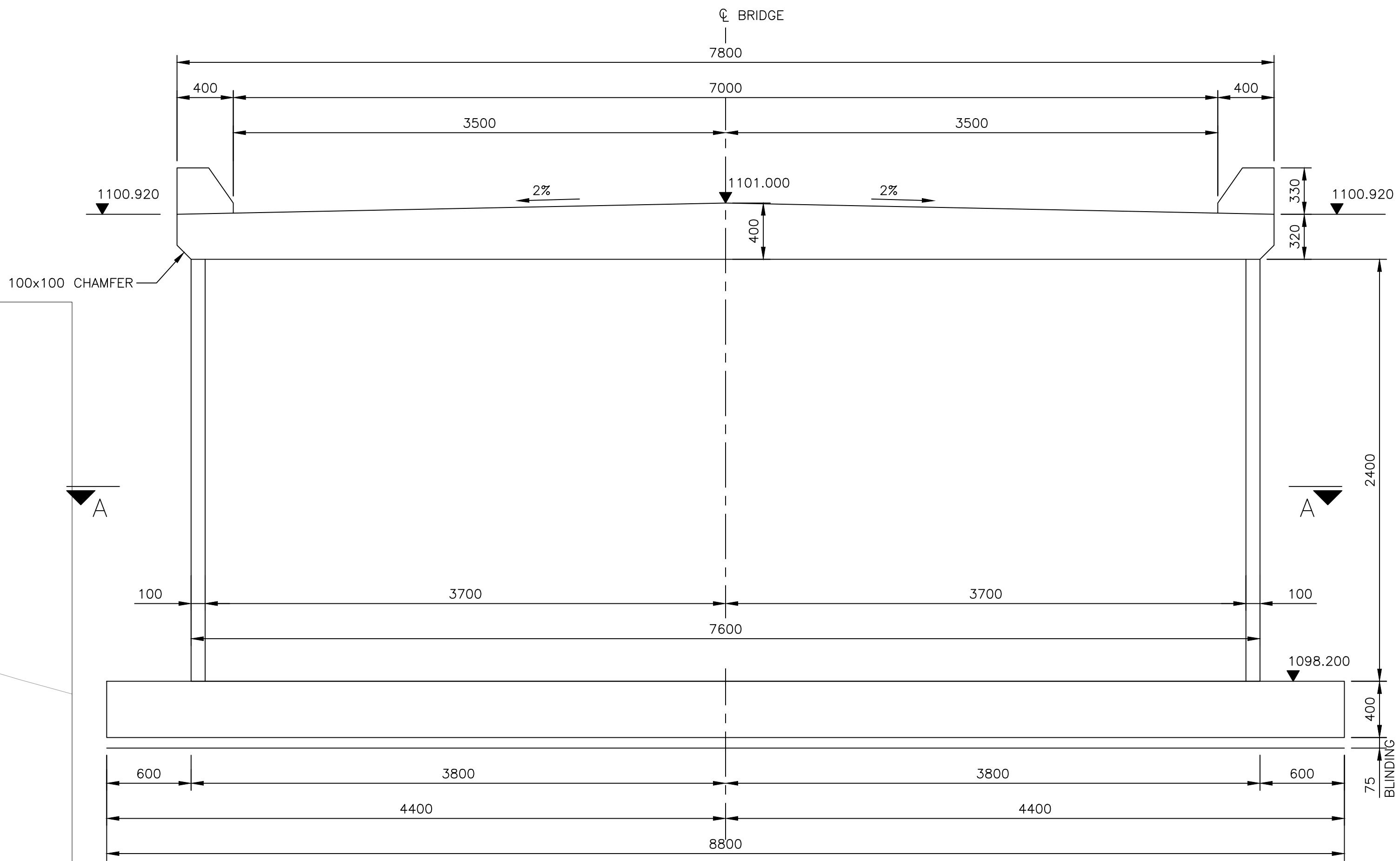
- DENSITIES : CONCRETE : 2550 kg/m³
FILL MATERIAL : 2000 kg/m³
- LATERAL EARTH PRESSURE : 5,6 kN/m²/m
- YOUNGS MODULUS : CONCRETE : 30 MPa : 28 GPa
STEEL : 40 MPa : 31 GPa
200 GPa

- QUALITY OF MATERIALS
4.1 REINFORCING STEEL OF SABS 920
CHARACTERISTIC STRENGTH
MILD STEEL : 250 MPa
HIGH YIELD STEEL : 450 MPa

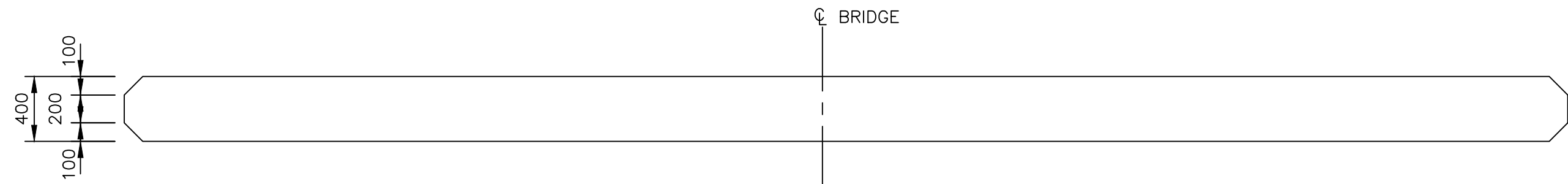
- CONCRETE CLASS CHARACTERISTIC STRENGTH
BLINDING 15/19 MPa/mm 15 MPa
FOUNDATION SLAB 30/19 MPa/mm 30 MPa
ABUTMENTS 30/19 MPa/mm 30 MPa
PIERS 30/19 MPa/mm 30 MPa
DECK 30/19 MPa/mm 30 MPa
BOLLARDS 30/19 MPa/mm 30 MPa

- FOUNDING MATERIAL : ENGINEERED ROCK-FILL
ALLOWABLE BEARING PRESSURE : 100 KPa

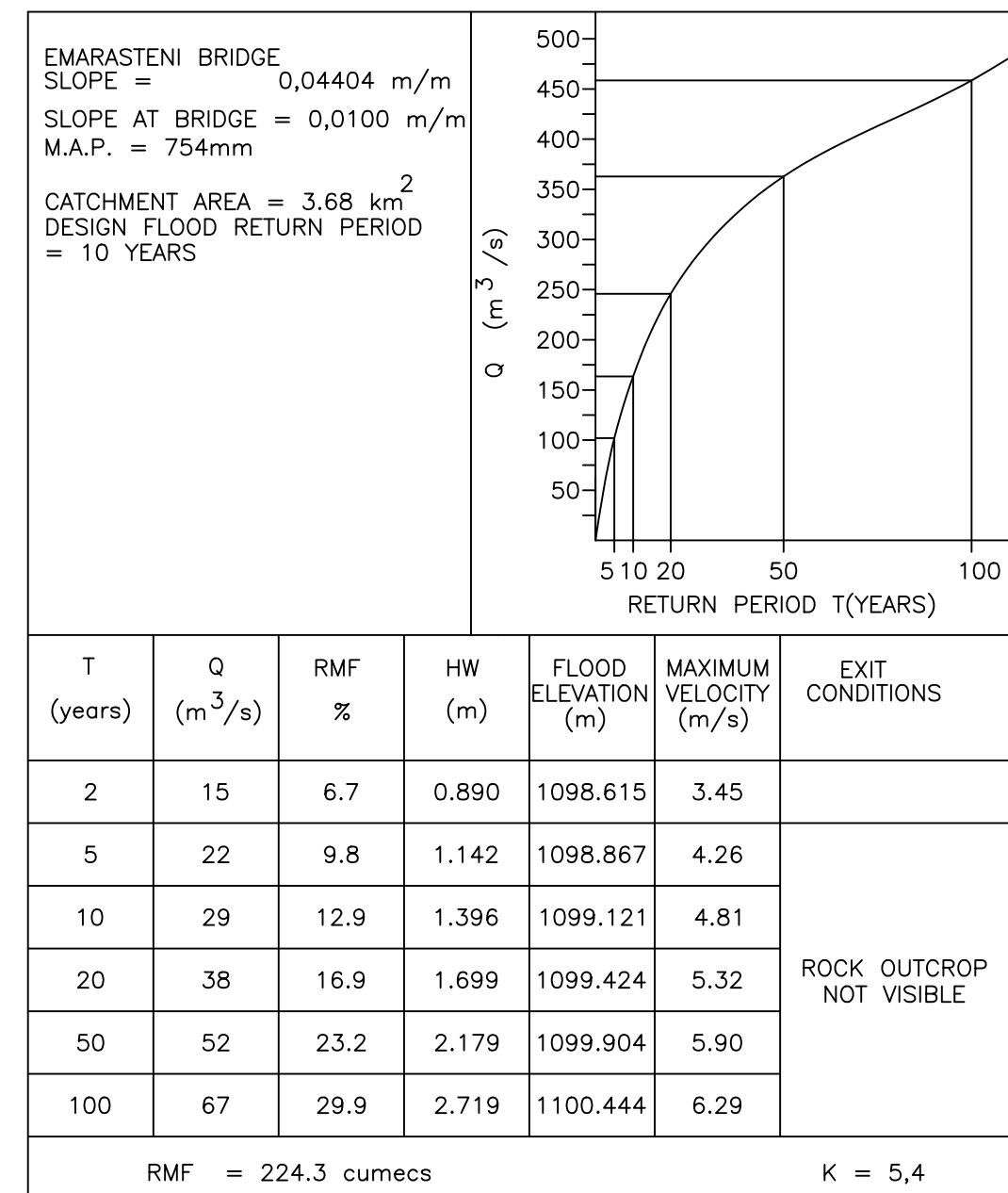
- CONSTRUCTION REQUIREMENTS
5.1 FINISHES
ALL UNEXPOSED FORMED SUBSTRUCTURE SURFACES : F1
ALL EXPOSED FORMED SUBSTRUCTURE SURFACES : F2
ALL FORMED DECK SURFACES : F3
- CONCRETE COVER
BASES : 50mm
ABUTMENTS : 40mm
PIERS : 40mm
DECK : 40mm
BOLLARDS : 40mm
- CHAMFERS ON ALL SHARP EDGES : 25mm x 25mm
GENERALLY BOLLARDS : 15mm x 15mm



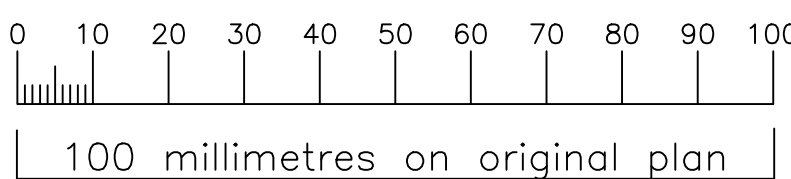
TYPICAL DECK SECTION
SCALE 1 : 25



SECTION A-A
SCALE 1 : 25



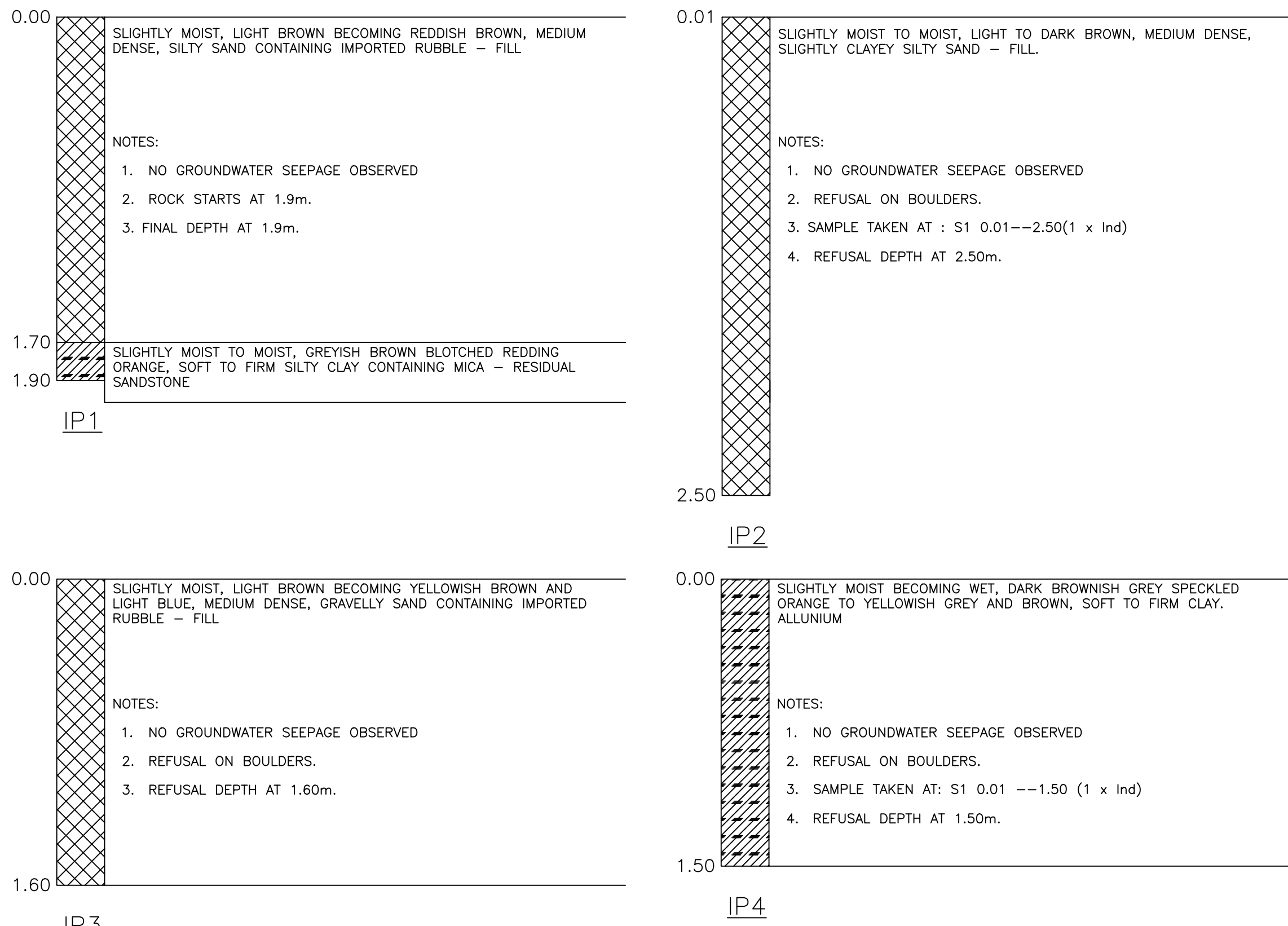
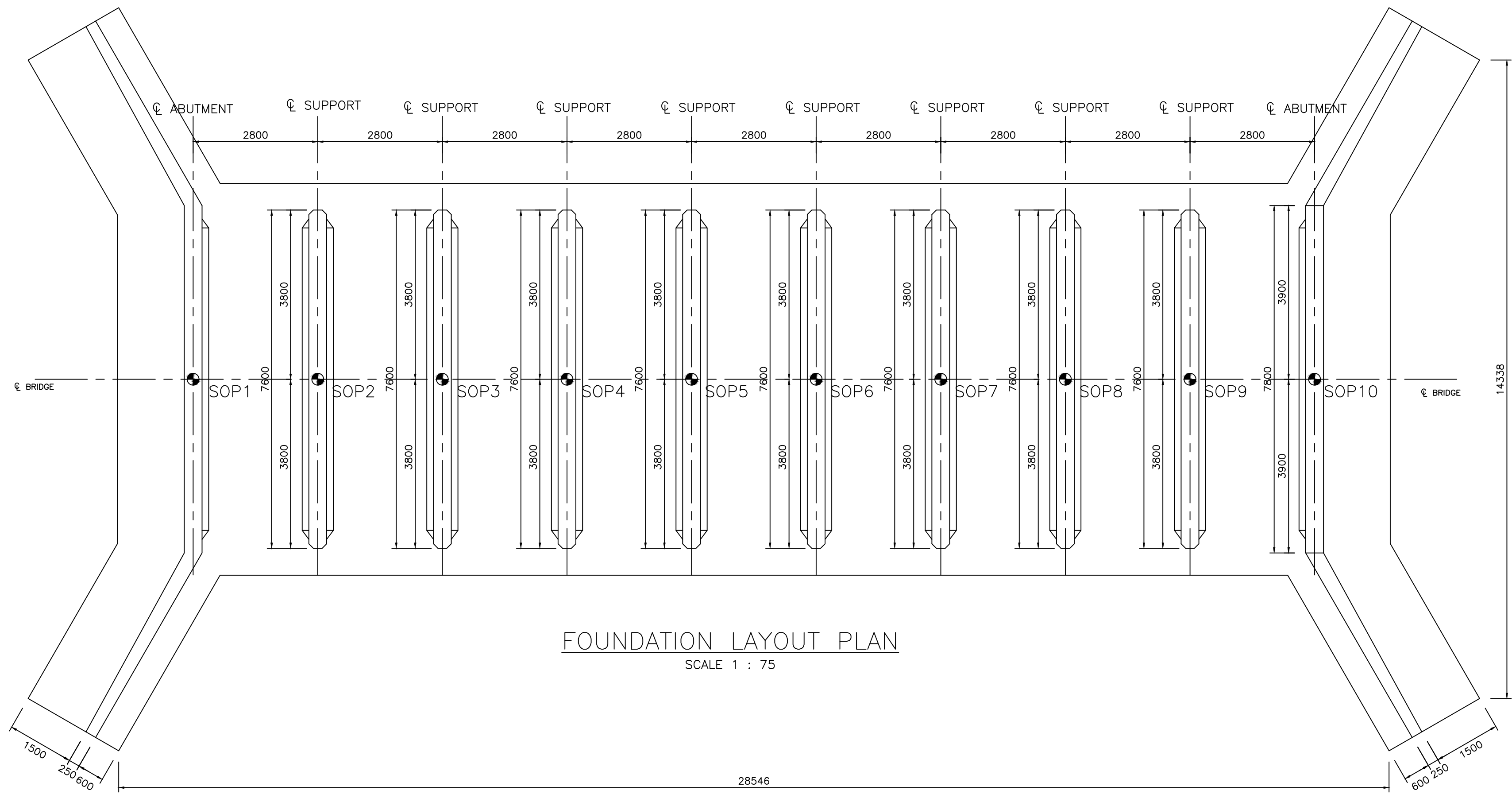
HYDRAULIC & HYDROLOGIC DATA



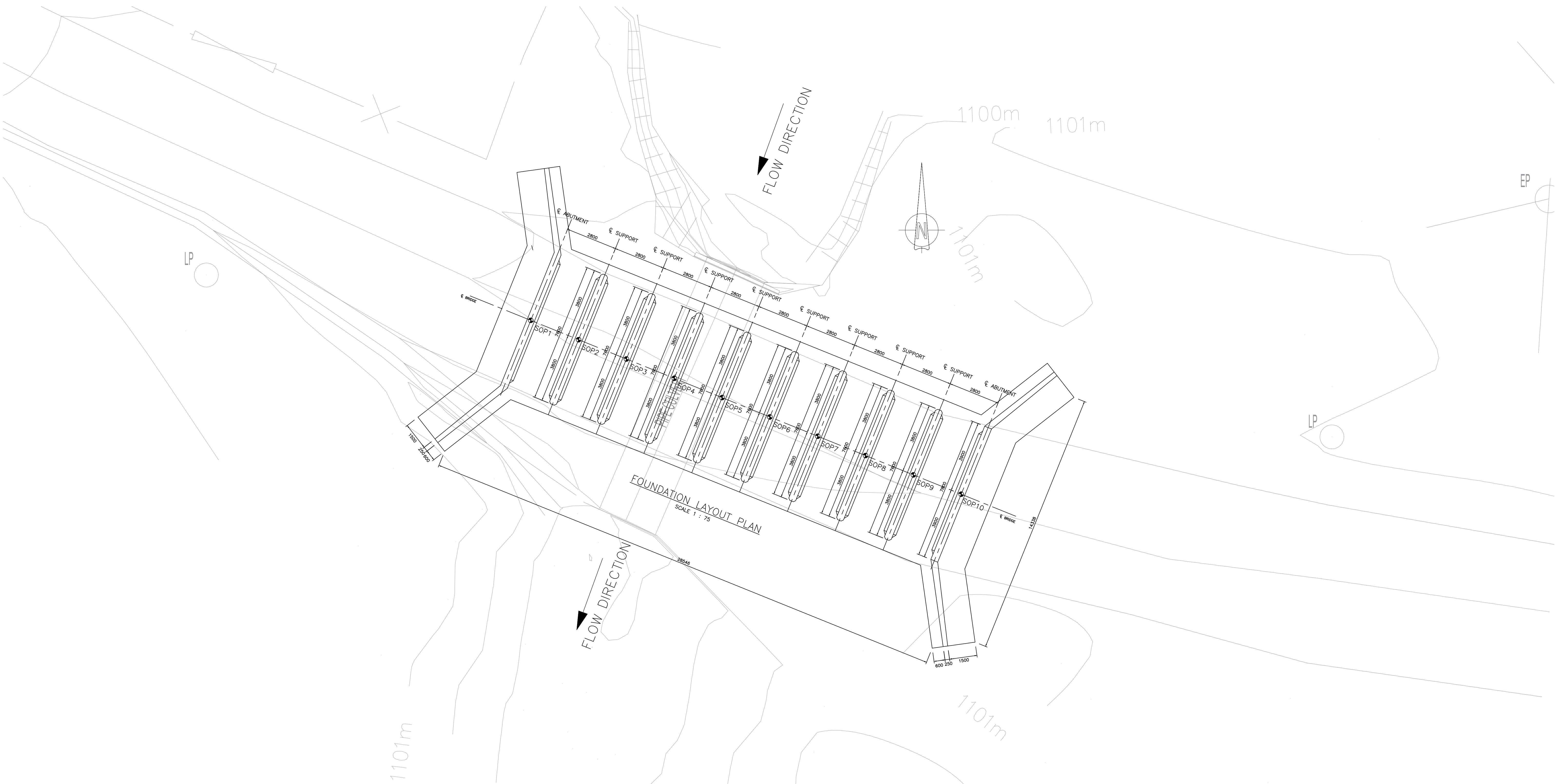
			AS BUILT		CAD File Ref:--	Designed by : S. MHLONGO	ABAQULUSI MUNICIPALITY 	DESIGNED BY:  22 MONTROSE BOULEVARD VICTORIA COUNTRY CLUB ESTATE PIETERMARITZBURG 3201 TEL No. 033 347 0325 FAX No. 086 666 8203	Bridge Engineer	Y = 17 357.250 X = 3 074 934.209			Staked km distance	Sheet : 1 of : 4
			Supervising Engineer	Date	File Ref:--	Checked by : J. KUNZE			Head: Bridge Office				Scale	Plan No :
			Description	Checked	Signed	Drawn by : S. MHLONGO							AS SHOWN	305/ST/001
			Supervising Authority			Checked by : J. KUNZE								
			AMENDMENTS											

THE CONSTRUCTION OF EMARASTENI BRIDGE

GENERAL ARRANGEMENT

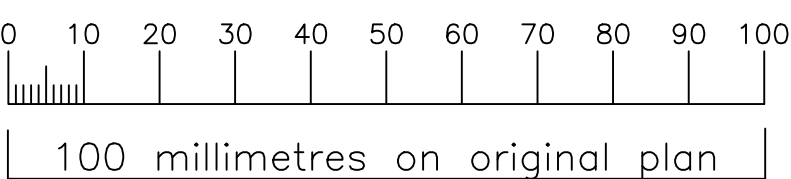


GEOTECHNICAL INVESTIGATIONS
N.T.S

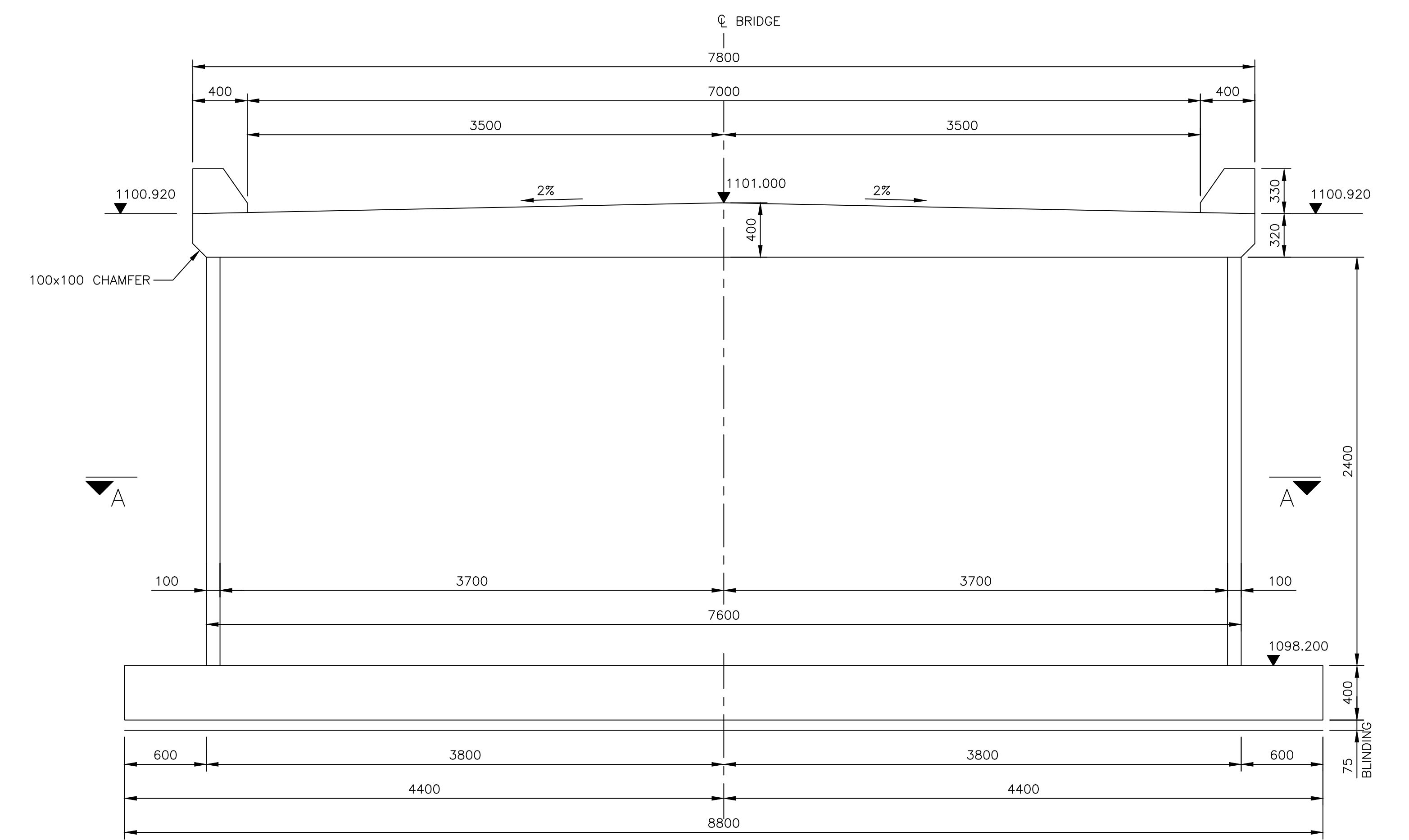


SETTING-OUT CO-ORDINATES WGS84 31°			
STATION	INTERNATIONAL METRES		TOP OF BLINDING ELEVATION
	Y	X	
SOP 1	17 367.635	3 074 930.013	1101.000
SOP 2	17 365.039	3 074 931.062	1101.000
SOP 3	17 362.443	3 074 932.111	1101.000
SOP 4	17 359.847	3 074 933.160	1101.000
SOP 5	17 357.250	3 074 934.209	1101.000
SOP 6	17 354.654	3 074 935.258	1101.000
SOP 7	17 352.058	3 074 936.307	1101.000
SOP 8	17 349.462	3 074 937.356	1101.000
SOP 9	17 346.866	3 074 938.405	1101.000
SOP 10	17 344.270	3 074 939.454	1101.000

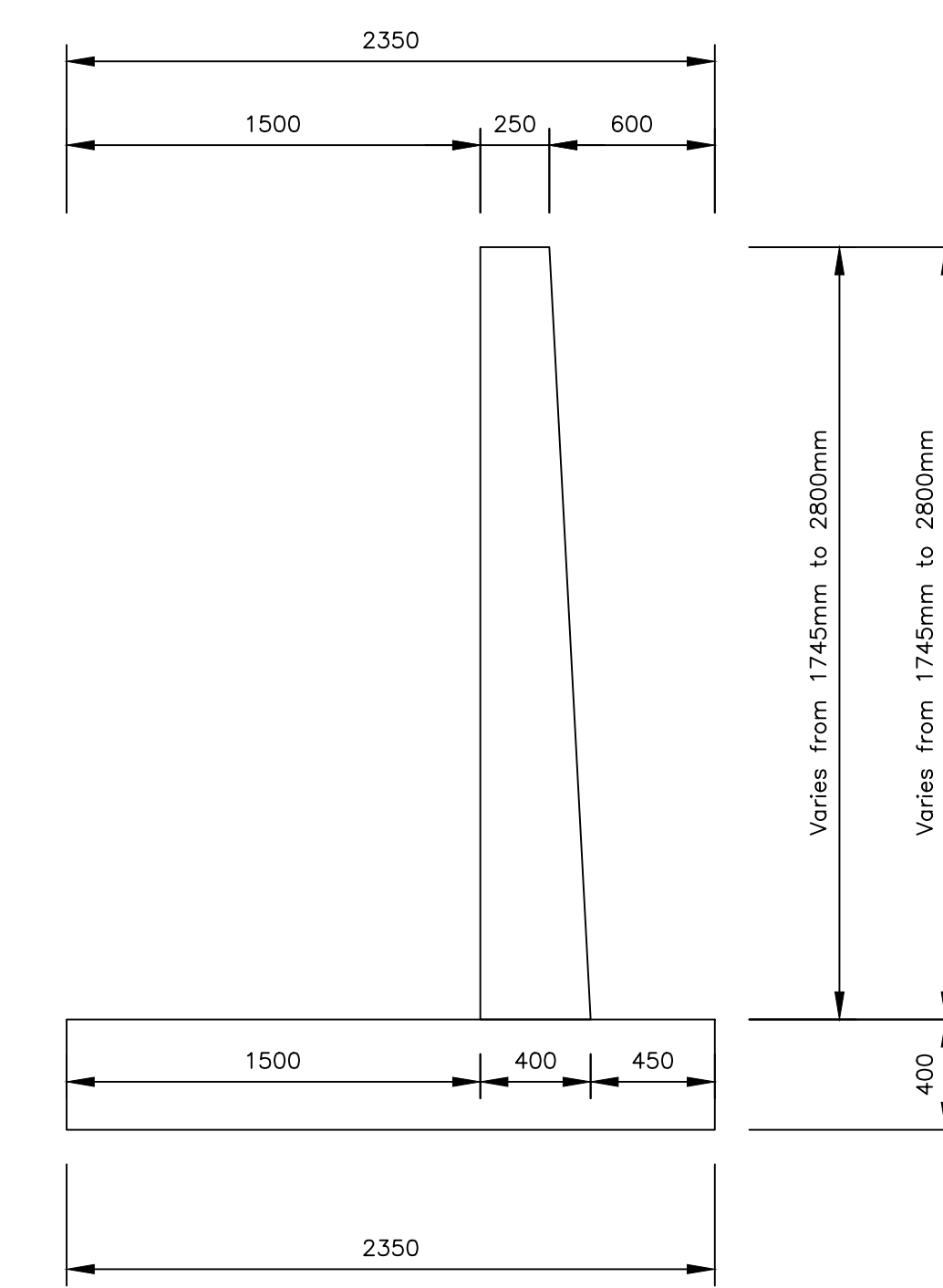
CO-ORDINATES WGS84 31°		METRES	
Elevations based on : TRIG GPS			
Station	Y	X	Z
BM1	17 407.327	3 074 905.067	1102.180
BM2	17 412.285	3 074 916.568	1102.138
BM3	17 303.247	3 074 962.855	1100.815
BM4	17 294.804	3 074 926.694	1101.408



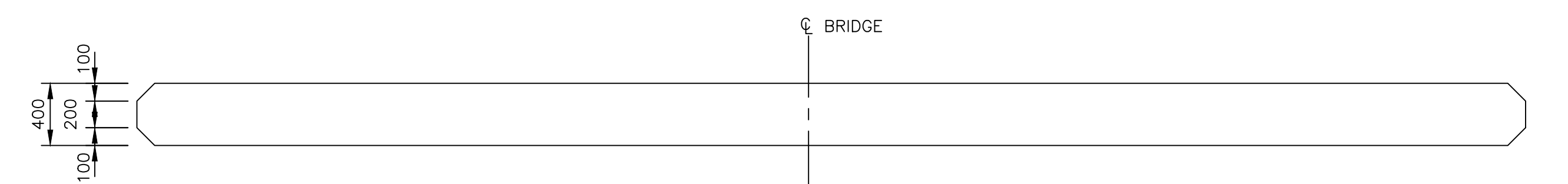
AS BUILT Supervising Engineer: _____ Date: _____ Supervising Authority: _____	CAD File Ref:-- File Ref:-- Designed by : S. MHLONGO Checked by : J. KUNZE Drawn by : S. MHLONGO Checked by : J. KUNZE	ABAQULUSI MUNICIPALITY	DESIGNED BY: 22 MONTROSE BOULEVARD VICTORIA COUNTRY CLUB ESTATE PIETERMARITZBURG 3201 TEL No. 033 347 0325 FAX No. 086 666 8203 Signature: _____ Pr. Reg. Number _____	Bridge Engineer Head: Bridge Office	Y = 17 357.250 X = 3 074 934.209 THE CONSTRUCTION OF EMARASTENI BRIDGE FOUNDATION DETAILS AND SETTING-OUT PLAN	Staked km distance Scale: AS SHOWN Sheet : 2 of : 4 Plan No : 305/ST/002
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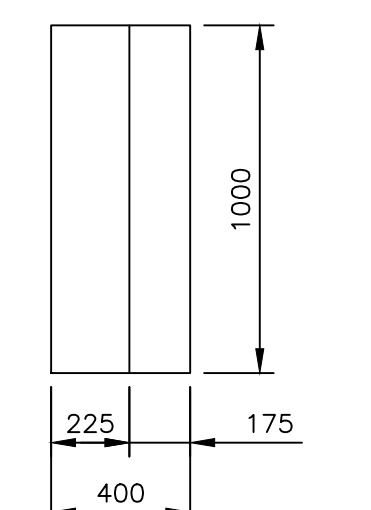
ABUTMENT – FRONT ELEVATION
SCALE 1 : 25



SECTION E-E
SCALE 1 : 25



BOLLARD SECTION
SCALE 1 : 20

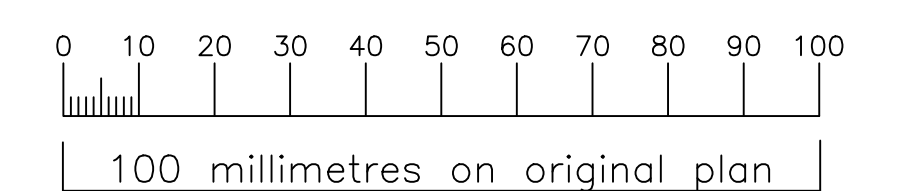


BOLLARD PLAN
SCALE 1 : 20

1 CONCRETE CLASS :
BLINDING - 15/19 (15MPa)
ABUTMENTS - 30/19 (30MPa)
DECK AND SUPPORTS - 30/19 (30MPa)

2 CONCRETE FINISHES :
EXPOSED FACES - CLASS F2 FINISH (SMOOTH)
CONCEALED FACES - CLASS F1 FINISH (ROUGH)
BOLLARDS - CLASS F3 FINISH

3 ALL EXPOSED EDGES TO BE CHAMFERED 25 x 25 UNLESS OTHERWISE SHOWN



ELEVATION C-C
SCALE 1 : 25

[illegible]

