



Documents may be obtained, free of charge, in electronic format, from the eTenders website.

A Non-Refundable Tender Charge is applicable if hard copies are obtained from the Cashier.

Reference is to be made to Clause F.1.2 of the Tender Data.

## ENGINEERING

### Roads Provision

#### PROCUREMENT DOCUMENT

#### INFRASTRUCTURE

**CONTRACT No.: 1R-22030**

**TITLE: Peter Road Upgrade and Widening, Ward 37**

#### **Clarification Meeting:**

There will be a Compulsory clarification meeting will be held at end of Peter Road on 17/11/2022 at 11h00.GPS S29 47 51.7 E30 59 26.7

Issued by:

**ENGINEERING**  
**Roads Provision**

Date of Issue: November 2022

**Document Version: 02/03/2022**

NAME OF TENDERER: .....

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**PART T1: TENDERING PROCEDURES**  
**T1.1: TENDER NOTICE AND INVITATION TO TENDER**

Tenders are hereby invited for the works to [Peter Road Upgrade and Widening, Ward 37](#)

(F.1.1.1) The Employer is the eThekweni Municipality as represented by [Deputy Head: Roads Provision](#)

It is estimated that tenderers should have a CIDB contractor grading designation of [4 CE](#) (or higher).

(F.1.2) Documents can be obtained either in electronic format, issued by the eThekweni Municipality: Electronically downloaded documentation is obtainable from the National Treasury's eTenders website or the eThekweni Municipality's Vendor Portal. The entire document should be printed and suitably bound by the tenderer.

(F.2.7)

[There will be a Compulsory clarification meeting will be held at end of Peter Road on 17/11/2022 at 11h00.GPS S29 47 51.7 E30 59 26.7](#)

(F.2.8) Queries relating to these documents may be addressed to the Employer's Agent's Representative whose contact details are: [Lynton Cloete](#) , [031 311 7728](#) (t) , [Lynton.Cloete@durban.gov.za](mailto:Lynton.Cloete@durban.gov.za)

(F.2.13) Tender offers shall be delivered to [the Municipal Building, 166 K.E. Masinga Road](#) and placed in the tender box located in the ground floor foyer.

If registered on the eThekweni Municipality's Vendor Portal, tender submissions can be made electronically (see F.2.13 of the Tender Data).

(F.2.15) Tender offers shall be delivered on or before [Friday, 15 December, 2022](#) at or before [11:00](#)

**Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data**

**PART T1: TENDERING PROCEDURES****T1.2: TENDER DATA****T1.2.1 STANDARD CONDITIONS OF TENDER**

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (July 2015) as published in Government Gazette No 38960, Board Notice 136 of 2015 of 10 July 2015.

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.

**T1.2.2 TENDER DATA**

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

**F.1: GENERAL**

**F.1.1 The employer:** The Employer for this Contract is the eThekweni Municipality as represented by: [Deputy Head: Roads Provision](#)

**F.1.2 Tender documents:** The Tender Documents issued by the Employer comprise:

- This procurement document.
- Drawings, issued separately from this document (or alternately: Bound in Section C3.4 as an Annexure).
- “General Conditions of Contract for Construction Works – 3<sup>rd</sup> Edition 2015” issued by the South African Institution of Civil Engineering (GCC 2015). This document is obtainable separately, and Tenderers shall obtain their own copies.
- “City of Durban Technical Specifications” hereinafter referred to as the Standard Engineering Specifications. This document is obtainable separately, and Tenderers shall obtain their own copies of the applicable Sections.
- 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 the participation of targeted enterprise and labour.
  - The Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the Construction Regulations (2014).
  - The Construction Industry Development Board Act No 38 of 2000 and the Regulations issued in terms of the Act (July 2013).
  - The Preferential Procurement Policy Framework Act No 5 of 2000, and the Preferential Procurement Policy Framework Act Regulations (January 2017).
  - **SANS 1921:2004** – Construction and Management Requirements for Works Contract, Parts 1-3.

- The Employer's current Supply Chain Management Policy.
- Any other eThekwin Municipality Policy documents referenced in the Tender Documents.

Electronically downloaded documentation is obtainable from the National Treasury's **eTenders Website** or the eThekwin Municipality's **Vendor Portal** at URLs:

Photo 1. <https://ethekwinivendor.durban.gov.za/tenders/availabletenders/> ; or

Photo 2. <https://etenders.treasury.gov.za/>

The entire downloaded document should be printed and suitably bound by the tenderer.

#### **F.1.4 The employer's agent:** The Employer's agent is

- LNJ Cloete (Pr. Tech Eng)
- Tel: 031 311 7728 (t)
- Email: [Lynton.Cloete@durban.gov.za](mailto:Lynton.Cloete@durban.gov.za)

The tenderer's contact details as indicated in the Contract Data under Clause C1.2.2.2 "Data to Be Provided by Contractor" shall be deemed as the only applicable contact details for the tenderer for use in communications between the employer's agent and the tenderer after the closing time stated in the Tender Data.

## **F.2: TENDERER'S OBLIGATIONS**

### **F.2.1 Eligibility: General**

A Tenderer will not be eligible to submit a tender if:

- (a) the Tenderer does not comply with the legal requirements as stated in the Employer's current SCM Policy;
- (b) the Tenderer cannot provide proof that he is in good standing with respect to duties, taxes, levies and contributions required in terms of legislation applicable to the work in the contract;
- (c) In the event of a Compulsory Clarification Meeting:
  - the Tenderer fails to attend the Compulsory Clarification Meeting;
  - the Tenderer fails to have form "Certificate of Attendance at Clarification Meeting / Site Inspection" (in Part T2.2) signed by the Employer's Agent or his representative.
- (d) in the case of JV submissions, two or more JV entities have common directors / shareholders or common entities tendering for the same works.
- (e) at the time of closing of tenders, the Tenderer is not registered on the National Treasury Central Supplier Database (CSD) as a service provider. In the case of a Joint Venture, this requirement will apply individually to each party in the Joint Venture.

#### **F.2.1.1 Eligibility: CIDB**

Only those tenderers who are registered (as "Active") with the CIDB (at time of tender

closing), in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a **CE** class of construction work, are eligible to have their tenders evaluated.

Joint ventures are eligible to submit tenders provided that:

- (a) Every member of the joint venture is registered (as “Active”) with the CIDB (at time of tender closing);
- (b) The lead partner has a contractor grading designation in the **CE** class of construction work and has a grading designation of not lower than one level below the required grading designation; and
- (c) The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations (2013) is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a **CE** class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.

#### F.2.1.2 Eligibility: Tenderer’s Experience

Only those tenderers that can demonstrate experience, by the submission of the specified returnable document in Part T2.2 (duplicated for each experience submission), and supply the associated documentation/ information, in works of a similar nature, within the past 7 years, will be eligible to have their tenders evaluated in terms of Clause F.3.11.

The documentation/ information that is required is specified on **Table 1**: “Documentation / Information Requirements” (which includes the Notes below the table), and the experience requirement is as stated on **Table 2**: “Tenderer’s Experience Requirement”.

**Tenderers may submit experience gained as Sub-Contractors.**

Where works are still in progress the value of completed work as detailed on the most recent payment to the Contractor / Sub-Contractor will be used in the experience verification.

In the event of a Joint Venture (JV) tendering for this contract, experience gained by the separate entities making up the JV may be used as experience provided that the experience requirement, as stipulated in **Table 2**, is satisfied, and that the required documentation/ information is provided.

**Returnable form “Experience of Tenderer” is included in Part T2. This form is to be duplicated for each experience submission, as may be required.**

**Table 1: Documentation / Information Requirements**

Note: an “X” in this table indicates that the associated documentation must be provided, if applicable.	Proof of Sub-Contract Agreement	Letter of Award OR Form of Offer & Acceptance	Most recent Payment Certificate with Quantities summary	Final Payment Certificate with Quantities summary	Completion Certificate	<b>NB</b> Scope of Work
	<b>Note 1</b>	<b>Note 2</b>	<b>Note 3</b>	<b>Note 4</b>	<b>Note 5</b>	<b>Note 6</b>

Works as Sub-Contractor						
Current Contracts	X		X			X
Completed Contracts	X			X		X
Works as Main Contractor						
Current Contracts		X	X			X
Completed Contracts		X		X	X	X
<b>NOTES</b>						
Note 1	Must include the names of the parties, the managing entity's name, the effective dates, and the signature(s) page, all pertaining to the agreement.					
Note 2	Issued by the Client / Employer.					
Note 3	Proof of the most recent payment received from the Main Contractor or Client/ Employer, with a summary breakdown of quantities.					
Note 4	Proof of the final payment received from the Main Contractor or Client/ Employer, with a summary breakdown of quantities.					
Note 5	Issued by the Client/ Employer.					
Note 6	<p><b>NB: Without this information the experience submission cannot be considered.</b></p> <ul style="list-style-type: none"> <li>• This submission must indicate how the works carried out, either as a Sub-Contractor or a Main Contractor, is similar (see Table 2: Tenderer's Experience Requirement) to the Scope-of-Work of this specific tender.</li> <li>• If executed as a Sub-Contractor, the Scope-of-Work should be indicative of only the works carried out by the Sub-Contractor, and not the overall Scope-of-Work of the main contract.</li> <li>• If executed as a Main Contractor, the overall contract Scope-of-Work is to be provided.</li> <li>• The description of the Scope-of-Work is to be inserted into the returnable form in Part T2, or if available as a hard copy (max. 2 pages) attached to the form with the other relevant, associated, supporting documentation.</li> </ul>					
<p><b>Failure to submit the returnable form in Part T2.2, <u>and</u> provide the above supporting documentation/ information, <u>for each submission of experience</u>, will invalidate that experience submission</b></p>						

**Table 2: Tenderer's Experience Requirement****Provision of Roads and Ancillary Works**

- Projects of a similar nature that will be considered will be one, or a combination of, the following types of projects: new road construction, road widening/upgrades, intersection improvements, gravel to surfaced road upgrades, access road upgrades, major parking areas, and provision of interim roadway related services to informal settlements.
- Each project must consist of at least two of the following elements: bulk earthworks, roadway layer-works, asphalt roadway surfacing, kerbing / channelling, sidewalk / walkway construction, traffic calming measures, stormwater drainage, retaining structures, dealing with underground services (watermains, sewers, electricity / communication infrastructure).
- Projects that are excluded are road rehabilitation projects, road maintenance projects, and the construction of gravel roads.

**Experience Requirement: Contract(s) with works of a similar nature, within the past 7 years**

A minimum of 2 contracts, each with a value of 50% of the tender value submitted for this tender.

Contracts may have been executed as a Sub-Contractor.

**Note:** The failure to complete the relevant returnable form in Part T2.2 for each submission of experience, AND supply the associated documentation (as specified on Table 1), will invalidate the experience submission.

**F.2.2.2 The cost of the tender documents:** Replace this paragraph with the following:

"Documents may be obtained, free of charge, in electronic format, from the National Treasury's eTenders website or the eThekweni Municipality's Vendor Portal. The entire electronically downloaded document should be printed and suitably bound by the tenderer.

A Non-Refundable Tender Charge, as stated in the "Tender Notice and Invitation to Tender", is applicable if hard copies are obtained from the Cashier."

**F.2.6 Acknowledge addenda:** Add the following paragraphs to the clause:

"Addenda will be published, in electronic format, on the National Treasury's eTenders website (see F.2.2.2 above). Tenderers are to ensure that the eTenders website is consulted for any published addenda pertaining to this tender until three days before the tender closing time as stated in the Tender Data."

"Acknowledgement of receipt of the addenda will be by the return of the relevant completed, dated and signed portion of the addenda, to the address / fax number / email address as specified on the addenda. Failure of the tenderer to comply with the requirements of the addenda may result in the tender submission being made non-responsive."



**F.2.7 Clarification meeting:**

There will be a Compulsory clarification meeting will be held at end of Peter Road on 17/11/2022 at 11h00. GPS S29 47 51.7 E30 59 26.7

In the event of a Compulsory Clarification Meeting, Tenderers must sign the attendance register in the name of the tendering entity. Addenda will be issued to, and tenders will be received only from, those tendering entities appearing on the attendance list.

**F.2.12 Alternative tender offers:** No alternative tender offers will be considered.

**F.2.13 Submitting a tender offer:** Submissions must be submitted on official submission documentation issued (either in hard copy or in electronic format) by the eThekweni Municipality.

Identification details to be shown on each tender offer package are:

- Contract No. : 1R-22030
- Contract Title : Peter Road Upgrade and Widening, Ward 37

The Employer's address for delivery of tender offers is:

the Municipal Building, 166 K.E. Masinga Road

and placed in the **Tender Box** located in the ground floor foyer.

Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.

**F.2.15 Closing time:** The closing time for delivery of tender offers is:

- Date : Friday, 15 December, 2022
- Time : 11:00

**F.2.16 Tender offer validity:** The Tender Offer validity period is 16 weeks (112 Days) from the closing time for submission of tenders.

**F.2.23 Certificates:** Refer to Part T2.1 for a listing of certificates that must be provided with the tender. All certificates must be valid at the time of tender closing.

**CIDB Registration**

Tenderers are to include with their submission a printout of their registration with the CIDB, obtained from the CIDB website (

<https://registers.cidb.org.za/PublicContractors/ContractorSearch> ).

The Joint Venture Grading Designation Calculator should be used when submitting as a Joint Venture ( <https://registers.cidb.org.za/PublicContractors/JVGradingDesignationCalc> ).

The date of obtaining the above printouts is to be indicated on the printout. Registration with the CIDB must be reflected as "Active" at time of tender closing.

**Tax Clearance**

SARS has introduced a new Tax Compliance Status System. Tenderers can submit a Tax Compliance Status PIN (TCS PIN) instead of an original Tax Clearance Certificate. This TCS PIN can be used by third parties to certify the taxpayer's real-time compliance status.

Separate Tax Clearance Certificates / TCS PINs are required for each entity in a Joint Venture.

**B-BBEE Status Level of Contribution**

The Amended Construction Sector Code (Government Gazette No.41287) is applicable to the B-BBEE compliance measurement of all entities that fall within the Construction Sector.

The requirements for measurement and verification of entities are contained in the "Amended Code Series CSC000: Framework for Measuring Broad Based Black Economic Empowerment in the Construction Sector", as published in Notice 931 of 2017, Government Gazette No.41287 of 01/12/2017.

The requirements are summarised in the following table:

<b>Enterprise Type</b>	<b>Total Annual Revenue (R million)</b>	<b>Ownership and Annual Turnover</b>
EME: Built Environment Professional	< R1.8m	May present an <b>affidavit</b> OR a <b>certificate</b> issued by the CIPC
EME: Contractor	< R3.0m	OR authorised <b>B-BBEE verification certificate</b> (as below)
Reference should be made to Cl.3.6.2.4.1 of the Amended Construction Sector Code regarding the above exceptions.		
EME: Built Environment Professional	< R6m	Must present an authorised <b>B-BBEE verification certificate</b> by a SANAS accredited Verification Agency
EME: Contractor	< R10m	
QSE: Built Environment Professional	≥ R6.0m and < R25m	
QSE: Contractor	≥ R10.0m and < R50m	
Large Enterprise	>R50m	

The requirements for measurement of Joint Ventures is described in Cl.2.8 of the Amended Construction Sector Code. The compilation of a consolidated verification certificate is required.

B-BBEE Verification Certificates must be from a Verification Agency accredited by the South African National Accreditation System (SANAS).

**Central Supplier Database (CSD)**

The entities (full) Registration Report, obtained from the National Treasury Central Supplier Database, is to be included in the tender submission ( <https://secure.csd.gov.za> ).

Separate CSD Registration Reports are required for each entity in a Joint Venture.

**F.3: THE EMPLOYER'S UNDERTAKINGS**

**F.3.1.1 Respond to requests from the tenderer:** Replace the words “five working days” with “three working days”.

**F.3.2 Issue addenda:** Add the following paragraph: “Addenda will be published, in electronic format, on the National Treasury’s eTenders website. In the event that the Clarification Meeting is compulsory, Addenda will only be issued to those tendering entities appearing on the Clarification Meeting Register.”

**F.3.4 Opening of Tender Submissions:** Tenders will be opened immediately after the closing time for tenders. The public reading of tenders will take place in the SCM Boardroom, 6<sup>th</sup> Floor, Engineering Unit Building, 166 KE Masinga Road, Durban.

**F.3.11 Evaluation of Tender Offers:** The procedure for evaluation of responsive Tender Offers will be in accordance with the Employer’s current SCM Policy, the Preferential Procurement Policy Framework Act (5 of 2000), and the Preferential Procurement Policy Framework Act Regulations (January 2017).

The **80/20** preference points system will be used where the financial value (incl. VAT) of one or more responsive tender offers have a value that equals or is less than R 50,000,000. The Formula used to calculate the **Price Points**, and the **Preference Points** that will be allocated, will be according to the specified PPPFA Regulations.

The **90/10** preference points system will be used where the financial value (incl. VAT) of all responsive tenders received have a value in excess of R 50,000,000. The Formula used to calculate the **Price Points**, and the **Preference Points** that will be allocated, will be according to the specified PPPFA Regulations.

Only locally produced goods, services, or works, or locally manufactured goods, with a stipulated minimum threshold for Local Production and Content will be considered.

**F.3.13 Acceptance of tender offer:** In addition to the requirements of Clause F.3.13 of the Standard Conditions of Tender, tender offers will only be accepted if:

- (a) The tenderer submits a valid Tax Clearance Certificate OR Tax Compliance Status PIN, issued by the TCS System of the South African Revenue Services, or has made arrangements to meet outstanding tax obligations;
- (b) The tenderer is registered, and “Active”, with the Construction Industry Development Board, at time of tender closing, in an appropriate contractor grading designation;

- (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:
  - Abused the Employer's Supply Chain Management System; or
  - Failed to perform on any previous contract and has been given a written notice to this effect;
- (e) 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;
- (f) The tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer;
- (g) The employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993, the necessary competencies and resources to carry out the work safely.
- (h) If this tender is subject to "Local Content and Production", the tenderer must complete and sign MBD 6.2 and attach Annexure C (of SATS 1286:2011).
- (i) The Municipality does not bind itself to accept the lowest or any tender. It reserves the right to accept the whole or any part of a tender to place orders. Bidders shall not bind the Municipality to any minimum quantity per order. The successful Tenderer (s) shall be bound to provide any quantities stipulated in the specification.

**F.3.15 Complete adjudicator's contract:** Refer to the **General Conditions of Contract** and the **Contract Data**.

**F.3.17 Copies of contract:** The number of paper copies of the signed contract to be provided by the Employer is **ONE (1)**.

**The additional conditions of tender are:****ACT.1 Appeals**

In terms of Regulation 49 of the Municipal Supply Chain Management Regulations persons aggrieved by decisions or actions taken by the Municipality, may lodge an appeal within 14 days of the decision or action, in writing to the Municipality. All appeals (clearly setting out the reasons for the appeal) and queries with regard to the decision of award are to be directed to:

The City Manager

Attention Ms S. Pillay eMail: [Simone.Pillay@durban.gov.za](mailto:Simone.Pillay@durban.gov.za)

P O Box 1394

DURBAN, 4000

**ACT.2 Prohibition on awards to persons in the service of the state**

Clause 44 of the Supply Chain Management Regulations states that the Municipality or Municipal Entity may not make any award to a person:

- (a) Who is in the service of the State;
- (b) If that person is not a natural person, of which a director, manager, principal shareholder or stakeholder is a person in the service of the state; or
- (c) Who is an advisor or consultant contracted with the municipality or a municipal entity.

Should a contract be awarded, and it is subsequently established that Clause 44 has been breached, the Employer shall have the right to terminate the contract with immediate effect.

**ACT.3 Code of Conduct and Local Labour**

The Tenderers shall make themselves familiar with the requirements of the following policies that are available on web address:

<ftp://ftp.durban.gov.za/cesu/StdContractDocs/>:

- Code of Conduct;
- The Use of CLOs and Local Labour.

## **PART T2: RETURNABLE DOCUMENTS**

### **T2.1: LIST OF RETURNABLE DOCUMENTS**

#### **T2.1.1 General**

The Tender Document must be submitted as a whole. All forms must be properly completed as required, and the document shall not be taken apart or altered in any way whatsoever.

The Tenderer is required to complete each and every Schedule and Form listed below to the best of his ability as the evaluation of tenders and the eventual contract will be based on the information provided by the Tenderer. Failure of a Tenderer to complete the Schedules and Forms to the satisfaction of the Employer will inevitably prejudice the tender and may lead to rejection on the grounds that the tender is not responsive.

#### **T2.1.2 Returnable Schedules, Forms and Certificates**

##### **Company Specific**

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Contractor's Health and Safety Declaration	25

##### **Eligibility**

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Record of Addenda to Tender Documents	46
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Bill of Quantities	65

**T2.1.3 Preferential Procurement Schedules and Affidavits**

In the event of the Tenderer not being registered with the eThekweni Municipality, the tenderer must register on the internet at [www.durban.gov.za](http://www.durban.gov.za) by following these links:

- eThekweni Municipality
- City Government
- Administration
- Administrative Clusters
- Finance
- Supply Chain Management
- Accredited Supplier and Contractor's Database.

**NOTES**

- (a) The information for registration as in the possession of the eThekweni Municipality will apply.
- (b) It is the Tenderer's responsibility to ensure that the details as submitted to the Municipality are correct.
- (c) Tenderers are to register prior to the submission of tenders.

**T2.2: RETURNABLE SCHEDULES, FORMS, AND CERTIFICATES**

The returnable schedules, forms, and certificates as listed in T2.1.2 can be found on the pages 15 to 25.

**CERTIFICATE OF ATTENDANCE AT CLARIFICATION MEETING / SITE INSPECTION**

This is to certify that:

(tenderer name) .....

of (address)

.....

.....

was represented by the person(s) named below at the Clarification Meeting held for all tenderers, the details of which are stated in the Tender Data (F.2.7).

I / We acknowledge that the purpose of the meeting was to acquaint myself / ourselves with the site of the works and / or matters incidental to doing the work specified in the tender documents in order for me / us to take account of everything necessary when compiling our rates and prices included in the tender.

**Particulars of person(s) attending the meeting:**

Name: ..... Name: .....

Signature: ..... Signature: .....

Capacity: ..... Capacity: .....

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

Name: .....

Signature: .....

Date: .....



**CERTIFICATE OF AUTHORITY**

Indicate the status of the tenderer by ticking the appropriate box hereunder.

<b>COMPANY</b>		<b>CLOSE CORPORAT ION</b>		<b>PARTNER SHIP</b>		<b>JOINT VENTURE</b>		<b>SOLE PROPRIET OR</b>	
<b>Refer to Notes at the bottom of the page</b>									

I / We, the undersigned, being the Chairperson (Company), Member(s) (Close Corporation), Partners (Partnership), Sole Owner (Sole Proprietor), Lead Partner (JV), in the company / business trading as:

.....  
.....

hereby authorise Mr/Mrs/Ms

.....

acting in the capacity of

.....

to sign all documents in connection with the tender for **Contract No. 1R-22030** and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

**Notes**

The following documents must be attached to the back inside cover to this procurement document:

If a Company : a "Resolution of the Board" in this regard.

If a Joint Venture: a "Power of Attorney" signed by the legally authorised signatories of all the partners to the Joint venture.

**DECLARATION OF MUNICIPAL FEES**

I, the undersigned, do hereby declare that the Municipal fees of

.....  
 (full name of Company / Close Corporation / partnership / sole proprietary/Joint Venture)  
 (hereinafter referred to as the TENDERER) are, as at the date hereunder, fully paid or an  
 Acknowledgement of Debt has been concluded with the Municipality to pay the said charges in  
 instalments.

The following account details relate to property of the said TENDERER:

Account

Account Number: to be completed by tenderer.

Consolidated Account No.

--	--	--	--	--	--	--	--	--	--	--	--	--

Electricity

--	--	--	--	--	--	--	--	--	--	--	--	--

Water

--	--	--	--	--	--	--	--	--	--	--	--	--

Rates

--	--	--	--	--	--	--	--	--	--	--	--	--

JSB Levies

--	--	--	--	--	--	--	--	--	--	--	--	--

Other

--	--	--	--	--	--	--	--	--	--	--	--	--

Other

--	--	--	--	--	--	--	--	--	--	--	--	--

I acknowledge that should the aforesaid Municipal charges fall into arrears, the Municipality may take such remedial action as is required, including termination of any contract, and any payments due to the Contractor by the Municipality shall be first set off against such arrears. ATTACHED, to the back inside cover of this document, please find copies of the above account's and or agreements signed with the municipality.

- Where the TENDERER'S place of business or business interests are outside the jurisdiction of eThekweni municipality, a copy of the accounts/agreements from the relevant municipality must be attached (to the back inside cover of this document).
- Where the tenderer's Municipal Accounts are part of their lease agreement, then a copy of the agreement, or official letter to that effect is to be attached (to the back inside cover of this document).

NAME : ..... (Block Capitals)

SIGNATURE : ..... DATE: .....  
 (of person authorised to sign on behalf of the Tenderer)

**COMPULSORY ENTERPRISE QUESTIONNAIRE**

The following particulars must be furnished. In the case of a joint venture, a separate questionnaire in respect of each partner must be completed and submitted.

- 1) **Name of enterprise:** .....
- 2) **VAT registration number**, if any: .....
- 3) **CIDB registration number**, if any: .....
- 4) **Particulars of sole proprietors and partners in partnerships**

Full Name	Identity number*	Personal income tax number *

\* Complete only if a sole proprietor or partnership and attach separate page if more than 3 partners

- 5) **Particulars of companies and close corporations**

Company registration number, if applicable:.....

Close corporation number, if applicable: .....

Tax Reference number, if any: .....

- 6) **Record in the service of the state**

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- |  |   |
|--|---|
| <input type="checkbox"/> a member of any municipal council                                     | <input type="checkbox"/> an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| <input type="checkbox"/> a member of any provincial legislature                                |   |
| <input type="checkbox"/> a member of the National Assembly or the National Council of Province | <input type="checkbox"/> a member of an accounting authority of any national or provincial public entity  |
| <input type="checkbox"/> a member of the board of directors of any municipal entity            |   |
| <input type="checkbox"/> an official of any municipality or municipal entity                   | <input type="checkbox"/> an employee of Parliament or a provincial legislature  |

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

Insert separate page if necessary

## 7) Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- |  |   |
|--|---|
| <input type="checkbox"/> a member of any municipal council                                     | <input type="checkbox"/> an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| <input type="checkbox"/> a member of any provincial legislature                                |   |
| <input type="checkbox"/> a member of the National Assembly or the National Council of Province | <input type="checkbox"/> a member of an accounting authority of any national or provincial public entity  |
| <input type="checkbox"/> a member of the board of directors of any municipal entity            |   |
| <input type="checkbox"/> an official of any municipality or municipal entity                   | <input type="checkbox"/> an employee of Parliament or a provincial legislature  |

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

Insert separate page if necessary

The undersigned, who warrant that he/she is duly authorised to do so on behalf of the enterprise:

- i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my/our tax matters are in order;
- ii) confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercise, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- iii) confirms that no partner, member, director or other person, who wholly or partly exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- iv) confirms that I/we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the bidders or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;
- v) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed

Date

.....

.....

Name

Position

.....

.....

Enterprise

Name

.....

**TAX COMPLIANCE STATUS PIN / TAX CLEARANCE CERTIFICATE**

Reference is made to F.2.23 of the Conditions of Tender.

SARS has introduced a new Tax Compliance Status System. Tenderers can submit a Tax Compliance Status PIN (TCS PIN) instead of an original Tax Clearance Certificate. This TCS PIN can be used by third parties to certify the taxpayer's real-time compliance status.

Separate Tax Clearance Certificates / TCS PINs are required for each entity in a Joint Venture.

Tenderers are to attach to this page a printout of their Tax Compliance Status PIN (TCS PIN) OR an original Tax Clearance Certificate.

NAME : ..... (Block Capitals)

SIGNATURE : ..... DATE: .....  
(of person authorised to sign on behalf of the Tenderer)

**B-BBEE STATUS LEVEL OF CONTRIBUTION CERTIFICATE**

Reference is made to F.2.23 of the Conditions of Tender.

The Amended Construction Sector Code (Government Gazette No.41287) is applicable to the B-BBEE compliance measurement of all entities that fall within the Construction Sector.

The requirements for measurement and verification of entities are contained in the “Amended Code Series CSC000: Framework for Measuring Broad Based Black Economic Empowerment in the Construction Sector”, as published in Notice 931 of 2017, Government Gazette No.41287 of 01/12/2017.

The requirements are summarised in the following table:

Enterprise Type	Total Annual Revenue (R million)	Ownership and Annual Turnover
EME: Built Environment Professional	< R1.8m	May present an <b>affidavit</b> OR a <b>certificate</b> issued by the CIPC OR authorised <b>B-BBEE verification certificate</b> (as below)
EME: Contractor	< R3.0m	
Reference should be made to Cl.3.6.2.4.1 of the Amended Construction Sector Code regarding the above exceptions.		
EME: Built Environment Professional	< R6m	Must present an authorised <b>B-BBEE verification certificate</b> by a SANAS accredited Verification Agency
EME: Contractor	< R10m	
QSE: Built Environment Professional	≥ R6.0m and < R25m	
QSE: Contractor	≥ R10.0m and < R50m	
Large Enterprise	>R50m	

The requirements for measurement of Joint Ventures is described in Cl.2.8 of the Amended Construction Sector Code. The compilation of a consolidated verification certificate is required.

**Tenderers are to attach to this page an affidavit, or a B-BBEE certificate issued by an authorised SANAS accredited Verification Agency.**

NAME : ..... (Block Capitals)

SIGNATURE : ..... DATE: .....  
(of person authorised to sign on behalf of the Tenderer)




**CSD REGISTRATION REPORT**

Reference is made to F.2.23 of the Conditions of Tender.

Clause F.2.1 of the Conditions of Tender – “Eligibility”, requires a tenderer to be registered at the time of tender closing on the National Treasury Central Supplier Database (CSD) as a service provider.

**Tenderers are to attach to this page a printout of their CSD Registration Report**, as obtained from the National Treasury’s CSD website <https://secure.csd.gov.za/Account/Login>. The date of obtaining the printout is to be indicated on the printout.

The following is an example of the beginning of the printout obtained from the above website.

 <b>CENTRAL SUPPLIER DATABASE</b> FOR GOVERNMENT	Report Date:
	Report Ran By:

CSD REGISTRATION REPORT	
-------------------------	--

SUPPLIER IDENTIFICATION			
Supplier number		Have Bank Account	
Is supplier active?		Total annual turnover	
Supplier type		Financial year start date	
Supplier sub-type		Registration date	
Legal name		Created by	
Trading name		Created date	
Identification type		Edit by	
Government breakdown		Edit date	
Business status		Restricted Supplier	
Country of origin		Restriction Last Verification Date	
South African company/CC registration number			

NAME : ..... (Block Capitals)

SIGNATURE : ..... DATE: .....  
(of person authorised to sign on behalf of the Tenderer)

## **CONTRACTOR'S HEALTH AND SAFETY DECLARATION**

Refer to Clause F3.11.9 for Functionality Points evaluation prompts (if applicable).

In terms of Clause 5(1)(h) of the OHS 1993 Construction Regulations 2014 (referred to as "the Regulations" hereafter), a Principal Contractor may only be appointed to perform construction work if the Client is satisfied that the Principal Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHS 1993 Construction Regulations 2014.

To that effect a person duly authorised by the tenderer must complete and sign the declaration hereafter in detail.

### **Declaration by Tenderer**

1. I the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHS 1993 Construction Regulations 2014.
2. I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.
3. I propose to achieve compliance with the Regulations by one of the following:

Tenderers are  
to Circle

Applicable

- |   |               |
|---|---------------|
| (a) From my own competent resources as detailed in 4(a) hereafter:  | <b>YES NO</b> |
| (b) From my own resources still to be appointed or trained until competency is achieved, as detailed in 4(b) hereafter: | <b>YES NO</b> |
| (c) From outside sources by appointment of competent specialist Subcontractors as detailed in 4(c) hereafter:           | <b>YES NO</b> |

## 4. Details of resources I propose:

*(Note: Competent resources shall include safety personnel such as a construction supervisor and construction safety officer as defined in Regulation 8, and competent persons as defined in Regulations 9, 10, 11, 12, 13, 14, 16, 17, 20, 21, 22, 23(1), 24, 25, 26, 27, 28 and 29, as applicable).*

(a) Details of the competent and qualified key persons from my company's own resources, who will form part of the contract team:

NAMES OF COMPETENT PERSONS	POSITIONS TO BE FILLED BY COMPETENT PERSONS

(b) Details of training of persons from my company's own resources (or to be hired) who still have to be trained to achieve the necessary competency:

(i) By whom will training be provided? .....

(ii) When will training be undertaken? .....

(iii) List the positions to be filled by persons to be trained or hired:

.....

.....

(c) Details of competent resources to be appointed as subcontractors if competent persons cannot be supplied from own company:

Name of proposed subcontractor: .....

Qualifications or details of competency of the subcontractor:

.....

.....

5. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 7(1) of the Construction Regulations, which plan shall be subject to approval by the Client.

6. I confirm that copies of my company's approved Health and Safety Plan, the Client's Safety Specifications as well as the OHSA 1993 Construction Regulations 2014 will be provided on site and will at all times be available for inspection by the Principal Contractor's personnel, the Client's personnel, the Employer's Agent, visitors, and officials and inspectors of the Department of Labour.
7. I hereby confirm that adequate provision has been made in my tendered rates and prices in the Bill of Quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2014, and that I will be liable for any penalties that may be applied by the Client in terms of the said Regulations (Regulation 33) for failure on the Principal Contractor's part to comply with the provisions of the Act and the Regulations.
8. I agree that my failure to complete and execute this declaration to the satisfaction of the Client will mean that I am unable to comply with the requirements of the OHSA 1993 Construction Regulations 2014, and accept that my tender will be prejudiced and may be rejected at the discretion of the Client.

NAME : ..... (Block Capitals)

SIGNATURE : ..... DATE: .....  
(of person authorised to sign on behalf of the Tenderer)

**ELIGIBILITY: AUDITED FINANCIAL STATEMENTS or PUBLIC INTEREST SCORE**

If the tenderer is required by law to prepare annual financial statements for auditing, the tenderer must submit their audited annual financial statements:

- for the past three years; or
- since their establishment if established during the past three years;

If the tenderer is not required by law to prepare audited financial statements, then the tenderer must submit a Public Interest (PI) Score, whereby if the PI score is above 350 points then the bidder must submit audited financial statements.

**ELIGIBILITY: VERIFICATION OF CIDB REGISTRATION AND STATUS**

Reference is made to F.2.23 of the Conditions of Tender.

Clause F.2.1.1 of the Conditions of Tender – “Eligibility”, requires a tenderer to be registered, as “Active”, with the CIDB (at time of tender closing), in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a **CE** class of construction work.

**Tenderers are to attach to this page a printout of their registration with the CIDB**, as obtained from the CIDB website <https://registers.cidb.org.za/PublicContractors/ContractorSearch>. The date of obtaining the printout is to be indicated on the printout.

The following is an example of a printout obtained from the above website.

Home

**Contractor Detail** Print

Contractor Detail

CRS Number: \_\_\_\_\_ Type of Enterprise: \_\_\_\_\_

Contractor Name: \_\_\_\_\_ Registration Date: \_\_\_\_\_

Trading Name: \_\_\_\_\_ Expiry Date: \_\_\_\_\_

Status: \_\_\_\_\_

Contractor Grades

Grade: \_\_\_\_\_

Back

Copyright © cidb 2011. All rights reserved  
Website technical enquires contact \_\_\_\_\_

01/01/2017

NAME : ..... (Block Capitals)

SIGNATURE : ..... DATE: .....  
(of person authorised to sign on behalf of the Tenderer)

**ELIGIBILITY: EXPERIENCE OF TENDERER**

Experience Eligibility are specified in **Clause F.2.1.1.2** of the Conditions of Tender in Part T1.2. This form is to be copied and used for each submission of experience, as may be required.

Where options are provided ( \* ), only one (1) selected option should be clearly marked with a “ X “.

Tenderer's CIDB Grade:		1*	2*	3*	4*	5*	6*	7*	8*	9*	Experience as a:	Sub-Contractor*	Main Contractor*		
<b>Client / Employer:</b>	Entity Name:														
	Contact Name:														
	Contact Tel:										-				
	Contact Cell:										-				
	Contact email / other:														
<b>Employer's (Engineer) OR Main Contractor's Details</b>	Entity Name:														
	Contact Name:														
	Contact Tel:										-				
	Contact Cell:										-				
	Contact email / other:														
<b>Contract Details</b>	Contract Number:														
	Contract Title:														
	Has this Contract been completed?	Y*	N*	Commencement Date:		d	d	m	m	2	0	y	y		
				Completion Date (if applicable):		d	d	m	m	2	0	y	y		
Tendered Value (Contract Sum) OR Sub-Contract Value:	R											Final Contract Price OR Final Value of Sub-Contract:	R		

Contract Scope-of-Work (Description of Works components)	If available in hard copy, the Scope-of-Work can be attached. Only include the Scope-of-Work (contract description). <u>The Specification is not required.</u>

In addition to the Scope-of-Work (entered above or attached) the following documentation / information is required to be attached to the back of this form.

Contractor Type and Contract Status	Proof of Sub-Contract Agreement	Letter of Award OR Form of Offer & Acceptance	Most recent Payment Certificate with Quantities summary	Final Payment Certificate with Quantities summary	Completion Certificate
Current Contract as Sub-Contractor	X		X		
Completed Contract as Sub-Contractor	X			X	
Current Contract as Main Contractor		X	X		
Completed Contract as Main Contractor		X		X	X
<b>Failure to submit this returnable form, <u>and</u> provide the above supporting documentation/information, for each submission of experience, will invalidate that experience submission</b>					

NAME : ..... (Block Capitals)

SIGNATURE : ..... DATE: .....  
*(of person authorised to sign on behalf of the Tenderer)*



**CONSOLIDATED MUNICIPAL BIDDING DOCUMENTS**

**The following SECTIONS are required to be completed as part of this procurement document**

<u>Section</u>	<u>Description</u>	<u>Required?</u>
A	General Enterprise Information .....	Yes
B	MBD2: Tax Clearance Certificate Requirements.....	Yes
C	MBD4: Declaration of Interest .....	Yes
D	MBD5: Declaration for Procurement Above R10 Million.....	No
E	MBD6.1: Preference Points Claim Form ITO the Preferential Regulations.....	Yes
F	MBD6.2: Declaration Certificate for Local Production and Content for Designated Sectors.....	No
G	MBD8: Declaration of Bidder's Past SCM Practices .....	Yes
H	MBD9: Certificate of Independent Bid Determination .....	Yes
I	Confirmations, Authorities, Certifications, Acknowledgements and Signatures.....	Yes

**NOTES**

MBD4. 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 enterprise.
- (c) an official of any municipality or municipal enterprise.
- (d) an employee of any national or provincial department, national or provincial public enterprise 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 enterprise; or
- (f) an employee of Parliament or a provincial legislature.

**“Shareholder”** means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

MBD9. 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.

<b>Ref</b>	<b>Description</b>	<b>Complete or Circle Applicable</b>
------------	--------------------	--

**SECTION A: GENERAL ENTERPRISE INFORMATION**

1.0	Full Name of bidder or his or her representative	
1.1	ID Number of bidder or his or her representative	
1.2	Position occupied in the enterprise	
2.0	Name of enterprise:	
2.1	Tax Reference number, if any:	
2.2	VAT registration number, if any:	
2.3	CIDB registration number, if any:	
2.4	Company registration number, if applicable:	
2.5	Close corporation number, if applicable:	
2.6	eThekwini Supplier Database: Reference number (PR), if any:	
2.7	South African Revenue Service: Tax Compliance Status PIN:	
2.8	National Treasury Central Supplier Database Registration number	
2.9	Department of Labour: Registration number	
2.10	Department of Labour: Letter of Good Standing Certificate number	

3.0 The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers must be indicated below. In the case of a joint venture, information in respect of each partnering enterprise must be completed and submitted

<b>Full Name</b>	<b>Identity No.</b>	<b>State Employee No.</b>	<b>Personal income tax No. *</b>

<u>Ref</u>	<u>Description</u>	<b>Complete or Circle Applicable</b>	
Use additional pages if necessary			

<u>Ref</u>	<u>Description</u>	<b>Complete or Circle Applicable</b>
------------	--------------------	--

### **SECTION B: MBD 2: TAX CLEARANCE CERTIFICATE REQUIREMENTS**

It is a condition of bid that the taxes of the successful bidder must be in order, or that satisfactory arrangements have been made with South African Revenue Service (SARS) to meet the bidder's tax obligations.

- 1.0 In order to meet this requirement bidders are required to complete the TCC 001: "Application for a Tax Clearance Certificate" form and submit it to any SARS branch office nationally. The Tax Clearance Certificate Requirements are also applicable to foreign bidders / individuals who wish to submit bids.
- 2.0 SARS will then furnish the bidder with a Tax Clearance Certificate that will be valid for a period of 1 (one) year from the date of approval.
- 3.0 The original Tax Clearance Certificate must be submitted together with the bid (attached to the inside back cover of this procurement document). Failure to submit the original and valid Tax Clearance Certificate will result in the invalidation of the bid. Certified copies of the Tax Clearance Certificate will not be acceptable.
- 4.0 In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate Tax Clearance Certificate.
- 5.0 Copies of the TCC 001: "Application for a Tax Clearance Certificate" form are available from any SARS branch office nationally or on the website [www.sars.gov.za](http://www.sars.gov.za).
- 6.0 Applications for the Tax Clearance Certificates may also be made via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website [www.sars.gov.za](http://www.sars.gov.za).
- 7.0 Notwithstanding Clauses 1.0 to 6.0 above: Since 18 April 2016, SARS has introduced a new Tax Compliance Status System (TCS). As part of this enhanced system, tenderers can now submit a Tax Compliance Status PIN instead of an original Tax Clearance Certificate (TCC). This TCS PIN can be used by third parties to certify the taxpayer's real-time compliance status. This number, if available, is to be entered in Item 2.7 of Section A of these consolidated Municipal Bidding Documents.  
For further particulars please contact your nearest SARS branch, or call the SARS Contact Centre on 0800 00 7277, or log onto SARS eFiling.

Ref	Description	Complete or Circle Applicable	
<b>SECTION C: MBD 4: DECLARATION OF INTEREST</b>			
<p><b>No bid will be accepted from persons “in the service of the state<sup>1</sup>”.</b> 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. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.</p>			
1.0	Are you presently in the service of the state?	YES	NO
	If yes, furnish particulars: .....		
2.0	Have you been in the service of the state for the past twelve months?	YES	NO
	If yes, furnish particulars: .....		
3.0	Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?	YES	NO
	If yes, furnish particulars: .....		
4.0	Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?	YES	NO
	If yes, furnish particulars: .....		
5.0	Are any of the company’s directors, trustees, managers, principle shareholders or stakeholders in service of the state?	YES	NO
	If yes, furnish particulars: .....		
6.0	Are any spouse, child or parent of the company’s directors, trustees, managers, principle shareholders or stakeholders in service of the state?	YES	NO
	If yes, furnish particulars: .....		
7.0	Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract ?	YES	NO
	If yes, furnish particulars: .....		
8.0	The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers are indicated in <b>SECTION A of these Consolidated Municipal Bidding documents.</b>		

Ref	Description	Complete or Circle Applicable	
<b>SECTION D: MBD 5: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)</b>			
For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire.			
1.0	Are you by law required to prepare annual financial statements for auditing? If YES, you will be required to submit audited annual financial statements (on request during the tender evaluation period) for the past three years or since the date of establishment if established during the past three years.	YES	NO
2.0	Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days? If NO, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days. If YES, provide particulars on a letterhead. (Attach this letter to the back inside cover of this procurement document).	YES	NO
3.0	Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract? If YES, provide particulars on a letterhead. (Attach this letter to the back inside cover of this procurement document).	YES	NO
4.0	Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic? If YES, provide particulars on a letterhead. (Attach this letter to the back inside cover of this procurement document).	YES	NO

<b>SECTION E: MBD 6.1: PREFERENCE POINTS CLAIM ITO THE PREFERENTIAL REGULATIONS</b>		
Preference points for this tender shall be awarded as per the Tender Data and the Preferential Procurement Regulations (2017).		
Failure on the part of a tenderer to submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS), or a Sworn Affidavit for an EME, or sworn affidavit for a QSE (in line with the revised BBBEE codes of Good Practice), together with the bid will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.		
The Employer reserves the right to require of a tenderer, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the Employer.		
1.0	B-BBEE Status Level of Contribution claimed:	
	Will any portion of the contract be sub-contracted?	YES NO
	If YES, indicate:	
	(i) what percentage of the contract will be subcontracted?	
	(ii) the name of the sub-contractor?	
	Name: .....	
	(iii) the B-BBEE status level of the sub-contractor?	

<u>Ref</u>	<u>Description</u>	<b>Complete or Circle Applicable</b>	
2.0	(iv) whether the sub-contractor is an EME?	YES	NO

The undersigned, certify that the B-BBEE status level of contribution indicated in paragraph 1.0 above qualifies the company / firm for preference points and acknowledges that the remedies as per Clause 14 of the Preferential Procurement Regulations (2017) shall apply.

#### **SECTION F: MBD 6.2: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

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, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

#### 1.0 General Conditions

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8.(1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for bids referred to in paragraph 1.2 above, a two-stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:  

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

Where:     x     is the imported content in Rand  
           y     is the bid price in Rand excluding value added tax (VAT).

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

The SABS approved technical specification number SATS 1286:2011 is accessible on <http://www.thedti.gov.za/industrialdevelopment/ip.jsp> at no cost.

#### 1.6 A bid may be disqualified if –

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

<u>Ref</u>	<u>Description</u>	<b>Complete or Circle Applicable</b>
------------	--------------------	--

## 2.0 Definitions

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

- 3.0 The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
.....	..... %
.....	..... %
.....	..... %

- 4.0 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 1.5 of the general conditions must be the rate(s) published by the SARB for the specific currency at 12:00 on the date of advertisement of the bid.

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

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

US Dollar:	<input type="text"/>	Pound Sterling:	<input type="text"/>	Euro:	<input type="text"/>	Yen:	<input type="text"/>	Other:	<input type="text"/>
------------	----------------------	-----------------	----------------------	-------	----------------------	------	----------------------	--------	----------------------

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

- 5.0 Were the Local Content Declaration Templates (Annex C, D and E) audited and certified as correct?
- |     |    |
|-----|----|
| YES | NO |
|-----|----|

- 5.1 If yes, provide the following particulars:

(a) Full name of auditor: .....

<u>Ref</u>	<u>Description</u>	<b>Complete or Circle Applicable</b>
------------	--------------------	--

(b) Practice number: ..... (c) Telephone .....  
number: .....  
Cell number: .....

(d) Email address: .....

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

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



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

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (Close Corporation, Partnership or Individual)

.....  
 IN RESPECT OF BID No:

.....  
 ISSUED BY: (Procurement Authority / Name of Municipality /  
 Municipal Entity)

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

NB 2 - Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp). Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below. Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned in Section H of these Consolidated MBD returnable questionnaires (comprising 8 pages), do hereby declare the following:

- (a) The facts contained herein fall within my own personal knowledge.
- (b) I have satisfied myself that:
  - (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
  - (ii) the declaration templates have been audited and certified to be correct.
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

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

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

**SECTION G: MBD8: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES**

This Municipal Bidding Document must form part of all bids invited. 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.

The bid of any bidder may be rejected if that bidder, or any of its directors have:

- a) abused the 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) wilfully 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).

In order to give effect to the above, the following questions must be answered.

<p>1.0 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?</p> <p>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 audi alteram partem rule was applied. The Database of Restricted Suppliers now resides on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) and can be accessed by clicking on its link at the bottom of the home page.</p> <p>If yes, furnish particulars: .....</p>	YES	NO
<p>2.0 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)?</p> <p>The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</p> <p>If yes, furnish particulars: .....</p>	YES	NO
<p>3.0 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?</p> <p>If yes, furnish particulars: .....</p>	YES	NO
<p>4.0 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?</p> <p>If yes, furnish particulars: .....</p>	YES	NO
<p>5.0 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?</p> <p>If yes, furnish particulars: .....</p>	YES	NO

**SECTION H: MBD9: CERTIFICATE OF INDEPENDENT BID DETERMINATION**

Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.

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.

The following 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.

In order to give effect to the above, the following Certificate of Bid Determination must be completed and submitted with the bid. The undersigned, in submitting the accompanying bid, in response to the invitation for the bid do hereby make the following statements that I certify to be true and complete in every respect:

- 1.0 I have read and I understand the contents of this Certificate;
- 2.0 I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
- 3.0 I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
- 4.0 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;
- 5.0 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.
- 6.0 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding. (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.
- 7.0 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;
  - f) bidding with the intention not to win the bid.
- 8.0 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.

- 9.0 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.
- 10.0 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.

**SECTION I: CONFIRMATIONS, AUTHORITIES, CERTIFICATIONS, ACKNOWLEDGEMENTS and SIGNATURES**

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise:

- 1.0 Confirms that the contents of these Consolidated MBD returnable questionnaires (comprising 8 pages) fall within my personal knowledge and are to the best of my Knowledge and belief, both true and correct;
- 2.0 Confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercise, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- 3.0 Confirms that no partner, member, director or other person, who wholly or partly exercise control over the enterprise, has within the last five years been convicted of fraud or corruption;
- 4.0 Confirms that I/we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the bidders or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;
- 5.0 Certify that the B-BBEE status level of contribution indicated in Section E.1: Item 1.0 qualifies the enterprise for preference points and acknowledges that the remedies as per Clause 14 of the Preferential Procurement Regulations (2017) shall apply. In the event of a contract being awarded as a result of points claimed, the enterprise may be required to furnish documentary proof to the satisfaction of the employer that the claims are correct;
- 6.0 Accept that, in addition to cancellation of a contract, action may be taken against me should these declarations prove to be false.

Signed .....

Date .....

Name .....

Position .....

---

## **JOINT VENTURES AGREEMENTS**

Joint Venture agreement and Power of Attorney Agreements to be attached here (if applicable).

**RECORD OF ADDENDA TO TENDER DOCUMENTS**

I / We confirm that the following communications received from the Employer or his representative before the date of submission of this tender offer, amending the tender documents, have been taken into account in this tender offer.

ADD. No	DATE	TITLE OR DETAILS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

NAME : ..... (Block Capitals)

SIGNATURE : ..... DATE: .....  
(of person authorised to sign on behalf of the Tenderer)

**AMENDMENTS, QUALIFICATIONS AND ALTERNATIVES**

**(This is not an invitation for amendments, deviations or alternatives** but should the Tenderer desire to make any departures from the provisions of this contract he shall set out his proposals clearly hereunder. The Employer will not consider any amendment, alternative offers or discounts unless forms (a), (b) and (c) have been completed to the satisfaction of the Employer).

I / We herewith propose the amendments, alternatives and discounts as set out in the tables below:

**(a) AMENDMENTS**

PAGE, CLAUSE OR ITEM NO	PROPOSED AMENDMENT

- (1) *Amendments to the General and Special Conditions of Contract are not acceptable;*  
 (2) *The Tenderer must give full details of all the financial implications of the amendments and qualifications in a covering letter attached to his tender.*

**(b) ALTERNATIVES**

PROPOSED ALTERNATIVE	DESCRIPTION OF ALTERNATIVE

- (1) *Individual alternative items that do not justify an alternative tender, and an alternative offer for time for completion should be listed here.*  
 (2) *In the case of a major alternative to any part of the work, a separate Bill of Quantities, programme, etc, and a detailed statement setting out the salient features of the proposed alternatives must accompany the tender.*  
 (3) *Alternative tenders involving technical modifications to the design of the works and methods of construction shall be treated separately from the main tender offer.*

**(c) DISCOUNTS**

ITEM ON WHICH DISCOUNT IS OFFERED	DESCRIPTION OF DISCOUNT OFFERED

- (1) *The Tenderer must give full details of the discounts offered in a covering letter attached to his tender, failing which, the offer will be prejudiced.*

NAME : ..... (Block Capitals)

SIGNATURE : ..... DATE: .....  
 (of person authorised to sign on behalf of the Tenderer)



**PART C1: AGREEMENT AND CONTRACT DATA****C1.1: FORM OF OFFER AND ACCEPTANCE****C1.1.1: OFFER**

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

Contract No: **1R-22030**

Contract Title: **Peter Road Upgrade and Widening, Ward 37**

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 offered total of the prices inclusive of Value Added Tax is:**

R..... (In words .....  
.....)

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.

**For the Tenderer:**

\* **Name of Tenderer** (*organisation*) : .....

\* **Signature** (*of person authorized to sign the tender*) : .....

\* **Name** (*of signatory in capitals*) : .....

**Capacity** (*of Signatory*) : .....

**Address** : .....

: .....

**Telephone** : .....

**Witness:**

**Signature** : ..... **Date** : .....

**Name** (*in capitals*) : : .....

**Notes:**

\* Indicates what information is mandatory.

Failure to complete the mandatory information and sign this form will invalidate the tender.

**C1.1: FORM OF OFFER AND ACCEPTANCE****C1.1.2: FORM OF ACCEPTANCE**

This Form will be completed by the Employer

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 C1 : Agreement and Contract Data, (which includes this Agreement)
- Part C2 : Pricing Data, including the Bill of Quantities
- Part C3 : Scope of Work
- Part C4 : Site Information

and the schedules, forms, drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 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 representatives of both parties.

The Tenderer shall within two weeks 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 Contract 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 this Agreement comes into effect. Failure to fulfill 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 original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five days of 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 a binding contract between the parties.

**Signature** (*person authorized to sign the acceptance*) : .....

**Name** (*of signatory in capitals*) : .....

**Capacity** (*of Signatory*) : .....

**Name of Employer** (*organisation*) : .....

**Address** : .....

: .....

**Witness:**

**Signature** : ..... **Date** : .....

**Name**(*in capitals*) : : .....

**C1.1: FORM OF OFFER AND ACCEPTANCE****C1.1.3: SCHEDULE OF DEVIATIONS**

**This form will be completed by THE EMPLOYER and ONLY THE  
SUCCESSFUL TENDERER**

1.   **Subject**     : .....
- Details**   : .....
- : .....
2.   **Subject**     : .....
- Details**   : .....
- : .....
3.   **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 this process of offer and acceptance.

## **C1.2: CONTRACT DATA**

### **C1.2.1 CONDITIONS OF CONTRACT**

#### **C1.2.1.1 GENERAL CONDITIONS OF CONTRACT**

The Conditions of Contract are the **General Conditions of Contract for Construction Works (2015 3<sup>rd</sup> Edition)**, (**GCC 2015**) published by the South African Institution of Civil Engineering. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011-805-5947, Fax: 011-805-5971, E-mail: [civilinfo@saice.org.za](mailto:civilinfo@saice.org.za)).

The Contract Data (including variations and additions) shall amplify, modify, or supersede, the GCC 2015 to the extent specified below, and shall take precedence and shall govern.

Each item of data given below is cross-referenced to the clause in the GCC 2015 to which it mainly applies.

### **C1.2.2 CONTRACT DATA**

#### **C1.2.2.1 DATA TO BE PROVIDED BY THE EMPLOYER**

- 1.1.1.13 The **Defects Liability Period**, from the date of the Certificate of Completion, is **1 Year**
- 1.1.1.14 The **time for achieving Practical Completion**, from the Commencement Date is **32 Weeks**. The period as stated in 5.3.2, and the 7 days referred to in 5.3.3, are included in the above time for achieving Practical Completion. The special non-working days as stated in 5.8.1 are excluded from the above time for achieving Practical Completion.
- 1.1.1.15 The Employer is the eThekweni Municipality as represented by:  
**ENGINEERING : Deputy Head: Roads Provision** .
- 1.2.1.2 The address of the Employer is:  
Physical: **Engineering Unit, 166 K.E. Masinga Road, DURBAN, 4001**  
Postal: **Engineering Unit, P O Box 680, DURBAN, 4000**  
Telephone: **031-311-7601 (t)**  
Fax: **031-311-7321 (f)**  
E-Mail: **Sandile.Masondo@durban.gov.za**
- 1.1.1.16 The **name of the Employer's Agent** is **LNJ Cloete (Pr. Tech Eng)**
- 1.2.1.2 The address of the Employer' Agent is:  
Physical: **Engineering Unit, 166 K.E. Masinga Road, DURBAN, 4001**  
Postal: **Engineering Unit, P O Box 680, DURBAN, 4000**  
Telephone: **031 311 7728 (t)**  
Fax: **031 311 7321 (f)**  
E-Mail: **Lynton.Cloete@durban.gov.za**
- 1.1.1.26 The **Pricing Strategy** is by **Re-measurement Contract**.

3.2.3 The Employer's Agent shall obtain the **specific approval of the Employer** before executing any of his functions or duties according to the following Clauses of the General Conditions of Contract:

- 6.3 : Council approval in order to authorise any expenditure in excess of the Tender Sum plus **15%** contingencies.

4.11.1 To carry out and complete the works, the Contractor shall employ a competent Site Agent and Foreman as part of the key staff. It is a requirement for the Contractor's Site Agent and Foreman to each have a minimum of 3 years relevant experience including experience on projects of a similar nature. The CV's of the Site Agent and the Foreman should be submitted to the Employer's Agent's Representative for acceptance by the Department (reference is made to Cl.5.3.1 of the Contract Data).

Note:

- "similar nature" implies projects that were of a value of at least 70% of this tender's value, and had a comparable Scope of Work in terms of technical requirements and operations.
- "experience" implies experience on projects of a similar nature.
- "accredited degree / diploma" implies a minimum 3-year qualification within the built environment, from a registered University or Institute of Technology.

5.3.1 The **documentation required** before commencement with Works execution are:

- Health and Safety Plan (refer to Clause 4.3)
- Initial Programme (refer to Clause 5.6)
- Security (refer to Clause 6.2)
- Insurance (refer to Clause 8.6)
- CV(s) of Key Site Staff (refer to Clause 4.11.1)
- CPG Implementation Plan (if applicable)

5.3.2 The **time to submit the documentation** required before commencement with Works is **28 Days**.

5.3.3 Add the following paragraph:

"If a construction work permit, in terms of Clause 3(1) of the Construction Regulations (2014), is applicable, the instruction to commence carrying out of the works may only be issued once the construction work permit has been obtained by the Employer's Agent. If a construction work permit is applicable, the contractor shall allow for a minimum period of 37 days, after the submission (or re-submission) of the documentation referred to in Clause 5.3.1., for the issuing of the construction work permit."

5.4.2 The access and possession of Site shall not be exclusive to the Contractor but as set out in the Site Information.

5.8.1 The **non-working days** are Sundays.

(5.1.1) The **special non-working** days are:

- All statutory holidays as declared by National or Regional Government.
- The year-end break:
  - Commencing on the first working day after 15 December.
  - Work resumes on the first working day after 5 January of the next year.

5.8.1 Delete the words “sunset and sunrise” and replace with “17:00 and 07:00”.

5.12.2.2 **Abnormal Climatic Conditions (Rain Delays)** - The numbers of days per month, on which work is expected not to be possible as a result of rainfall, for which the Contractor shall make provision, is given in the table below. During the execution of the Works, the Employer’s Agent’s Representative will certify a day lost due to rainfall only if at least 75% of the work force and plant on site could not work during that specific working day.

Extension of time as a result of rainfall shall be calculated monthly being equal to the number days certified by the Employer’s Agent’s Representative as lost due to rainfall, less the number of days allowed for as in table below, which could result in a negative figure for certain months. The total extension of time for which the Contractor may apply, shall be the cumulative algebraic sum of the monthly extensions. Should the sum thus obtained be negative, the extension of time shall be taken as NIL.

<u>Month</u>	<u>Days Lost</u>	<u>Average Rainfall</u>	<u>Month</u>	<u>Days Lost</u>	<u>Average Rainfall</u>
January	4*	134	July	1	39
February	3	113	August	2	62
March	3	120	September	2	73
April	2	73	October	3	98
May	2	59	November	3	108
June	1	28	December	1*	102
TOTAL	27	1009mm	* = The number of working days lost allows for the annual statutory Construction holiday in December and January of each year.		

5.13.1 The **penalty for delay** in failing to complete the Works is **R 2500** (per Day).

5.14.1 The **requirements for achieving Practical Completion** will be determined by the Employer’s Agent (in consultation with the Contractor) and recorded in the minutes of the first Site Meeting / Handover Meeting. (Refer to 1.1.1.24 for a generic definition.) The requirements are to be regularly reviewed with respect to any variations to the Contract.

5.16.3 The **latent defect liability** period is **10 Years**.

6.2.1 **Security (Performance Guarantee)**: Delete the word “selected” and replace it with “stated”.

The liability of the Performance Guarantee shall be as per the following table:

<b>Value of Contract (incl. VAT)</b>	<b>Performance Guarantee Required</b>
Less than or equal to R 1m	Nil
Greater than R 1m and less than or equal to R 10m	5% of the Contract Sum
Greater than R 10m	10% of the Contract Sum

- 6.5.1.2.3 The **percentage allowance** to cover overhead charges for daywork are as follows:
- **80%** of the gross remuneration of workmen and foremen actually engaged in the daywork;
  - **20%** on the net cost of materials actually used in the completed work.

No allowance will be made for work done, or for materials and equipment for which daywork rates have been quoted at tender stage.

6.8.2 **Contract Price Adjustment Factor:** The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule (GCC 2015 - page 86) with the following Indices / Descriptions / Coefficients:

- The proportion not subject to adjustment: **x = 0.10**.
- The base month will be the month prior to the month in which tenders close.
- The Index for Labour, Plant, and Materials shall be based on **December 2021 = 100**.
- The Index for Fuel shall be based on **December 2020 = 100**.

	STATS SA Statistical Release	Table	Description	Coefficient
• "L" is the "Labour Index"	P0141	Table A	Geographic Indices; CPI per Province; Kwa-Zulu Natal	<b>a = 0.28</b>
• "P" is the • "Contractor's Equipment Index"	P0151.1	Table 4	Plant and Equipment	<b>b = 0.28</b>
a) "M" is the "Materials Index"	P0151.1	Table 6	Civil Engineering Material (excluding bitumen)	<b>c = 0.38</b>
1. "F" is the "Fuel Index"	P0142.1	Table 1	Coke, petroleum, chemical, rubber and plastic products; Coal and petroleum products; Diesel	<b>d = 0.06</b>

6.8.3 Price adjustments for **variation in the cost of the special material(s)** listed below, will be allowed.

**Bitumen** - escalation will be calculated using the "Rise and Fall" method as determined by the Employer. The base price for bitumen on this contract shall be the ruling price of 50/70 grade bitumen based on the "Shell Wholesale List Selling Price for Penetration Grade Bitumen", seven (7) days prior to the closing date of tenders.

6.10.1.5 The **percentage advance** on materials not yet built into the Permanent Works is **80%**.

The **percentage advance** on Plant not yet supplied to Site: **Not Required**

6.10.3 **Retention Money:** Delete the word "selected".

The percentage retention on the amounts due to the Contractor is 10%.

The limit of "retention money" is 5% of the Contract Sum.



Should the Contract Price exceed the Contract Sum then the limit of “retention money” is 5% of the Contract Price.

Interest will not be paid on retention withheld by the Employer.

8.6.1.1.2 The **value of Plant and materials** supplied by the Employer to be included in the insurance sum: **Not Required**.

8.6.1.1.3 The **amount to cover professional fees** for repairing damage and loss to be included in the insurance sum: **Not Required**

8.6.1.2 **SASRIA Coupon Policy** for Special Risks to be issued in joint names of Council and Contractor for the full value of the works (including VAT).

8.6.1.3 The limit of indemnity for **liability insurance**: **R 10 000 000**.

8.6.1.4 **Ground Support Insurance:**

- Minimum amount for any one occurrence, unlimited as to the number of occurrences, against any claim for damages or loss caused by vibration and / or removal of lateral support:
- **R 1 000 000**.
- Maximum first excess: **R 20 000**.

8.6.1.5 Furthermore, the insurance cover effected by the Contractor shall meet the following requirements:

#### **Third Party Insurance (Public Liability)**

- Minimum amount for any one occurrence, unlimited as to the number of occurrences, for the period of the contract, inclusive of the maintenance period: **R 2 000 000**.
- Consequential loss to be covered by policy: **Yes**
- Liability section of policy to be extended to cover blasting: **Nil** .
- Maximum excess per claim or series of claims arising out of any one occurrence: **R40 000**.

#### **Principal's own surrounding Property Insurance**

- Minimum amount for any one occurrence unlimited as to the number of occurrences against any claim for damage which may occur to the Council's own surrounding property:
- **R1 000 000**.
- Maximum first excess: **R 20 000**.

#### **Insurance of Works**

- Minimum amount for additional removal of debris (no damage): **Nil**
- Minimum amount for temporary storage of materials off site, excluding Contractor's own premises: **Nil** .
- Minimum amount for transit of materials to site: **Nil**

**8.6.5 Approval by Employer:** At the end of the sub-clause, add the following paragraph:

"Except where otherwise provided in the Special Conditions of Contract, the insurance cover effected by the Contractor in terms of this clause shall not carry a first loss amount greater than those set out below:

<b>Contract Price</b>	<b>First Loss</b>
Less than R 100,000	R 5,000
R 100,000 to R 500,000	R 10,000
R 500,000 to R 1,000,000	R 20,000
R 1,000,000 to R 2,000,000	R 30,000
R 2,000,000 to R 4,000,000	R 40,000
Greater than R 4,000,000	R 50,000

The insurance policy shall contain a specific provision whereby cancellation of the policy prior to the end of the period referred to in Cause 8.2.1 cannot take place without the prior written approval of the Employer."

**10.7.1** Dispute resolution is to be by means of ad-hoc adjudication. Failing ad-hoc adjudication, the determination of disputes shall be by arbitration

**C1.2.2.2 DATA TO BE PROVIDED BY CONTRACTOR**

1.1.1.9 The legal name of Contractor is:

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.....

1.2.1.2 The Physical address of the Contractor is:

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.....

.....

The Postal address of the Contractor is:

.....

.....

.....

.....

The contact numbers of the Contractor are:

Telephone: .....

Fax: .....

The E-Mail address of the Contractor is:

.....

## C1.2.3 ADDITIONAL CONDITIONS OF CONTRACT

### C1.2.3.1 COMMUNITY LIAISON OFFICER

The Ward Councillor(s) in whose ward(s) work is to be done will, collectively, identify a community liaison officer (CLO) for the project and make the person known to the Contractor within two days of being requested to do so. The Contractor will be required to enter a written contract with the CLO that specifies:

- The hours of work and the wage rate of the CLO (200% of the Civil Engineering Industry minimum wage).
- The duration of the appointment.
- The duties to be undertaken by the CLO which could include:
  - Assisting in all respects relating to the recruitment of local labour.
  - Acting as a source of information for the community and councillors on issues related to the contract.
  - Keeping the Contractor advised on community issues and issues pertaining to local security.
  - Assisting in setting up any meetings or negotiations with affected parties.
  - Keeping a written record of any labour or community issue that may arise.
  - Any other duties that may be required by the Contractor.

Responsibility for the identification of a pool of suitable labour shall rest with the CLO, although the Contractor shall have the right to choose from that pool. The Contractor shall have the right to determine the total number labourers required at any one time and this may vary during the contract.

The Contractor shall have the right to replace labour that is not performing adequately. Should such occasion arise, it must be done in conjunction with the CLO.

**Payment: The CLO will be reimbursed from the PC Sum item in the Preliminary & General Section of the Bill of Quantities.**

### C1.2.3.2 EMPLOYMENT OF LOCAL LABOUR

It is a condition of contract that the contractor will be required to employ local labour as specified in eThekweni Council Policy “The use of CLOs and Local Labour”. The contractor will be required to ensure that a minimum of 50% of the labour force is made up of local labour. For the purposes of this contract, “Local labour” will be deemed to be any **persons who reside within Ward(s) 37**. The contractor will be required to provide proof of authenticity of local labour. Signed confirmation by the appointed CLO will suffice for this.

No additional costs will be entertained due to this Particular Specification. The contractor will remain responsible for providing proper supervision of all labour, and will be responsible for the quality of work produced.

### C1.2.3.3 CONTRACTOR PARTICIPATION GOAL (CPG)

It is a condition of contract that the contractor must allow for a minimum of **30%** of the contract value (excluding PC Sum items and Fixed Cost allowances) to be subcontracted to contractors who are >76% PPG (Priority Population Group) owned. Proof of payment to the subcontractors will be required to verify that the minimum has been achieved.

The penalty for not achieving the specified CPG will be 0.5% of the contract value (excluding PC Sum items and Fixed Cost allowances) for every 1% of CPG not achieved.

#### C1.2.3.4 FTE (Full Time Equivalent) EMPLOYMENT INFORMATION

It is a condition of contract that the Contractor supplies the Employer's Agent's Representative with information in respect of the employment of all foremen, artisans and labour (skilled and unskilled) employed to work on this contract. The information required is:

- Initials (per ID doc)
- Last Name (per ID doc)
- ID Number
- Disability (y / n)
- Education Level

<b>Level 1</b> Unknown	<b>Level 2</b> No Schooling	<b>Level 3</b> Grade 1-3	<b>Level 4</b> Grade 4	<b>Level 5</b> Grade 5-6
<b>Level 6</b> Grade 7-8	<b>Level 7</b> Grade 9	<b>Level 8</b> Grade 10- 11	<b>Level 9</b> Grade 12	<b>Level 10</b> Post Matric

- Category of  
Employment

**Category A:** Employed as Local Labour for this contract only  
**Category B:** Temporarily employed by the Contractor  
**Category C:** Permanently employed by the Contractor

In addition, the following information is required in respect of each person listed above, on a monthly basis:

- Number of days worked during the month;
- Daily wage rate;
- Number of training days during the month.

The information is to be forwarded in a format acceptable to the Employer's Agent's Representative, but preferably in the form of an emailed EXCEL file (an original file, to be used as a template, will be issued to the Contractor). Contractors without computer facilities will be required to submit a hard copy of the information in a format as agreed to between the Contractor and the Employer's Agent's Representative.

In addition to the tax invoice, to be submitted by the Contractor with his monthly statement, mentioned in Clause 6.10.4 of GCC 2015, the Employer reserves the right to withhold payment until the monthly FTE information has been forwarded to the Employer's Agent's Representative. No additional payment for complying with the above will be made and the Contractor is to make allowance for complying through the time related P & G items (sum) under Part AA: Preliminaries, of the Bill of Quantities.

#### **C1.2.3.5 PERFORMANCE MONITORING OF SERVICE PROVIDERS**

The Contractor shall be subjected to “Performance Monitoring” assessments in terms of the applicable Section of the Employer’s Supply Chain Management Policy.

Key Performance Indicators (KPIs) are specified in the Part C3: Scope of Works, or will be discussed and agreed with the Contractor before commencement of the contract.

#### **C1.2.3.6 EMPOWERMENT STRATEGIES**

For contracts above R30m, the 2017 PPPFA Regulations require organs of State to identify tenders, where it is feasible, to subcontract a minimum of 30% of the value of the contract to the following designated groups:

- (a) an EME or QSE;
- (b) an EME or QSE which is at least 51% owned by black people;
- (c) an EME or QSE which is at least 51% owned by black people who are youth;
- (d) an EME or QSE which is at least 51% owned by black people who are women;
- (e) an EME or QSE which is at least 51% owned by black people with disabilities;
- (f) an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships;
- (g) a cooperative which is at least 51% owned by black people;
- (h) an EME or QSE which is at least 51% owned by black people who are military veterans; or
- (i) more than one of the categories referred to in paragraphs (a) to (h).

In addition to the above, the eThekweni Municipal Council has adopted a framework for empowerment strategies for contracts between R5m and R30m.

#### **C1.2.3.7 EXCEPTED RISKS (Clause 8.3)**

Pursuant to Clause 8.3 of the Conditions of Contract (GCC 2015), the Employer shall not be liable for the payment of standing time costs as a result of the occurrence of any of the “Excepted Risks” as defined under Clause 8.3.

However, the Employer shall reimburse the Contractor in respect of plant de-establishment and re-establishment costs as a result of “Excepted risks” when a written instruction to de-establish is issued to the Contractor.

## **C2.1: PRICING ASSUMPTIONS / INSTRUCTIONS**

### **C2.1.1 GENERAL**

The Bill of Quantities forms part of the Contract Documents and must be read and priced in conjunction with all the other documents comprising the Contract Documents (refer to F.1.2 of the Tender Data).

### **C2.1.2 PRICING INSTRUCTIONS AND DESCRIPTION OF ITEMS IN THE SCHEDULE**

Measurement and payment shall be in accordance with the relevant provisions of Clause 8 of each of the Standard Engineering Specifications referred to in the Scope of Work. The Preliminary and General items shall be measured in accordance with the provisions of C2.1.8.

The descriptions of the items in the Bill of Quantities are for identification purposes only and comply generally with those in the Standard Engineering Specification.

Clause 8 of each Standard Engineering Specification, read together with the relevant clauses of the Scope of the works, set out what ancillary or associated work and activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standard Engineering Specification, or the Scope of the works, conflict with the Bill of Quantities, the requirements of the Standard Engineering Specification or Scope of the work, as applicable, shall prevail.

### **C2.1.3 QUANTITIES REFLECTED IN THE SCHEDULE**

The quantities given in the Bill of Quantities are estimates only, and subject to re-measuring during the execution of the work. The Contractor shall obtain the Employer's Agent's detailed instructions for all work before ordering any

materials or executing work or making arrangements for it.

The Works as finally completed in accordance with the Contract shall be measured and paid for as specified in the Bill of Quantities and in accordance with the General and Special Conditions of Contract, the Specifications and Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste.

The validity of the contract will in no way be affected by differences between the quantities in the Bill of Quantities and the quantities finally certified for payment.

### **C2.1.5 MONTHLY PAYMENTS**

Unless otherwise specified in the Specifications and Project Specifications, progress payments in Interim Certificates, referred to in Clause 6.10.1 of the General Conditions of Contract, in respect of "sum" items in the Bill of Quantities shall be by means of interim progress instalments assessed by the Employer's Agent and based on the measure in which the work actually carried out relates to the extent of the work to be done by the Contractor.

### **C2.1.4 PROVISIONAL SUMS / PRIME COST SUMS**

Where Provisional Sums or Prime Cost sums (PC Sum) are provided for items in the Bill of Quantities, payment for the work done under such items will be made in accordance with Clause 6.6 of the General Conditions of Contract. The Employer reserves the right, during the execution of the works, to adjust the stated amounts upwards or downwards according to the work actually done under the item, or the item may be omitted altogether, without affecting the validity of the Contract.



The Tenderer shall not under any circumstances whatsoever delete or amend any of the sums inserted in the "Amount" column of the Bill of Quantities and in the Summary of the Bill of Quantities unless ordered or authorized in writing by the Employer before closure of tenders. Any unauthorized changes made by the Tenderer to provisional items in the schedule, or to the provisional percentages and sums in the Summary of the Bill of Quantities, will be treated as arithmetical errors.

#### **C2.1.6 PRICING OF THE BILL OF QUANTITIES**

The prices and rates to be inserted by the Tenderer in the Bill of Quantities shall be the full inclusive prices to be paid by the Employer for the work described under the several items, and shall include full compensation for all costs and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based.

Each item shall be priced and extended to the "Total" column by the Tenderer, with the exception of the items for which only rates are required (Rate Only), or items which already have Prime Cost or Provisional Sums affixed thereto. If the Contractor omits to price any items in the Bill of Quantities, then these items will be considered to have a nil rate or price.

All items for which terminology such as "inclusive" or "not applicable" have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

All rates and amounts quoted in the Bill of Quantities shall be in Rands and Cents and shall include all levies and taxes (other than VAT). VAT

will be added in the Summary of the Bill of Quantities.

#### **C2.1.7 "RATE ONLY" ITEMS**

The Tenderer shall fill in rates for all items where the words "Rate Only" appear in the "Total" column. "Rate Only" items have been included where:

- (a) an alternative item or material is contemplated;
- (b) variations of specified components in the make-up of a pay item may be expected; and
- (c) no work under the item is foreseen at tender stage but the possibility that such work may be required is not excluded.

For "Rate Only" items no quantities are given in the "Quantity" column but the quoted rate shall apply in the event of work under this item being required. The Tenderer shall however note that in terms of the Tender Data the Tenderer may be asked to reconsider any such rates which the Employer may regard as unbalanced.

#### **C2.1.8 PRELIMINARY AND GENERAL**

The Preliminary and General Section is provided to cover the Contractor's expenses incurred in complying with the requirements of the tender documents and consists of the following parts:

- i. Part AA: Preliminaries
- ii. Part AB: General Specifications
- iii. Part AH: Occupational Health and Safety

**Fixed Charge Items:** Each item should be priced separately and, subject to the Engineer certifying in terms of **Clause 6.7 of the General Conditions of Contract** that the work has been done, payment will be made as follows:

- (i) the total amount due when the certified value fixed charge items in this section is less than 5% of the net contract price;
- (ii) when the certified value of fixed charge items in this section is greater than 5% of the net contract price, payment will be limited to 5% of



the net contract price. The remainder will be paid when the value of the work done under the contract, excluding the value of fixed charge items in this section, is greater than 50% of the net contract price, excluding the value of fixed charge items in this section.

**Time Related Items:** Any Time Related items not priced shall be deemed to be covered by the prices of other items in the section.

Payment of Time Related items in this section will be made throughout the contract period, the amount per month being the value of the item divided by the completion in months or, if specified in weeks, the equivalent number of months, in terms of **Clause 5.5 of the General Conditions of Contract**. The final monthly increment will only be paid upon the issue of a completion certificate.

**C2.2: BILL OF QUANTITIES**

The Bill of Quantities follows and comprises of 36 pages. The pages are numbered BoQ 66 to BoQ 101

**PART C3: SCOPE OF WORK**

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### **C3.1: PROJECT DESCRIPTION AND SCOPE OF CONTRACT**

#### **C3.1.1 Description of Works**

This contract entails the realignment and widening of portion of Peter Road. Peter Road is currently highly commercialised and industrialised with numerous businesses in operation along the road length. A number of illegal operations are occupying the road reserve at numerous locations. The **Transnet / Sasol Pipeline** runs along Peter Road within close proximity to the works. No work on the pipeline is envisaged however there may be restrictions put into place when working near the infrastructure. Numerous other critical services traverse the site. Contractor shall exercise reasonable skill and care when working in the vicinity and proving existing services. The cooperation with other service providers is required and interaction with them will need to take place. Construction of retaining walls (of standard and special dimensions) / brick walls / Loffelstein walls and ancillary works, shoring / embankment protection, associated traffic accommodation, temporary new jersey barriers, temporary and permanent works, relocation, lowering of services, imported fill, removal of trees and shrubs, new stormwater and associated manholes, abandoning or repair of existing stormwater / sewer, clearing and cleaning of existing manholes and pipes by jetting, road layer works, Graded G4 crushed stone with asphalt surfacing, kerbing and haunching, asphalt sidewalk construction, access construction, minor road rehabilitation, brick paved / G-Block or industrial standard scoops and sidewalks , lane marking, premarking temporary and permanent. The works also include for the as built preparation and submission. Access to all businesses must be maintained at all times.

Works shall include for the accurate setting out of all positions as per the design survey. Works involves the setting out of control and cadastral boundary and design levels at various times during the construction phase and on more than once occasion as required. The contractor shall comply with all legal provisions in regards surveying and setting out the work. Road markings, particularly the divergent / convergent lines and barriers / retaining walls and elements of the road require proper setting out. The contractor shall prove to the Engineer the critical reference points have been satisfactorily recorded for later reinstallation before any work commences and that any reference points inside the works will need to be relocated. The contractor shall take care that property beacons, trigonometrical survey beacons or setting-out beacons are not displaced or destroyed without the consent of the Engineer. Property beacons and trigonometrical survey beacons that have been displaced or destroyed shall be replaced by a registered land surveyor, who will certify such replacement. The cost of replacing all beacons displaced or destroyed during the course of the contract without the consent of the Engineer shall be the Contractor's responsibility and include in the tendered rates.

Work will be within restricted space conditions, and access may be difficult. Excavation will be in intermediate to hard material and no extra over shall be allowed for hard material. Poor subgrade material may be encountered, and the Contractor shall take into consideration the use of breakers / excavators / pecker machines where necessary.

No extra over will be considered where restricted excavation and work in restricted space is carried out and where difficulties are encountered due to restrictions for any affected services that may exist. It is imperative that any service if taken proper care of to prevent any damage. Proving of existing services within the footprint of the construction will be an important consideration.

At times working space required may encroach into private property. Reasonable notice and arrangements shall be arranged with those affected businesses for access and security.

Works will include for the material excavation from cut to fill or cut to spoil or cut to stockpile to be used as suitable backfill. Excavation in existing asphalt, intermediate material and in unreinforced or reinforced concrete is envisaged.

In terms of the monitoring of quality management, the monitoring forms part of a quality management system or will require only an occasional verification.

Accurate daily records of all site activities are to be recorded and verified. In terms of payments verification and certification shall be carried out prior to submission for the substantiation of the payment certificate claim.

Traffic conditions along Peter Road vary considerably and deviations / Stop Go conditions may need to be affected. No full road closures will be permitted at any time. There are a number of existing concrete barriers that can be moved around on site.

## **Electricity**

Numerous services traverse the existing roadway, electricity consisting of Street Lighting, LV / MV / HV cables above and underground, CDU's / Substations on or close to the site with cables running through the site feeding to the transformers both on and outside of the extents of construction. Any found or affected services shall be treated as live. Any abandoned electrical cable/s to be removed / recovered or relocated must be confirmed by eThekweni Electrical Department and any major cables covered by slabs can only be handled by the eThekweni electrical or nominated subcontractor. Existing underground services are of unknown depth and position indicated on the drawing may not reflect the true position.

It is important that the contractor in consultation with the Employer's Agent's Representative liaise timeously with the service provider, and to expect delays in relocations should it be required, whereby allowance shall be made in the construction programme. No time related claims will be entertained for the relocation of services and associated delays caused by the owner of the affected service planning, procuring materials and executing the relocation. For the services identified along the construction site, a construction technical representative from the relevant service department must be identified in consultation with the service provider and that the technical representative is to be appointed accordingly to oversee the completion / lowering / relocations to completion of that service providers infrastructure, in consultation and approval of the Employer's Agent's Representative within the proposed activity sequence and ahead of time prior the construction occurring along or adjacent the service. Contractor will need to revise the construction programme to accommodate service relocations and any delays in service relocation. All the services must be installed before completion of the cosmetic additions.

**Telkom / Openserve** (Fibre / Copper / Manholes and chambers / Ducting) – overhead and underground.

**Fibre** – various service providers – lowered / repositioned / relocated, manholes

**Water** AC main, connections to meters, bulk and domestic. For any Water reticulation, bulk materials will be provided by Water Department if available. together with Appointment of Metro Approved Plumber. Water and Sewer Reticulation - protection / relocation / installation - collection, transport, storage and security of materials from stores. Contractor will be required to collect materials from store on authorisation on more than one occasion. There are various coupling / hydrants / valves. It may be required that temporary rider main is installed at locations where there are difficulties with levels and conflicting services and other annoyances.

**Stormwater** – there is currently existing stormwater pipes / culverts and manholes / inlets. New stormwater and stormwater extensions is to be installed. Existing infrastructure will connect to the new line, or alternative be sealed, abandoned or removed. Stormwater excavation is within the existing carriageway and traffic is to be suitably accommodated. Stormwater excavation is in variable materials, and some are relatively deep to achieve the design grade. Stormwater installation will more than likely conflict with other services, longitudinally or due to a related road or service crossing namely water / electrical / fibres / sewer / Telkom and other services, known and unknown. This will need to be accommodated and rectified on site. Various gutter and downpipes will need to be extended to tie into the new pipe or nearest convenient inlet /manhole.

**Sewer** - there is currently existing sewer pipes and manholes and various property connections. These connections may conflict with other services and will need to be dealt with on site.

**Sasol / Transnet Pipeline** - there is currently existing pipes, markers and manholes that traverse the site. The service may conflict with the extent of the road upgrade and widening. As this line is of National importance restrictions and conditions are in place when working nearby the service. This will be communicated to the Contractor.

All services once located / relocated / lowered must be protected. Any damages unrelated to relocation costs shall be to the Contractor's expense. The contractor shall be responsible for the relocation of all the affected services within or less than the stipulated timeframes. The Contractor is required to ensure adequate security protection surrounding the affected working space required and to include in the costs.

Relocation work shall run concurrently with other activities in the programme and if there are further delays, this shall be adjusted and accommodated in the project construction period without extension of time or associated time related claims. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. The Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution taking into consideration procurement of materials, delay in procurements of materials, supply of materials,.

### **C3.1.2 Description of Site and Access**

The site is located within Ward 37, Off Inanda Road, Springfield Flats  
Refer to Item C4.1 : Locality Sketch

### **C3.1.3 Workmanship and Quality Control**

The Contractor shall implement a quality assurance system that replicates ISO 9002 and appoint a quality manager who shall ensure the members of the contractor staff and sub-contractors, local and appointed comply with the requirements of the quality system. The



quality system and the methods used to implement it shall be described in the quality plan produced by the Contractor. The quality manager shall be resident of site full time.

The Contractor shall submit the quality assurance system he proposes using to the Engineer for his approval within two weeks of the site handover. The systems shall record the lines and levels of responsibility and indicate the method by which testing procedures will be conducted. Once accepted by the Engineer, the Contractor shall not deviate from it unless written notification of proposed changes have similarly been submitted and approved. The system shall provide for a method statement for each construction activity. Each method statement shall be submitted to the Engineer for his approval prior to commencement of the activity. No construction activity shall commence before the Engineer has approved the Contractors quality assurance system. Costs are to be included in the tendered rates.

#### **C3.1.4 Nature of Ground and Subsoil Conditions**

High probability of Poor Subsoil Conditions, varying materials, underground water. Formation levels will need to be tested to ascertain quality and required tests will need to be carried out to determine suitability of material and possibility of removal and replacement. Mud Materials may be encountered and where this material is to be removed to achieve formation level, appropriate methods shall be utilised.

The goal is to provide a common G7 support at Formation levels for all subsequent pavement structures. Layers imported shall be processed in 150mm compacted lifts.

It is imperative that the in-situ materials quality is verified at the time of construction to at least the material depth which is approximately 1140mm below final road level. Material worse than G10 and of poor quality may be expected in deeper excavation and may vary significantly. Poor materials may need to be replaced with dumprock or clean coarse sand where indicated.

<b>Subgrade Preparation<sup>1</sup></b>				
Construction Action	Insitu Subgrade Material Classification			
	SG1 (G7)	SG2 (G9)	SG3 (G10)	SG4 (Worse than G10 <sup>3</sup> )
Undercut	No undercut required	Undercut 150mm	Undercut 300mm	Undercut to Material Depth
Insitu Re-work	Rip & re-compact 150mm insitu G7	Rip & re-compact 150mm insitu G9	Rip & re-compact 150mm insitu G10	Rip & re-compact 150mm insitu material <sup>4</sup>
Imported Material	Nil	150mm G7	300mm G7 <sup>2</sup> /DR	450mm G7 <sup>2</sup> /DR

## Notes

1. The goal is to provide a common G7 support at Formation Level for all subsequent pavement structures.
2. Layers imported in 150mm compacted lifts.
3. All material found within the Material Depth should be of G10 quality or better.
4. In areas where seepage and wet ground conditions occur, subsoil drainage and a river sand or dump rock fill may be required. Dump rock fill will perform better in saturated conditions. The minimum thickness of sand or dump rock fill should be 300mm with a geo-fabric membrane positioned at the base of the fill. The thickness of sand or dump rock fill will be determined by the severity of the wet ground conditions and the type of plant being utilised. The thickness of imported material may be reduced if this method is utilised

## Material Descriptions and Compaction Specifications

Material Description		Defining Material Characteristic	Compaction Specification Limit
AC <sup>1</sup>	14.0 mm continuously graded asphalt	Asphalt Mix Type Sa-H14	Min: 93% MVD Max: 96% MVD
BC <sup>1</sup>	14.0 mm continuously graded asphalt	Asphalt Mix Type Sa-H14	Min: 93% MVD Max: 96% MVD
C3	Stabilised gravel (ex.G4)	UCS > 1.50MPa ITS > 250kPa (@ 100% Mod.AASHTO & 7 day cure)	95% MDD
G7 <sup>2</sup>	Natural gravel or soil	CBR @ 93% MDD > 15%	95% MDD
DR	Dump rock	- 2/3 x layer thickness, P37.5 < 10%	Method Spec.
Gs	Coarse river sand	Free draining, P0.075 < 1%, FM > 2.5	100% MDD
Insitu			93% MDD

## **C3.2: PROJECT SPECIFICATION**

### **PREAMBLE**

In the event of any discrepancy between a part or parts of the Standard or Particular Specifications and the Project Specification, the Project Specification shall take precedence. In the event of a discrepancy between the Specifications, (including the Project Specifications) and the drawings and / or the Bill of Quantities, the discrepancy shall be resolved by the Employer's Agent before the execution of the work under the relevant item.

### **C3.2.1 GENERAL**

#### **PS.1 PROGRAMME, METHOD OF WORK, AND ACCOMMODATION OF TRAFFIC**

This Clause is to be read in conjunction with the provisions and obligations as contained in SANS 1921-1 and SANS 1921-2.

##### **PS.1.1 Preliminary Programme**

The Contractor shall include with his tender a preliminary programme on the prescribed form (see Part T2.2: Preliminary Programme) to be completed by all Tenderers. The programme shall be in the form of a simplified bar chart with sufficient details to show clearly how the works will be performed within the time for completion as stated in the Contract Data.

Tenderers may submit tenders for an alternative Time for Completion in addition to a tender based on the specified Time for Completion. Each such alternative tender shall include a preliminary programme similar to the programme above for the execution of the works and shall motivate his proposal clearly by stating all the financial implications of the alternative completion time.

The Contractor shall be deemed to have allowed fully in his tendered rates and prices as well as in his programme for all possible delays due to normal adverse weather conditions (refer to Clause 5.12.2.2) and special non-working days (refer to Clause 5.1.1.1) as specified in the in the Contract Data.

## PS.1.2 Programme in Terms of Clause 5.6 of the General Conditions of Contract

It is essential that the construction programme, which shall conform in all respects to Clause 5.6 of the General Conditions of Contract, be furnished within the time stated in the Contract Data (refer to Clause 5.3.1/2).

The preliminary programme to be submitted with the tender shall be used as basis for this programme.

The Tenderer's attention is drawn to the fact that a number of factors will affect the programming of and method of carrying out the works. The more important of these are:

- (1) Time required for service relocations.
- (2) Time allowances to be made for the ordering of special items.
- (3) Notification required by service organisations.
- (4) Any special sequence in which work must be carried out. Must certain areas of work be finished before work commences on others?
- (5) If delays are anticipated with service relocations the contractor should be asked to allow time.
- (6) Is work required out of normal hours? (e.g. to accesses).
- (7) Vehicular access to private property is to be maintained.
- (8) Traffic restrictions.
- (9) Community and Labour Disruptions.
- (10) Work stoppages
- (11) Business and associated Forum Disruptions

Those known, existing services in the area of the works have been depicted on the contract drawings. It is evident however, that the status of existing service records as far as can be ascertained might not reflect the actual situation in the field. As such, due allowance has been made in the Bill of Quantities for the proving of services where directed by the Employer's Agent's Representative.

The identification, protection, relocation and renewal of any underground and overhead service forms part of the scope of this contract. Accordingly, the responsibility of dealing with these services in whatever way deemed necessary by the service owner or employer's agent, belongs to the contractor.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a

change in contract duration or end dates.

The mechanisms to deal with service relocations may be one or a combination of the following processes:

Identification of service relocation/renewal scope of work in consultation with the service owner.

Preparation of a tender and bill of quantities for service management in consultation with service owner or the employer's agent.

Sourcing prices for the works done through a process directed by the employer's agent that subscribes to a fair, transparent and equitable practices.

Enter into a sub-contract relationship with selected sub-contractor.

Manage the workflow process, risk, time, cost, quality of the sub-contractor.

Where the service provider chooses to undertake the service management at their own accord, then the contractor will facilitate payment after agreement with the Employer's Agent. The contractor is also required to manage the process of risk, time, cost, quality of the service provider.

It is noted that the above procedures are aimed at putting the responsibility of the service management in the hands of the contractor, who is best suited to mitigate contract risk in this regard.

This contract will not make provisions for any extension of time or delay relating to service management. The contract programme must reflect a realistic timeline that attends to the service management scope of this project.

The programme will be reviewed at the monthly site meetings at which the contractor shall provide sufficient details that will allow the comparison of completed work per activity against the original approved programme. The contractor shall indicate what resources and programme changes he intends to implement in order to remedy any activity that has fallen behind. The Engineer may demand from the Contractor a major revision of the programme. Such a revision shall be submitted for approval within fourteen days of the demand.

## **PS.1.3 Requirements for Accommodation of Traffic**

### **PS.1.3.1 General**

Accommodation of traffic, where applicable, shall comply with SANS 1921-2: 2004: Construction and Management Requirements for Works Contracts, Part 2: Accommodation of Traffic on Public Roads occupied by the Contractor. The Contractor shall obtain this specification from Standards South Africa if accommodation of traffic will be involved on any part of the construction works.

Clause 4.10.4 of SANS 1921-2: 2004 shall be replaced with the following:

“Road signs and markings shall comply with the requirements of “The South African Road Traffic Signs Manual - Volume 2: Roadworks Signing”.

### **PS.1.3.2 Basic Requirements**

The travelling public shall have the right of way on public roads, and the Contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.

The Contractor shall ensure that all road signs, barricades, delineators, flagmen and speed controls are effective, and that courtesy is extended to the public at all times.

Failure to maintain road signs, warning signs or flicker lights, etc., in a good condition shall constitute ample reason for the Employer's Agent to suspend the work until the road signs, etc., have been repaired to his satisfaction.

The Contractor may not commence constructional activities affecting existing roads before adequate provision has been made to accommodate traffic in accordance with the requirements of this document and the South African Road Traffic Signs Manual.

The Contractor shall construct and maintain all temporary drainage works necessary for temporary deviations. The Contractor shall ensure that the existing property accesses are maintained at all times. Where necessary the Contractor shall make allowance in the rates for completing the work required to the accesses out of normal hours.



### **PS.1.3.3 Traffic Safety Officer**

Where warranted by traffic conditions on or near the site, the Contractor shall nominate a suitable member of his staff as traffic safety officer to be responsible for the arrangement and maintenance of all the measures for the accommodation of traffic for the duration of the project. Duties of the traffic safety officer shall be in compliance with the Occupational Health and Safety Act 1993 and the Construction Regulations 2014.

### **PS.1.3.4 Payment**

The Contractor's tendered rates for the relevant items in the Bill of Quantities shall include full compensation for all possible additional costs which may arise from this, and no claims for extra payment due to inconvenience as a result of the *modus operandi* will be considered.

### **PS.1.3.5 Pedestrian movement**

The Contractor shall make provision for accommodating all pedestrian movements in the area of the works. Allowance shall be made in the relevant rates for any barricades and signs required.

### **PS.1.3.6 Temporary Reinstatement**

Provided always that if in the course or for the purpose of the execution of the works or any part thereof any road or way shall have been broken up, then notwithstanding anything herein contained:

(a) if the permanent reinstatement of such road or way is to be carried out by the appropriate authority or by some person other than the contractor (or any subcontractor to him), the contractor shall at his own cost and independently of any requirement of or notice from the Employer's Agent's Representative be responsible for the making good of any subsidence or shrinkage or other defect, imperfection or fault in the temporary reinstatement of such road or way, and for the execution of any necessary repair or amendment thereof from whatever cause the necessity arises, until the end of the period of maintenance in respect of works beneath such road or way until the authority or other person as aforesaid shall have taken possession of the site for the purpose of carrying out permanent reinstatement (whichever is the earlier), and shall indemnify and save harmless that Council against and from any damage or injury to the Council or to third parties arising out of or in consequence of any neglect or failure of the Contractor to comply with the foregoing obligations or any of them and against and from all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect



thereof or in relation thereto.

(b) where the authority or person as aforesaid shall take possession of the site as aforesaid in sections or lengths, the responsibility of the contractor under paragraph (a) of this sub-clause shall cease in regard to any such section or length at the time possession thereof is so taken, but shall during the continuance of the said period of maintenance continue in regard to any length of which possession has not been taken and the indemnity given by the contractor under the said paragraph shall be construed and have effect accordingly

## **PS.2      SERVICES**

This Clause is to be read in conjunction with the provisions and obligations as contained in SANS 1921-1 and SANS 1921-2.

### **PS.2.1      Existing Services**

The Tenderer's attention is drawn to the numerous existing services in the area. Although every effort has been made to depict these services accurately the positions shown must be regarded as approximate.

Major services are Electrical HV/MV/LV, and numerous fibre lines, Sasol Transnet Gas Pipeline also exists. Telkom overhead and underground services exist. There will be numerous service providers to consult regarding the existing fibre services such as Liquid Telecom / CMAS Projects / DFA / AVS Telecom / Jelani Consulting / Link Africa / Telkom (Openserve) / U2 Networks / Huawei / Shanti Africa / Jintec Electronics (Pty) Ltd / Vodacom / MTN / Vumatel / Neotel and others who have services in different coloured ducts / pipes off and along the numerous main lines , that exist within and on both sides of the road carriageways, including Water, Stormwater and Sewer pipes and associated property connections.

### **PS.2.2      Proving Underground Services**

This clause must be read in conjunction with Clause DB.5.1.2, the requirements of which shall be extended to cover all earthworks operations whether for trenching or bulk earthworks, in the vicinity of underground services.

It is stressed that all services in a particular area must be proven before commencing work in that area. Relocations shall run concurrently with programmed activities. No delay costs will be entertained resulting from failure of service department to timeously and suitably relocate / lower their affected service. Delays shall be adjusted and accommodated in the project's construction period. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution.

The identification, protection, relocation and renewal of any underground and overhead service forms part of the scope of this contract. Accordingly, the responsibility of dealing with these services in whatever way deemed necessary by the service owner or employer's agent, belongs to the contractor.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a change in contract duration or end dates. Meetings, communication, timeframes, correspondence and records of reference shall be collated and accurately recorded and stored or filed.

Insofar as bulk earthworks are concerned, where services are indicated on the drawings or where from site observations can reasonably be expected that such services are likely to exist where excavations are to take place, the Contractor shall without instructions from the Employer's Agent carefully excavate by hand to expose and prove their positions.

The cost of the proving trenches is to be included in the work covered by Clause DA.8.3.

When a service is not located in its expected position the Contractor shall immediately report such circumstances to the Employer's Agent who will decide what further searching or other necessary action is to be carried out and shall instruct the Contractor accordingly. The cost of this additional searching shall be to the Council's cost and shall be paid for under DB.8.19 - Proving Existing Services.

Should any service be damaged by the Contractor in carrying out the works and should it be found that the procedure as laid down in this clause has not been followed then all costs in connection with the repair of the service will be to the Contractor's account. Any visible and exposed service becomes a known service when located.

When electrical cables are not in the positions shown on drawings of eThekweni Electricity and cannot be found after proving trenches have been put down, assistance may be obtained from the service Department.

It should be noted and reiterated once again that HV/MVt cables may only be exposed and handled by the eThekweni Electricity's personnel. The cables are usually protected by concrete covering slabs, and therefore if the slabs are inadvertently exposed, excavation work must stop, and the eThekweni Electricity shall be contacted immediately

Proving of services shall be completed at timeously in advance of the actual programmed date for commencing work in the area. Any damage caused to services whilst proving will be to the Contractors expense. The position of these services located must be co-ordinated and levelled by the Contractor, and the information given in writing to the Employer's Agent's Representative.

The requirements of this clause do not relieve the Contractor of any obligations as detailed in the Conditions of Contract or under Clause 4.17 of SANS 1921-1.

### **PS.2.3 New Services and Relocation of Existing**

This clause shall be read in conjunction with Clause PS.1.

New services are either to be installed by the Contractor as part of the contract or by others during the contract period. In the latter case excavation and subsequent backfilling of the trench from the top of the bedding layer shall generally be carried out by the Contractor. Relocation work shall run concurrently with other activities in the programme and if there are further delays, this shall be adjusted and accommodated in the project construction period.

Relocation of services shall generally be carried out by the relevant services organisation. Generally, their work shall include the excavating and bedding the service which will include backfilling to a depth of approximately 300 mm above the service. The remainder of the backfilling shall be carried out by the Contractor.

Generally, work shall only commence on the installation of new services once the bulk earthworks have been completed and roughly trimmed to level along a substantial portion of the services route. In addition, no sidewalk, verge, median or island shall be surfaced or top soiled until all work on the services has been completed. Contractor shall liaise timeframes and relocations during the construction phase. Relocations shall run concurrently with programmed activities. No delay costs will be entertained resulting from failure of service department to timeously and suitably relocate / lower their affected service. Delays shall be adjusted and accommodated in the project's construction period. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution.

The identification, protection, relocation and renewal of any underground and overhead service forms part of the scope of this contract. Accordingly, the responsibility of dealing with these services in whatever way deemed necessary by the service owner or employer's agent, belongs to the contractor.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a change in contract duration or end dates.

Services affected by the contract are described as follows:

- PS.3: Watermains;
- PS.4: Sewers;
- PS.5: Stormwater;
- PS.6: Electrical Plant
- PS.7: Telkom S.A. Limited / Openserve
- PS.8: Fibre Communication Lines – Various Service providers.

Further to the above, tenderers are referred to the services drawing and are to note that several minor cables / pipes may be encountered during excavation works which may require to be relocated to some extent. It is anticipated that the two-week period required under PS.2.2 will allow sufficient time for these relocations from commencement on site.

#### **PS.2.4 Accommodation of Services**

Further to Clauses PS.1 and PS.2 of this specification, tenderers are to note that allowance must be made under this item and / or the appropriate rates, for all costs incurred as a result of complying with these clauses. It shall also cover liaison with the services organisations and accommodation of their work gangs / contractors on site.

## **PS.3**      **WATERMAINS**

### **PS.3.1**      **General**

Tenderer's attention is drawn to the following points regarding the watermains to be installed / relocated as part of this contract. Relocation of services shall generally be covered by the relevant Service department. Generally, work shall only commence on the relocation / installation of new service once the bulk earthworks have been completed and roughly trimmed to a level along a substantial portion of the affected services route. In addition, no sidewalk, verge, median or island shall be surfaced or top soiled until all work on the services has been completed. The contractor shall prove the position of the watermain, valves, hydrants and waterlines and shall be included in the tenderers rates for excavation. Any tie-ins to the existing live mains are normally done by the Water Supply Branch of eThekweni Municipality. Metro Water will be responsible for any re-lay should the need arise. The Contractor shall liaise with the relevant Department on time frames and requirements to complete the work satisfactorily. Relocations shall run concurrently with programmed activities. No delay costs will be entertained resulting from failure of service department to timeously and suitably relocate / lower their affected service. Delays shall be adjusted and accommodated in the project's construction period. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution. Where independent plumbers recommended / approved by Metro Water, who are on the plumbers and eThekweni database, it will be required that the works is measured / quantified and that a minimum of 3 quotations are received for consideration in terms of MFMA legislation.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a change in contract duration or end dates.

Meetings, communication, timeframes, correspondence and records of reference shall be collated and accurately recorded and stored or filed.

### **PS.3.2 Water Main Valve Access**

Due to the dangerous situation occurring when water main valves are covered over, the Contractor shall maintain access to all water main valves at all times. During asphalt layer work, after each pass by the paving machine, the valves shall be exposed, and access maintained in a safe condition.

Whatever method the Contractor chooses to use for this work, the cost of raising the valves from existing level to ultimate level shall be paid only once, irrespective of the number of times the valve is uncovered. Spacer rings required for the height adjustment of valve covers shall be supplied by the Water and Sanitation Unit. Tolerances on valve cover levels shall be as specified in clause PH.6.5. Before final setting in position of valve covers the Contractor shall liaise with the Employer's Agent regarding the direction in which covers shall be placed.

### **PS.3.3 Restriction on Compactive Equipment**

The Contractor is to note that existing watermains traverse the site of the works and special care is to be taken in close proximity to these mains and connections. The existing mains and connections shall be proved on site by the Contractor prior to any construction work commencing in the vicinity of the watermains.

Under no circumstances will heavy road-making equipment, other heavy plant or vibratory compaction equipment be permitted to operate within 800 mm vertically or horizontally of the existing mains or connections. The permissible compaction plant within this restricted area shall be the equivalent of a "Bomag 90" under static compaction, or similar approved plant. When the roadworks are far enough advanced to provide a minimum of 800 mm cover to the existing mains, the above restriction will fall away.

The Contractor is to take cognisance of the above requirements when entering rates in the Bill of Quantities and in the programming of the works. No claim for additional payment based on the inability to use plant as a result of the requirements of this clause will be accepted. The Contractor will be held liable for any costs should the watermain or electrical cables be damaged during construction of the road.



## **PS.4 SEWERS**

Tenderer's attention is drawn to the following points regarding the sewers to be installed / relocated / connected as part of this contract. Sewer relocation / renewal / replacement / connection of services shall be covered by the Contractor. Generally, work shall only commence on the relocation / installation of new service once the bulk earthworks have been completed and roughly trimmed to a level along a substantial portion of the affected services route. In addition, no sidewalk, verge, median or island shall be surfaced or top soiled until all work on the services has been completed. The contractor shall prove the position of the watermain, valves, hydrants and waterlines and shall be included in the tenderers rates for excavation. Tie-ins to the existing live sewer mains will be done by the Contractor. Metro Wastewater will not be responsible for any re-lay should the need arise. Relocations renewal / replacement shall run concurrently with programmed activities. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution. Where independent plumbers recommended / approved by Metro Water / Metro Waste Water , who are on the plumbers and eThekweni database, it will be required that the works is measured / quantified and that a minimum of 3 quotations are received for consideration in terms of MFMA legislation. Adequate measures and safety measures / shoring etc. must be taken into consideration as some of the sewers may be relatively deep.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a change in contract duration or end dates.

### **PS.4.1 Blockage of Foul Water Sewers**

The Contractor shall be responsible for ensuring that cementitious sludge, sand and rubble from the works do not enter the foul water reticulation system. The Contractor shall be liable for any costs incurred by the Council or others as a result of blockages in the reticulation system attributed to failure to comply with the above requirement.



**PS.5**      **STORMWATER**

Extensive stormwater improvements is required on the works. Existing stormwater pipes which are affected may be replaced with new pipes Pipe sizes vary upward from standard 375mm Class100D. Bulk of new stormwater shall be of variable size determined on site, Class 100D pipes. Excavations are of varying depths in many different materials ranging from soft, intermediate or hard materials. Shoring will be required to protect works during installation in excess of the safety working depths as indicated in the OHS standards. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution.

## **PS.5.1 Blockage Stormwater Sewers**

The Contractor shall be responsible for ensuring that cementitious sludge, sand and rubble from the works do not enter the stormwater reticulation system. The Contractor shall be liable for any costs incurred by the Council or others as a result of blockages in the reticulation system attributed to failure to comply with the above requirement.

## **PS.6 ELECTRICAL PLANT**

### **PS.6.1 General**

Various types of electrical cables including high voltage, low voltage, street lighting and domestic connection cables are affected by the contract. The laying, relocation and jointing of all cables will be carried out by eThekweni Electricity's work gangs, or agents appointed by them, whilst the excavation and backfilling forms part of this contract. There may be Departmental delays with regards relocations. Relocations of services shall run concurrently as the work progress as it is required that proving of services and location or position of the cables must be determined. Close liaison will therefore be necessary with eThekweni Electricity throughout the contract. Relocations shall run concurrently with programmed activities. No delay costs will be entertained resulting from failure of service department to timeously and suitably relocate / lower their affected service. Delays shall be adjusted and accommodated in the project's construction period. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution.

The identification, protection, relocation and renewal of any underground and overhead service forms part of the scope of this contract. Accordingly, the responsibility of dealing with these services in whatever way deemed necessary by the service owner or employer's agent, belongs to the contractor.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require

revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a change in contract duration or end dates.

Meetings, communication, timeframes, correspondence and records of reference shall be collated and accurately recorded and stored or filed.

## **PS.6.2 Street Lighting**

Work to the existing lighting will be removed in stages and new infrastructure replaced in the centre median / intersection corners / sidewalks. Relocation will take place during this contract and be executed by eThekweni Electricity or their agents. There may be Departmental delays with regards relocations. Relocations of services shall run concurrently as the work progress as it is required that proving of services and location or position of the cables must be determined. It is a requirement that the street lighting be operational at all times. Relocations shall run concurrently with programmed activities. No delay costs will be entertained resulting from failure of service department to timeously and suitably relocate / lower their affected service. Delays shall be adjusted and accommodated in the project's construction period. The final streetlighting shall be installed before asphaltting of sidewalks or should the ELP's be within the median, prior to installation of the paving.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a change in contract duration or end dates. Meetings, communication, timeframes, correspondence and records of reference shall be collated and accurately recorded and stored or filed.

## **PS.6.3 MV / LV Cables**

Work to certain MV / LV cables is envisaged and may have to be replaced within the contract area. The actual cable work associated with this relocation and / or replacement of these cables will be carried out by eThekweni Electricity, and it is stressed that the six (6) week minimum period referred to in Clause PS.2 is the minimum period required to enable eThekweni Electricity to be on site timeously, but actual construction work and relocations could take much longer. There may be Departmental delays with regards relocations. Relocations shall run concurrently with programmed activities. No delay costs will be entertained resulting from failure of service department to timeously and suitably relocate / lower their affected service. Delays shall be adjusted and accommodated in the

project's construction period. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a change in contract duration or end dates. Meetings, communication, timeframes, correspondence and records of reference shall be collated and accurately recorded and stored or filed.

#### **PS.6.4 Relocation of Existing Services**

Should it be necessary to adjust the line, level and / or position of any service not catered for in the contract to enable the construction to proceed the Contractor shall on no account effect such adjustment himself but shall notify the Employer's Agent's Representative who will arrange for the work to be carried out at no cost to the Contractor. The contractor shall liaise directly with the relevant representative from the Service Provider. Relocations shall run concurrently with programmed activities. No delay costs will be entertained resulting from failure of service department to timeously and suitably relocate / lower their affected service. Delays shall be adjusted and accommodated in the project's construction period. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution.

The identification, protection, relocation and renewal of any underground and overhead service forms part of the scope of this contract. Accordingly, the responsibility of dealing with these services in whatever way deemed necessary by the service owner or employer's agent, belongs to the contractor.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a change in contract duration or end dates.

## **PS.7 TELKOM S.A. LIMITED / OPENSERVE**

Work to Telkom / Neotel Plant is not envisaged, but the tenderers attention is drawn to the fact that Telkom / Neotel copper cables and numerous fibre optic cables are existing in the contract area and may have to be either relocated or lowered by the Service Provider. There may be Service Provider delays with regards relocations. Relocations of services shall run concurrently as the work progress as it is required that proving of services and location or position of the cables must be determined. The contractor shall liaise directly with the relevant representative from the Service Provider. Relocations shall run concurrently with programmed activities. No delay costs will be entertained resulting from failure of service department to timeously and suitably relocate / lower their affected service. Delays shall be adjusted and accommodated in the project's construction period. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution.

The identification, protection, relocation and renewal of any underground and overhead service forms part of the scope of this contract. Accordingly, the responsibility of dealing with these services in whatever way deemed necessary by the service owner or employer's agent, belongs to the contractor.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a change in contract duration or end dates. Meetings, communication, timeframes, correspondence and records of reference shall be collated and accurately recorded and stored or filed.

**PS.8 FIBRE COMMUNICATION LINES**

Work to Fibre Plant is not envisaged, but the tenderers attention is drawn to the fact that ducted fibre cables are existing in the contract area. and may have to be relocated / lowered, and depending on the extent, either by the Contractor or Service Provider. There may be Service Provider delays with regards relocations. Relocations of services shall run concurrently as the work progress as it is required that proving of services and location or position of the cables must be determined. The contractor shall liaise directly with the relevant representative from the Service Provider. Relocations shall run concurrently with programmed activities. No delay costs will be entertained resulting from failure of service department to timeously and suitably relocate / lower their affected service. Delays shall be adjusted and accommodated in the project's construction period. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution.

The identification, protection, relocation and renewal of any underground and overhead service forms part of the scope of this contract. Accordingly, the responsibility of dealing with these services in whatever way deemed necessary by the service owner or employer's agent, belongs to the contractor.

The contractor is to liaise with each of the service owners to identify service management strategies, irrespective of it being new or existing. The works sequence may require revision to accommodate any delay that may be experienced by the contractor in managing the service. This will require a revision of the contract programme without a change in contract duration or end dates. Meetings, communication, timeframes, correspondence and records of reference shall be collated and accurately recorded and stored or filed.



**PS.9**      **MANAGEMENT OF THE ENVIRONMENT**

The Contractor shall pay special attention to the following:

**PS.9.1**      **Natural Vegetation**

The Contractor shall confine his operation to as small an area of the site as may be practical for the purpose of constructing the works.

Only those trees and shrubs directly affected by the works and such others as the Employer's Agent may direct in writing shall be cut down and stumped. The natural vegetation, grassing and other plants shall not be disturbed other than in areas where it is essential for the execution of the work or where directed by the Employer's Agent's Representative.

**PS.9.2**      **Fires**

The Contractor shall comply with the statutory and local fire regulations. He shall also take all necessary precautions to prevent any fires. In the event of fire the Contractor shall take active steps to limit and extinguish the fire and shall accept full responsibility for damages and claims resulting from such fires which may have been caused by him or his employees.

**PS.9.3**      **Environmental Management Plan**

In addition to the above, all requirements according to the Environmental Management Plan as detailed in C3.4: Particular Specifications, will be adhered to.

**PS.10**      **OCCUPATIONAL HEALTH AND SAFETY****PS.10.1**      **General Statement**

When considering the safety on site the Contractor's attention is drawn to the following:

The contract area is a busy road with exceptionally high volumes of vehicular traffic and pedestrian movement,

The area is also bounded by business and industrial properties and office parks.

The proposed works will require machinery and plant of varying size,  
The manual moving of heavy precast products will be required,  
The raw asphalt used will be delivered to site at a high temperature, which, after processing, remains hot for some time,  
The gradient of the road is moderate to steep. Plant and machinery need to be well controlled. Run-off from the site will have to be well managed (see PS.5 and PS.6),  
The deviation of the traffic must be maintained throughout the day and night, weekends and Public holidays included, and all road signs must be maintained to allow for adequate sight distance by the road users  
COVID 19 – PPE / Protection / Sanitizers / Health and Hygiene

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the OHSA 1993 Construction Regulations 2014 issued on 7 February 2014 by the Department of Labour.

For the purpose of this contract the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of Section 37(2) of the Occupational Health and Safety Act.

## **PS.10.2 Health and Safety Specifications and Plans to be submitted at tender stage**

### **PS.10.2.1 Employer's Health and Safety Specification**

The Employer's Health and Safety Specification is included in Part C3.4: Particular Specifications.

### **PS.10.2.2 Tenderer's Health and Safety Plan**

At tender stage only a brief overview of the tenderers perception on the safety requirements for this contract will be adequate. This will be attached to Part T2.2: Contractor's Health and Safety Plan.

Only the successful Tenderer shall submit a separate Health and Safety Plan as required in terms of Regulation 7 of the Occupational Health and Safety Act 1993 Construction Regulations 2014, and referred to in Part T2.2: Contractor's Health and Safety Plan.



The detailed safety plan will take into consideration the site-specific risks as mentioned under PS.10.1 and must cover at least the following:

- (i) A proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 9 to 29;
- (ii) Pro-active identification of potential hazards and unsafe working conditions;
- (iii) Provision of a safe working environment and equipment;
- (iv) Statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (Regulation 7);
- (v) Monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- (vi) Details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 8 and other applicable regulations; and
- (vii) Details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2014.

The Contractor's Health and Safety Plan will be subject to approval by the Employer, or amendment if necessary, before commencement of construction work. The Contractor will not be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's written approval of his Health and Safety Plan.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension of time or standing time and related costs

A generic plan will not be acceptable.

### PS.10.3 Cost of compliance with the OHSA Construction Regulations

The rates and prices tendered by the Contractor shall be deemed to include all costs for conforming to the requirements of the Act, the Construction Regulations and the Employer's Health and Safety Specification as applicable to this contract. Should the Contractor fail to comply with the provisions of the Construction Regulations, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

Items that may qualify for remuneration will be specified in the Employer's Health and Safety Specification.

**PS.11 SITE SECURITY**

The Contractor shall, for the duration of the contract, provide sufficient security and watchmen to adequately ensure the safety and protection of the works, the Contractor's staff, including local labour and subcontractors, and all site plant and construction equipment required for the works.

Site Security, in conjunction with the SAPS (where necessary), shall be responsible for removal of disruptive elements, that may interrupt the progress of the contract through acts such as, but not limited to, intimidation, threats of disruption, violent disruption, or criminal and illegal activity by the local community or independent organisations or entities that may result in slowing down or partial or total stoppage of the works. This includes business forums. Contractor is responsible to deal with them amicably.

**PS.12 PERFORMANCE MONITORING OF SERVICE PROVIDERS**

The performance of service providers that have been selected to provide assistance in the provision of a municipal service, otherwise than in circumstances where Chapter 8 of the Municipal Systems Act applies, is required, by Section 116 of the Municipal Finance Management Act, to be monitored and reported on (see Cl.53 of the SCM Policy).

**PS.13 TRAFFIC MANAGEMENT AND DEVIATIONS**

The contractor is to take cognisance of the SANS 1921-2: 2004: Construction and Management Requirements for Works Contracts, Part 2: Accommodation of Traffic on Public Roads occupied by the Contractor and the eThekweni Transport Authority-Roadwork's Signing.

This stage will further allow for the construction of ancillary works including the construction of kerbs and channels, sidewalks, stormwater reticulation etc.

During this Stage all other access and exit points will be available.

## **PS.14 CONSTRUCTION AND MANAGEMENT REQUIREMENTS**

### **PS.14.1 General**

Various types of Services from different service providers are affected by the contract. The laying, relocation and jointing of all cables will be carried out by the respective service provider, or agents appointed by them, whilst the excavation and backfilling forms part of this contract. Close liaison will therefore be necessary with service providers.

The Contractor is referred to SANS 1921: 2004 parts 1, 2, 3 and 5: Construction and Management Requirements for Works Contracts. These specifications shall be applicable to the contract under consideration and the Contractor shall comply with all requirements relevant to the project.

### **PS.14.2 Quality Assurance (QA) (Read with SANS 1921)**

The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Employer's Agent's Representative. To this end it will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system on site. The Employer's Agent's Representative will audit the Contractor's quality assurance (QA) system on a regular basis to verify that adequate independent checks and tests are being carried out and to ensure that the Contractor's own control is sufficient to identify any possible quality problems which could cause a delay or failure.

The Contractor shall ensure that efficient supervisory staff, the required transport, instruments, equipment and tools are available to control the quality of his own workmanship in accordance with his QA-system. His attention is drawn to the fact that it is not the duty of the Engineer or the Employer's Agent's Representative to act as foreman or surveyor.

**PS.14.3 Management and disposal of water (Read with SANS 1921)**

The Contractor shall pay special attention to the management and disposal of water and stormwater on the site. It is essential that all completed works or parts thereof are kept dry and properly drained. Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure to properly manage rain and surface water will not be considered.

**PS.14.4 Disposal of spoil or surplus material (Read with SANS 1921)**

The Contractor may dispose surplus and / or unsuitable material in legal spoil areas of his own choice subject to the approval of the Employer's Agent's Representative. He shall be responsible for all arrangements necessary to obtain such spoil sites.

## **PS.15 COMMUNITY LIAISON OFFICER AND EMPLOYMENT OF LOCAL LABOUR**

### **PS.15.1 COMMUNITY LIAISON OFFICER**

The ward councillor of Ward 37 work is to identify a community liaison officer (CLO) for the project who must represent both the Community and Clients criteria and make the person known to the Contractor within two days of being requested to do so. Allowance has been made for 1 (one) CLO for the duration for the duration of the project. The Contractor will be required to enter a written contract with the CLO that specifies:

- The hours of work and the wage rate of the CLO (200% of the Civil Engineering Industry minimum wage).
- The duration of the appointment.
- The duties to be undertaken by the CLO which could include:
- Assisting in all respects relating to the recruitment of local labour.
- Acting as a source of information for the community and councillors on issues related to the contract.
- Keeping the Contractor advised on community issues and issues pertaining to local security.
- Assisting in setting up any meetings or negotiations with affected parties.
- Keeping a written record of any labour or community issue that may arise.
- Any other duties that may be required by the Contractor.

The CLO must have the capacity to engage with all relevant stakeholders and interested parties / business forums and must be held accountable for allocated responsibilities. The CLO not fulfilling required duties can have their appointment terminated and can be replaced with an alternative incumbent after notification and discussion with relevant Community Structures and through the appointed Councillor of the relevant Ward/s in which the project is being constructed.

Responsibility for the identification of a pool of suitable labour shall rest with the CLO, although the Contractor shall have the right to choose from that pool. The Contractor shall have the right to determine the total number labourers required at any one time and this may vary during the contract.

The Contractor shall have the right to replace labour that is not performing adequately. Should such occasion arise, it must be done in conjunction with the CLO.. Handling costs and profit in respect of the provided invoiced amounts for CLO shall not exceed a maximum of 10%.

**PS.15.2 EMPLOYMENT OF LOCAL LABOUR**

The contractor will be required to employ local labour as specified in the Part C3.3: Particular Specifications - "The Use of CLOs and Local Labour" of this Contract document. The contractor will be required to ensure that a minimum of 100% of the local labour force is made up of local labour. For the purposes of this contract, "Local labour" will be deemed to be any persons who reside within Wards and local communities immediately around the site. The contractor will be required to provide proof of authenticity of local labour. Signed confirmation by the appointed CLO will suffice for this. The rate of reimbursement will be equal to the daily rate stipulated and gazetted by the Department of Labour based on an 8-hour day. The entire project is not a labour-intensive project as the bulk of the work is mechanically achieved, however it is required that the Contractor and sub-Contractors shall use local labour as much as possible and provide opportunity to local business forums for smaller task on appointment and on tender process based on the sum of the equivalent tendered rates.

The Contractor is to submit proof of employment of local labour.

No additional costs will be entertained due to this Particular Specification. The contractor will remain responsible for providing proper supervision of all labour and will be responsible for the quality of work produced.

**PS.16 COMMUNITY AND PUBLIC RELATIONS**

During the course of the contract, the Employer / Engineer / Employer's Agent's Representative may need to engage with the community and other interested and affected parties. The engagement may be in the form of electronic media, pamphlet distribution or meetings. All approved costs relating to this aspect will be paid for through the relevant item in the BOQ in Section 1, Part AB. An item has also been allowed for in the BOQ for the contractor's administration cost in this regard. It is a percentage of the cost of the Community and Public Relations item.

## **PS.17 SURVEY**

### **PS.17.1 SUBMISSION OF AS-BUILT DATA**

The Tenderer shall note the lump sum item section1 – under Clause PS.11.1 covering the submission of as-built data. The Contractor shall supply the Employer's Agent's Representative with: -

A list of co-ordinates of cable duct markers and watermain valve covers newly constructed, modified or existing within the vicinity of the works

A list of surveyed invert and cover levels, and co-ordinates of all catchpits, manholes/barrier inlet unit and headwalls newly constructed, modified or existing within the vicinity of the works.

A list of surveyed invert and cover levels, and co-ordinates of all cable duct manholes newly constructed, modified or existing within the vicinity of the works.

A list of surveyed invert and cover levels, and co-ordinates of all sewer manholes newly constructed, modified or existing within the vicinity of the works.

A list of co-ordinates of road edge levels, kerbs, barriers and concrete lined drains.

Full time dedicated surveyor on site.

Drawing in electronic format including items 1 to 5 listed above.

Materials As-Built records captured as per the eThekweni Municipality Materials As-Built record template (Template to be provided by Employer's Agent's Representative). The completion certificate shall not be issued unless the above information has been forwarded to the Employer's Agent's Representative

Setting-out of the Works

Whilst surveys have been carried out of the site, and the designs based on such surveys, it is the responsibility of the Contractor to recheck all the benchmarks and protect the benchmarks from damage at the start of the contract.

It is the Contractor's responsibility to set out the Works and any discrepancies in the design or setting out shall be identified and brought to the attention of the Employer's Agent's Representative promptly so they can be corrected before any abortive expenditure is incurred.

**PS. 18 TESTING**

Further to clause AB.6, the Contractor is to include in his unit rates for the cost of classification testing of all materials delivered to site intended for use in the layer works and for all density control testing of all layer works as per the pavement design illustrated on the contract drawings.

The Contractor is to provide results of all control testing to the Employer's Agent's Representative, if satisfied the Employer's Agent's Representative will then give the Contractor written permission to proceed with the next stage of construction.

Random acceptance testing will be undertaken by the Roads Provision Department, Pavement and Geotechnical Engineering Branch.

The Contractor is to include in his rates for testing of all concrete items in accordance with clause C.7 of the Durban Standard Engineering Specifications.

**PS.19 SITE FACILITIES AVAILABLE****PS.19.1 Contractor's camp site and depot (Read with SANS 1921 - 1: 2004 clause 4.14)****(a) Contractor's camp site/store yard**

The Contractor's office for this contract shall be as required to fulfill his obligations under the Contract. The Contractor is responsible to provide a suitable site for his camp and to provide accommodation for his personnel and laborers. If the Employer can make any specific site available to the Contractor, such site will be pointed out to the Contractor.

However the Contractor may, if he prefers to have a camp site at another location of the work site, that he first obtains the written permission of the landowner, and subsequently the Employer's Agent's Representative, to do so.

Any clearing of the site that is necessary and the making good after de-establishment will be the responsibility of the Contractor.

In addition to the requirements of SABS 1200 A clause 8.3.2.2 the following conditions shall also apply:-



None of the existing roads shall be damaged in any way.

No waterborne sewerage facilities or potable water connection are available on the site. The Contractor shall make his own arrangements in this regard.

No electrical facilities exist on site. Should this be required the Contractor shall make the required arrangements to have such installed.

It shall be the responsibility of the Contractor to make good any damage caused to the camp site area or any improvements on it, including services, and for reinstating it to its former condition when vacated. The standard of reinstatement must be to the satisfaction of the Employer's Agent's Representative; Deputy Head: Real Estate and/or Deputy Head of Parks, Recreation and Beaches Department; or other owner. Particular attention should be directed to these requirements and written clearances from the relevant Departments or other owners will be required.

(b) Notice Board

The typical notice board layout is given in section C4.2. The following requirements shall apply with regards to the notice board:

The Contractor must allow for 1 notice boards in his tendered rate.

## **PS.19.2 Accommodation of Employees**

No employees except for security guards will be allowed to sleep or be accommodated on the site in urban areas.

No housing is available for the Contractor's employees and the Contractor shall make his own arrangements to house his employees and to transport them to site.

No informal housing or squatting will be allowed.

Chemical toilets only will be allowed where temporary facilities have to be provided.

**PS.19.3 Power supply, water and other services**

The Contractor shall make his own arrangements concerning the supply of electrical power, water and all other services. No direct payment will be made for the provision of electricity, water and other services. The cost thereof shall be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required, or in the Contractor's preliminary and general items as the case may be.

**(a) Water for Works**

The Contractor shall allow in his Establishment rates for the securing of a suitable water supply, the payment of any connection fee and for any water charges for the duration of the contract.

**(b) Power Supply for Works**

The Contractor shall allow in his Establishment rates for the securing a legal electrical connection, the payment of any connection fee and for any electrical charges for the duration of the contract.

**PS.20 SITE FACILITIES REQUIRED****PS.20.1 Temporary Offices for Engineer and Staff**

No office is required for the Engineer and Staff, but site office parking facility is required.

**PS.21 CPG COMPONENT**

It is a condition of contract that the contractor must allow for a minimum of 30% of the contract value (excluding PC Sum items and Fixed Cost allowances) to be subcontracted to contractors who are >76% PPG (Priority Population Group) owned. Proof of payment to the subcontractors will be required to verify that the minimum has been achieved.

The penalty for not achieving the specified CPG will be 0.5% of the contract value (excluding PC Sum items and Fixed Cost allowances) for every 1% of CPG not achieved.

### C3.3: STANDARD SPECIFICATIONS

C3.3.1 The Specifications on which this contract is based are the eThekiwini Municipality's (City of Durban) Standard Engineering Specifications (hereafter referred to as the Standard Engineering Specifications). This document is obtainable separately, and Tenderers shall obtain their own copies of the applicable Sections.

Part	Description	Date of Issue	
AB	General Specifications	July	1992
B	Site Clearance	March	1990
C	Concrete Work	February	1987
DA	Earthworks: Bulk	January	1985
DB	Earthworks for Pipe Trenches	July	1992
DD	Earthworks for Structures	July	1992
EB	Graded Crushed Stone	December	1988
EC	Cement Treated Graded Crushed Stone	December	1988
ED	Road Asphalt	July	1992
EF	Kerbs and Haunches	July	1992
EG	Sidewalks, Footpaths and Median Areas	July	1992
EH	Steel Guardrails & Conc. Median Barriers	July	1992
F	Protection Works	July	1992
PF	Pressure Pipelines: Other Than Steel	July	1992
PG	Non Pressure Pipelines and Pc Culverts	July	1992
PH	Manholes and Appurtenant Drainage Works	July	1992
S	Reinstatement	March	1993
TA	Road Signs	October	1989
TB	Road Markings	October	1989

## C3.3.2 AMENDMENTS TO THE STANDARD SPECIFICATIONS

### INTRODUCTION

In certain clauses the standard, standardized and particular specifications allow 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 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 PS followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications. 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 PS, but followed by a new number which follows on the last clause or item number used in the relevant section of the standard specifications.

PS AB	General Specifications
PS B	Site Clearance
PS C	Concrete Work
PS DA	Earthworks: Bulk
PS DB	Earthworks for Pipe Trenches
PS DD	Earthworks for Structures
PS EB	Graded Crushed Stone
PS EC	Cement Treated Graded Crushed Stone
PS ED	Road Asphalt
PS EF	Kerbs and Haunches
PS EG	Sidewalks, Footpaths and Median Areas
PS EH	Steel Guardrails & Conc. Median Barriers
PS F	Protection Works
PS PG	Non-Pressure Pipelines and Pc Culverts
PS PH	Manholes and Appurtenant Drainage Works
PS S	Reinstatement
PS TA	Road Signs
PS TB	Road Markings

<b><u>PS.AB</u></b>	<b><u>PRELIMINARY AND GENERAL SPECIFICATION</u></b>	
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## **PS.AB.1 SITE FACILITIES**

### **PS.AB.1.1 Temporary Offices for Engineer and Staff**

No office is required for the Engineer and Staff, but site office parking facility is required.

### **PS.AB.1.2 Contractor's Camp Site and Depot**

The Contractor is responsible to provide a suitable site for his camp and to provide accommodation for his personnel and labourers. If the Employer can make any specific site available to the Contractor, such site will be pointed out to the Contractor. A suitable site shall be allocated prior to commencement of the works.

#### **Contractor's Camp Site / Store Yard**

The recommended position of the camp site/store yard will be pointed out by the Employer's Agent's Representative.

However, the Contractor may, if he prefers to have a camp site at another location near the work, site provided that he first obtains the written permission of the landowner, and subsequently the Employer's Agent's Representative, to do so.

Any clearing of the site that is necessary and the making good after de-establishment will be the responsibility of the Contractor.

The following conditions shall apply:

- None of the existing roads shall be damaged in any way.
- No waterborne sewerage facilities or potable water connection are available on the site.
- The Contractor shall make his own arrangements in this regard.
- No electrical facilities exist on site.
- It shall be the responsibility of the Contractor to make good any damage caused to the camp site area or any improvements on it, including services, and for reinstating it to its former condition when vacated. The standard of reinstatement must be to the satisfaction of the Engineer; Head: Real Estate and/or Head of Parks, Recreation and Beaches Department; or another owner. Particular attention should be directed to these requirements and written clearances from the relevant Departments or other owners will be required.

**PS.AB.1.3 Accommodation of Employees**

No employees except for security guards will be allowed to sleep or be accommodated on the site in urban areas.

No housing is available for the Contractor's employees and the Contractor shall make his own arrangements to house his employees and to transport them to site.

No informal housing or squatting will be allowed.

The Contractor shall provide the necessary ablution facilities at his camp site and the site of the works for the use of his employees. Chemical toilets only will be allowed where temporary facilities have to be provided.

**PS.AB.1.4 Power Supply, Water and other Services**

The Contractor shall make his own arrangements concerning the supply of electrical power, water and all other services to the site camp. No direct payment will be made for the provision of electricity, water and other services. The cost thereof shall be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required, or in the Contractor's preliminary and general items as the case may be.

**(a) Water for Works**

The Contractor shall allow in his Establishment rates for the securing of a suitable water supply, the payment of any connection fee and for any water charges for the duration of the contract.

**(b) Power Supply for Works**

The power supply authority is eThekweni Electricity Service Unit. The Contractor will be responsible for arranging for whatever temporary supplies may be required and he will be required to bear all costs involved and to pay the ruling tariffs applicable to such supplies.

**PS.AB.2 SERVICE CONNECTION FEE FOR OWN USE**

Should the Contractor require either online connection or increased power supply (for his own use) any additional costs shall be to the Contractor's account.

**PS.AB.3 TELEPHONE, COMPUTER, PRINTER, SOFTWARE**

Should the Contractor require telephones, site computers, this is to be provided by the Contractor.

**PS.AB.4 NOTICE BOARD**

The typical notice board layout is given in Part C3.4. The following requirements shall apply with regards to the notice board. The rate shall be per number (No.) of construction notice boards installed.

**PS.AB.5 PROGRESS PHOTOGRAPHS**

Progress Photographs will be required. Progress photographs are required to be captured on a daily basis capturing all tasks performed. Progress photographs are to be submitted to the Employer's Agent's Representative on a weekly basis. All photographs are to be digitally date stamped by the utilised device.

**PS.AB.6 ROAD DEVIATIONS AND TRAFFIC CONTROL**

- Provision has been made in the Bill of Quantities for temporary works and deviations as required, including for the appointment of a qualified, registered, Traffic Safety Officer to ensure and monitor safety and compliance, including the preparation of the Traffic Management Plan and for seeking all regulatory approvals. Any additional costs required by the Contractor shall be included in the rates tendered.
- Deviations required by the Contractor shall comply with the requirements of Clause AB.7. Details shall be submitted to the Employer's Agent's Representative for approval at least two weeks in advance of date on which it is anticipated that work on the deviation will commence.



- On deviations provided in terms of (b) above the Contractor shall ensure at all times and during all weather conditions that all temporary surfaces that are intended to carry traffic are in fact trafficable with regard to reasonable standards of safety and comfort. No additional payment shall be made to the Contractor for compliance with this clause.
- Unless indicated otherwise over the entire length and for the duration of the contract, traffic is required to be accommodated in both directions at all times.
- The Contractor shall ensure that the full width of the road is available for traffic during the peak traffic periods (i.e. 07:00 - 08:30 and 16:00 to 17:30).
- At all times signposting shall be detailed in the part of this document: "Safety in Road Construction".

**PS.AB.7 SUPPLY OF PLANT, MATERIAL AND LABOUR**

Except where otherwise specified the Contractor shall at his own expense supply and provide all the construction plant, temporary works, materials for both temporary and permanent works, labour (including supervision thereof), transport to and from the site and in and about the works and other things of every kind required for the construction, completion and where specified, maintenance of the works

**PS.AB.8 TESTING**

An allowance for material testing. costs has been made in the BOQ. Payment will be made on approved invoice to supplier of the service for Cost of Samples and Contractor's Preliminary and Site Control Testing. On receipt of results in approved format or on proforma documentation, will the Contractor be reimbursed and only once the as-built information documentation has been updated. Any additional costs shall be included in the tendered rates.

**PS.AB.9 SECURITY**

The area of the works will be occupied for the period of the contract and any protection/ security detail that may be required for the safety of Council staff (Employer's Agent's Representative/ Clerk of Works) must be supplied and put into effect by the Contractor. The Contractor shall provide security watchmen for the contract as he deems fit at no extra cost to the Employer. The cost shall only be reimbursed on verified submitted services invoice. The Contractor must ensure that all his employees as well as the employees of his subcontractors are able to identify themselves as members of the construction team. An item for handling costs has been provided in the BOQ for the Contractor markup in this regard. Handling costs and profit in respect of the provided invoiced amounts shall not exceed a maximum of 10%.

**PS.AB.10 AS – BUILT DATA – SURVEY SETTING OUT / DESIGN CONFIRMATION**

The Tenderer shall be per hour of verified marketed related associated costs covering the submission of as-built data, data required for redesign. An allowance for survey / draughting / printing / approval and submission costs has been made in the BOQ. Any additional costs shall be included in the tendered rates. This is in addition to the survey requirements required for all setting out, verification, confirmation, draughting, data capture, data input, data amendments as per requirements of SANS 1921.

The contractor shall supply the Employer's Agent's Representative with an electronic copy and hard copy of:

- A list of surveyed co-ordinates of all work carried out.
- A list of surveyed co-ordinates of all road edge, dwellings, fencing and services within the vicinity of the works.
- A0 hard copies.

The survey must include:

All new works carried out: kerb line including channel, road edge, road markings, edge of sidewalks, trees, access points, services (existing and new), different hatching to indicate different types of surfacing.

The contractor must also give the Employer's Agent's Representative a "Materials As-Built" spreadsheet in the format approved by the Senior Manager of the Pavement and Geotechnical Laboratory – eThekweni Municipality Roads Provision.

The Certificate of Completion shall not be issued unless the above information has been forwarded and approved by the Employer's Agent's Representative.

## **PS.AB.11 PROTECTION OF BUSINESSES AND INDUSTRIAL PROPERTIES, SOCIAL FACILITATION**

The contractor will be required to work within restricted areas in between existing properties. All necessary precautions must be taken by the contractor not to damage the properties and its surroundings. Should the contractor cause any damage due to the construction of works, the cost to rectify the damage will be to the contractor. The contractor must also carry the appropriate insurance to cover loss of personal property or lives. A detailed action plan pertaining to Community and Public Relations and detailed plan of what will be protected for the Businesses and Industrial Property shall be provided before any reimbursements. Contractor is to appoint a Social Facilitator / Skills Development facilitator responsible for educating and communicating with the community, labour, businesses, forums and forum representatives and other concerned parties for duration of the project with submission of weekly reports for approval and verification. Social facilitation is one of the critical elements in the success of infrastructure projects as it ensures effective cooperation and facilitates coordination of role-players by creating a conducive environment for the smooth implementation across and beyond the implementation of the project cycle.

Special attention is drawn to the use of compaction/vibratory equipment. The Contractor must take extra precaution to ensure that the use of construction equipment does not cause direct and indirect damage on structures/buildings in the vicinity of the construction area. Any damage caused will be to the contractor's account.

Negligence of any sort by the Contractor/Sub-contractor or any person employed by the contractor, the cost to correct the error will be to the contractor.

The Contractor shall take precautions not to damage any plant, structure or property being that of the eThekweni Municipality or that of any third party for the duration of the contract. The Contractor will be held liable for any damage he causes, wilfully or unwilfully, either that of the eThekweni Municipality or that of any other third party.

An item for handling costs has been provided in the BOQ for the Contractor markup in this regard. Handling costs and profit in respect of the provided invoiced amounts shall not exceed a maximum of 10%.

### **Roles and Responsibilities Social Facilitator**

- Assist in undertaking project feasibility and viability studies
- Assist in Formulation of operating methodology for the project
- Project Steering Committee formation, capacity building, monitoring and management,
- Confirmation of Project Boundaries
- Confirming of demographic data
- Facilitation of Beneficiary Registration / Listing
- Introducing the Project to all Stakeholders
- Assist Contractors with setting up site camps
- Conduct Project Awareness to community and relevant leaders
- Facilitating Stakeholder participation/engagement in the project, through formal structures.
- Facilitation of Local Community participation in the project
- Ensure that the community understand project objectives and outcomes
- Promote and communicate Client Policies and Procedures
- Ensure that communities play their role during construction, which includes inter alia, protecting the works for the contractors to implement projects within the agreed time frames.
- Advisory to the Project Management team on all Social and matters
- Ensure sense of ownership from local communities
- Obtaining PTOs for Land use
- Liaisons between landowners and the Project, and facilitation of land owner compensations where applicable
- Resolving Dispute between community/residents / landowners and the Project
- Facilitation of Skills Development
- Ensure that Contractors use local labour where required by legislation
- Assisting in labour recruitment and retrenchment processes
- Assist in identifying local suppliers and sub-contractors
- Conflict Resolution between Contractors, Labourers and Communities
- Monitoring and Evaluation of processes involved in project cycle

- Comprehensive reporting of all incidents to project management and community leadership to avoid any delays
- Health and Hygiene – training the educators
- Health and Hygiene awareness – End-user Education
- Coordination of other Institutional and Social Development project related activities, as and when required.

#### **PS.AB.12 BARRIERS FOR ACCOMMODATION OF TRAFFIC**

The contractor shall use New Jersey barriers, steel barriers / railing or concrete or plastic or similar products as approved by the Employer's Agent's Representative. The rate shall be in meters (m) and shall include the initial supply and installation and for removal / replacement / adjustment / relocations of barriers for the accommodation of traffic and for all of the barriers to be dismantled and for the removal offsite on completion or the work.

#### **PS.AB.13 ADDITIONAL SURVEY**

An item has been provided in the BOQ for additional survey to be undertaken upon the Employer's Agent's Representative's request by the contractor for the Employer's Agent's Representative's use. The rate shall be per day (day) and shall include the surveyor's cost, transport, labour, materials. This survey is not for the initial and required setting out of the work as required. Reimbursement shall be made on submitted invoice.

#### **PS.AB.14 SUPPLY OF DELINEATORS DAMAGED DURING CONSTRUCTION**

The initial supply, installation and maintenance of delineators have been allowed for in the BOQ, Section 1, Part AB. An extra over item has been allowed for in the BOQ for the replacement of delineators that are not fit for use after being damaged by traffic. Damaged delineators due to causes other than that of traffic and / or have weathered and are considered not fit for use by the Employer's Agent's Representative or the Traffic Officer, shall be regarded as a maintenance item and shall be replaced at the contractor's cost as detailed in Clause AB.7.

**PS.AB.15 TRAFFIC SAFETY OFFICER**

Provision has been made in the Bill of Quantities the appointment of a qualified, registered, Traffic Safety Officer to ensure and monitor safety and compliance. Any additional costs required by the Contractor shall be included in the rates tendered.

An item for handling costs has been provided in the BOQ for the Contractor markup in this regard. Handling costs and profit in respect of the provided invoiced amounts shall not exceed a maximum of 10%.

**PS.AB.16 LIAISON WITH EXTERNAL SERVICE PROVIDERS**

Provision has been made in the Bill of Quantities for the Contractor to make the allowance for the appointment of a suitable person to liaise with external service providers, ensure that the necessary correspondence is submitted, follow up, communication and to ensure timeous relocation of affected services to the required positions and correct depths in relation to the design on the site. Any additional costs required by the Contractor shall be included in the rates tendered. Relocations shall run concurrently with programmed activities. No delay costs will be entertained resulting from failure of service department to timeously and suitably relocate / lower their affected service. Delays shall be adjusted and accommodated in the project's construction period.. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative for approval, followed by the associated programming and execution.

**PS.AB.17 TRAFFIC ACCOMODATION PLAN PREPARATION AND APPROVED IMPLEMENTATION**

Provision has been made in the Bill of Quantities for the Contractor to make the allowance for the preparation / modification of traffic accommodation plan preparation and submission for approval and for approved implementation, ensure that the necessary correspondence is submitted, follow up, communication and to ensure timeous implementation. Pedestrian and vehicular access is to be maintained to local residential buildings and businesses.

Any additional costs required by the Contractor shall be included in the rates tendered. This shall include for any revisions required to the plan to accommodate traffic. An item for handling costs has been provided in the BOQ for the Contractor markup in this regard. Handling costs and profit in respect of the provided invoiced amounts shall not exceed a maximum of 10%.

**PS.AB.18 COST ALLOWANCES FOR WORKING PLANT AND LABOUR**

Provision has been made in the Bill of Quantities for the Contractor to make the allowance for the on standing time for working plant and labour on site as result of verified and approved disruptions by Community / Business Forums / Concerned Parties and other associations for standing time and associated costs. Accurate records to be provided and approved before any reimbursement will be authorised.

Any additional costs required by the Contractor shall be included in the rates tendered. This shall include for any revisions required to the plan to accommodate traffic.

**PS.B      SITE CLEARANCE**

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**PS.B.1            REMOVAL OF 1,8M HIGH WIRE MESH FENCE**

The unit of measurement shall be linear metre (m) and the rate shall include for the labour and plant necessary for the careful removal of the fence, removing of the fence posts, loading, transportation, and storing on site for re-use.

**PS.B.2            DEMOLITION OF MANHOLES AND INLETS**

The unit of measurement shall be number (No.) and the rate shall include for the labour, plant and material necessary for:

- (a) breaking down brickwork to depth over 0,0m and not exceeding 1,5m;
- (b) sealing the incoming and outgoing pipes with concrete;
- (c) backfilling with clean, coarse sand and compacting to 95% MOD AASHTO;
- (d) storing manhole covers on site for re-use or spoiling to tip.

**PS.B.3            CLEANING, CLEARING AND FLUSHING OF EXISTING MANHOLES**

The tendered rate shall include full compensation for all labour, material, screening of the structures and pipes for safety and environmental protective measures, equipment and plant as well as for all work and incidentals required to complete the work as specified.

**PS.B.4            REMOVAL OF BRICKWORK**

The cross reference to Clause B.8.18 in Clause B.8.9 shall be amended to refer to Clause B.8.21.

**PS.B.5            REMOVAL OF EXCESS SCARIFIED MATERIAL TO SPOIL**

After the scarifying of roads/hardened areas, the Employer's Agent's Representative may instruct the Contractor to spoil a certain amount of the scarified material.

The unit of measurement shall be the cubic metre (m<sup>3</sup>) measured loose by means of tally loads.

The rate shall include for loading the material and transporting to an approved tip.

Usable material will be transported to the Municipal Depot situated near contract site

**PS.B.6            REMOVAL OF STREET SIGNS AND POSTS**

The unit of measurement shall be number (No.) and the rate shall include for the labour and plant necessary for the careful removal of the signs, loading and either:

- (a)            storing on site for re-use, or;
- (b)            transporting to the approved tip and dumping.

**PS.B.7            REMOVAL OF CONCRETE INLET COVERS AND FRAMES**

The unit of measurement shall be number (No.) and the rate shall include for the labour and plant necessary for the careful removal of the inlet covers and frames, loading and either:

- (a)            storing on site for re-use, or;
- (b)            transporting to the Municipal store at and off-loading, or;
- (c)            transporting to the approved tip and dumping.

**PS.B.8            REMOVAL OF CAST IRON / POLYMER COVERS**

The unit of measurement shall be number (No.) and the rate shall include for the labour and plant necessary for the careful removal of the signs, loading and either:

- (a)            storing on site for re-use, or;
- (b)            transporting to the Municipal store and off-loading, or;
- (c)            transporting to the approved tip and dumping.

**PS.B.9 DEMOLITION OF MANHOLES AND INLETS**

The unit of measurement shall be number (No.) and the rate shall include for the labour, plant and material necessary for:

- (a) breaking down brickwork to 1 m below formation level;
- (b) sealing the incoming and outgoing pipes with concrete;
- (c) backfilling with clean, coarse sand and compacting to 95% MOD AASHTO;
- (d) storing manhole covers on site for re-use or spoiling to tip.

**PS.B.10 REMOVAL OF ABANDONED ROADWAYS**

The Tenderer's attention is drawn to the fact that the measurement of abandoned roadway is based on the types of materials as listed under Clause B.5.6 and not the full depth of the in-situ road layers. The unit of measurement shall be the tonne (t) and the rate shall include for all the materials, labour and plant necessary to seal the ends of pipes as directed on site by the Employer's Agent's Representative.

**PS.B.11 SEAL ENDS OF PIPES WITH GRADE 15/26 CONCRETE**

The unit of measurement shall be the cubic metre (m<sup>3</sup>) and the rate shall include for all the materials, labour and plant necessary to seal the ends of pipes as directed on site by the Employer's Agent's Representative.

**PS.B.12 SEAL ENDS OF PIPES WITH 230 mm BRICKWORK**

All brickwork shall conform to the relevant clauses in Part F, Departmental Specification for Protection Works.

The unit of measurement shall be the square metre (m<sup>2</sup>) and the rate shall include for all the materials, labour and plant necessary to seal the ends of the pipes as directed on site by the Employer's Agent's Representative.

**PS.B.13 CLEANING OF STORMWATER / SEWER DRAINS AND CULVERTS**

The existing stormwater drains will require clearing by means of high-pressure jetting. The contractor is to ensure that all silt / debris from the line is removed and carted to spoil. The unit of measurement is meter (m) irrespective of pipe diameter.

**PS.B.14 DEMOLITION AND REMOVAL OF BLOCK / BRICK STRUCTURES**

Add the following paragraphs to Clause B.5.5:

Where partial demolition is required for extension work to existing structures, the contact face shall be cut to predetermined lines and levels, any loose and fragmented material shall be removed,

The unit of measurement shall be the square meter of structure demolished. The tendered rate shall include full compensation for all labour, plant and equipment (including any specialised equipment) required to demolish the existing concrete.

The tendered rate shall include disposal of the product of the demolition to an approved tip site.

**PS.B.15 REMOVAL OF TREES**

Only those trees and shrubs directly affected by the works and such others as the Employer's Agent may direct in writing shall be cut down and stumped. The natural vegetation, grassing and other plants shall not be disturbed other than in areas where it is essential for the execution of the work or where directed by the Employer's Agent's Representative

The unit of measurement shall be number (no.) and the rate shall include for the labour and plant necessary for the removal of the existing tree including de-stumping, if required and as directed by Employer's Agent's Representative and transporting to the approved tip and dumping. Care needs to be taken as existing services may exist in the vicinity of the root system of the trees. Trees and stumps shall be termed large if the girth measured at its narrowest point in the first metre of its height above ground level is greater than 1,5 m. Many of the trees are existing within a double tyre surround. Removal will include for the tyres as well. It is the contractor's responsibility to ensure that no service is affected by any root system and take care in protecting any service from damage during removal of tree root system.

**PS.C**      **CONCRETE WORKS**

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**PS.C.1 NEW SABS SPECIFICATION FOR PORTLAND BASED CEMENT**

The new SABS ENV. 197-1 (adopted in 1996) : Cement - composition, specification and conformity criteria Part 1 : Common Cement, replaces SABS 471 - 1979, SABS 626 - 1971 and SABS 831 - 1971 in Clause C.2 of Part C : Concrete Work.

**PS.C.2 PLANT FOR CONCRETE WORK**

Where the mixing and placing of concrete is concerned, the Contractor shall have at least one standby machine available for each operation of the processes of mixing, hoisting, transporting or placing. No concrete work may be commenced unless the above requirements are fully met. This shall include additional working vibratory compactors and generators and sufficient lighting should pour be done into the night. Lighting for nightwork is to ensure that all inspection and work areas are illuminated, and illuminance shall comply with the requirements of the Occupational Health and Safety Act (Act 85 of 1993) and the related Environmental Regulations. The Contractor shall ensure sufficient backup lighting to replace faulty lighting. The full specified lighting must be provided at all activities undertaken at night.

**PS.C.3 PLACING OF CONCRETE/REINFORCEMENT/SHUTTERING/FORMWORK**

No concrete is to be placed in the excavations until this has been approved by the Employer's Agent's Representative.

The nature of the concrete work is such that a considerable amount of the work shall be in restricted conditions. No additional payment shall be made for such work and the Tenderer shall therefore make due allowance in the rates for concrete works for any additional work.

**PS.C.4 PRECAST CONCRETE WORK**

The tendered rate shall include full compensation for all labour, material, equipment and plant as well as for all work and incidentals required to complete the work as specified.

**PS.C.5 CEMENT STABILISED BACKFILL**

Where directed by the Employer's Agent's Representative, backfill material shall be stabilised (12 parts suitably approved backfill material: 1 part cement) The unit of measurement shall be the cubic metre (m<sup>3</sup>) and the rate shall include for all the materials, labour and plant

**PS.C.6 GRADE 15/26 CONCRETE IN SOFT SPOTS**

The unit of measurement shall be the cubic metre (m<sup>3</sup>) and the rate shall include for all the materials, labour and plant necessary to stabilise areas as directed on site by the Employer's Agent's Representative.

**PS. C.7 BLINDING FOR STRUCTURES**

Add the following to C.8.1:

Concrete blinding shall extend 100mm all-round beyond the horizontal dimensions of all formed footings to facilitate placing of the formwork, unless otherwise directed by the Employer's Agent's Representative.

In the case of structures where excessive ground water is encountered, the blinding layer may extend over the full plan area of the base of the excavation and beyond the edge of the foundation where required. The unit of measurement shall be the cubic metre (m<sup>3</sup>) and the rate shall include for all the materials, labour and plant.

**PS.B.8 CONCRETE**

The following concrete grades and maximum nominal size of coarse aggregate will apply to this project

SECTION	STRENGTH (Mpa)	Max Nom. Aggregate (mm)
Manholes and chamber slabs	25	19
Head Walls and cover slabs	25	19
Kerbing and stormwater channels	25	19
Pipe Encasement and Thrust Blocks	15	26
Mass Concrete below foundation (soft Spots)	15	26
Concrete Blinding	15	26
Culvert Structures	40	19
Retaining Wall Structures	40	19
Parapets	40	19
Deck Slab	30	26
Additional Concrete to Kerb Foundations	20	13
Road Sign Footings	20	19
Encasing of Pipes	20	26
Concrete Edge Beams	20	26

All concrete surfaces from 200mm below ground level or otherwise obscured from view shall be a rough finish

All concrete surfaces above 200mm below final ground level and not obscured from view shall be a smooth float finish

The Contractor is required to provide the moulds and to make and cure the test cubes and to convey them to an approved and accredited testing laboratory.

Admixtures will be acceptable in concrete – but the Employer's Agent's Representative is to be advised on the quantity and type of admixture before use or mixing.

No air entraining agents will be acceptable.



**PS.DA**

## EARTHWORKS: BULK

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## **PS.DA.1 INTERPRETATIONS**

The following shall be added to the list of definitions.

Top of earthworks: The top of earthworks shall be defined as the underside of the subbase or selected layers under roads, the base under sidewalks and the underside of the topsoil layer under verges and embankments.

## **PS.DA.2 GEOTECHNICAL INFORMATION**

Tenderer's attention is drawn to Part C.4 of this contract document, "Site Information", which describes the geology of the area and the associated material properties.

## **PS.DA.3 EXCAVATION OF MATERIAL FROM SITE**

- (a) Further to Clauses DA.8.1 and DA.8.3 Tenderer's are to note that the measurement of excavation of material on site is based on the cut volumes in place before excavation between the original ground levels after stripping of topsoil and the top of earthworks calculated from cross sections as described in Clause DA.8. No allowance will be made for bulking or shrinkage and it shall be assumed that 1 cubic metre of excavated material from the site shall form 1 cubic metre of compacted fill.
- (b) The nature of the roadworks is such that a considerable amount of the excavation shall be in restricted conditions. No additional payment shall be made for such excavation and the Tenderer shall therefore make due allowance in the rates for Bulk Earthworks for any additional work or hand excavation.
- (c) The Contractor's attention is drawn to the presence of watermain in the road reserve area. The Contractor shall limit the size and type of construction plant used in this area so as not to damage the existing watermain. Any damage to the watermain due to the size and type of construction plant used will be to the Contractor's account.

No additional payment will be made for compliance with this clause and Tenderer's shall include in the relevant rate for all extra plant, labour and materials required to work in these areas.

**PS.DA.4 EXCAVATE UNSUITABLE MATERIAL BELOW EMBANKMENTS OR FORMATION**

Further to Clause DA.8.3 the rate shall also include for trimming the area excavated to the required level and compaction of the in-situ material.

**PS.DA.5 IMPORT SUITABLE FILL MATERIAL**

The fill material shall conform to the requirements as indicated in the schedule of quantities and as described in TRH 14 with the following Amendments:-

The material shall be free of weathered shale and will be subject to the approval of the Employer's Agent's Representative.

**PS.DA.6 COMPACTION OF FILL**

The second paragraph of Clause DA.8.5 is to be amended by substituting "top of earthworks" for 'formation' where it occurs.

**PS.DA.7 FORMATION**

The Tenderers shall make full allowance in the rates for areas of formation in cut or where the fill layer thickness is less than 150 mm.

**PS.DA.8 TOLERANCES**

Clause DA.6 shall be amended to read as follows:

The allowable tolerances shall be:

the design angle + 2 degrees for the angle of the cut or fill slope, not less than the design width, nor more than 300 mm greater than the design width for the transverse horizontal embankment width at any level; and the layer thickness + 20 mm for topsoil.

For the formation, the Contractor will be required to place level pegs longitudinally at 10 m intervals on the road construction contract and elevation tolerances shall be taken on a section of the works. (When a portion of the works is less than 500 m<sup>2</sup> one tolerance reading per 10 m<sup>2</sup> shall be taken).

In any section the average of the elevations taken shall be such that the average thickness of the succeeding layer or layers above the formation shall be not less than that specified/nor greater than that specified plus 20 mm.

The standard deviation of the differences between the actual and design levels shall not be greater than 10 mm.

#### **PS.DA.9        GEOFABRIC BLANKET**

The geofabric shall comply with Clause PG.3.8.

The unit of measurement shall be the square metre (m<sup>2</sup>). The rate shall include for the supply of the material, laying, joining, cutting and waste.

#### **PS.DA.10       OVERHAUL**

Notwithstanding the requirements of Clause DA.8.10 no additional payment shall be made for overhaul.

#### **PS.DA.11       STOCKPILE HANDLING**

Tenderers are to note that no stockpile handling will be payable on this contract. Cut material suitable for fill, shall be placed directly into fill without being stockpiled. If this is not possible, the Tenderer shall include in the bulk earthworks rates, any costs that he would incur in stockpiling and subsequent rehandling of material.

#### **PS.DA.12       RESTRICTED EXCAVATION**

The nature of the roadworks is such that a considerable amount of the excavation shall be in restricted conditions. No additional payment shall be made for such excavation and the Tenderer shall therefore make due allowance in the rates for Bulk Earthworks for any additional work or hand excavation.

**PS.DA.13 EXCAVATION OF MATERIALS**

The nature of the roadwork's is such that a fair amount of the excavation shall be in concrete / asphalt / intermediate / hard and soft materials. Quantities for any concrete / asphalt requiring breaking up with the use of excavators / breakers shall be measured prior to excavation and agreed upon by the Employer's Agent's Representative. Area to be excavated shall be measured in square meters (m<sup>2</sup>) multiplied by the depth / thickness of the material.

The unit of measure is (m<sup>3</sup>), The rate shall cover labour and plant necessary for removal of abandoned roadways, sidewalk / median, concrete sidewalks, scoops, pedestrian and vehicular, interlocking blocks, asphalt paving, brick paving, precast kerb / channel and base, precast kerb / fillet and base, underground reinforced / unreinforced concrete / builders' rubble.

No additional payment shall be made for restricted excavation and the Tenderer shall therefore make due allowance in the rates for any additional work or hand excavation.

**PS.DA.14 EXCAVATION OF ROAD LAYERS**

Existing road layerworks, excluding the asphalt, shall be excavated as restricted excavation ensuring no contaminating between layers and either:

- (a) transporting and off-loading at an approved spoil site.

The Contractor's rate for the removal of the layerworks, excluding the asphalt, shall include for the full operation, inclusive of haulage, and is to include for the restricted operation as well.

**PS.DA.15 RESTRICTED EXCAVATION**

The nature of the trench excavations is such that a considerable amount of the excavation shall be in restricted conditions. No additional payment shall be made for such excavation and the Tenderer shall therefore make due allowance in the rates for any additional work or hand excavation.

**PS.DA.16      DUMPROCK**

It is envisaged that there may be areas below formation requiring undercut to a predetermined depth, excavation and removal of unsuitable materials to spoil then to Import, place, process and compact 37.5mm Dumprock in 450mm layers (Minimum 2/3 layer thickness, i.e. 300mm). Material from contractor's off-site source commercial inclusive of haulage and royalties in areas of wet ground / seepage. Rate shall include for the chocking of the voids with lesser size stone chips and fines to achieve uniform layer. – this is a provisional item determined by site conditions. A Geofabric Separation layer will be required, suitable grade so that the dumprock does not punch through. Refer to biddum specifications.

The Contractor's rate shall include for the full operation, inclusive of haulage, and is to include for the restricted operation as well.

**PS.DB EARTHWORKS FOR PIPE TRENCHES**

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**PS.DB.1 BEDDING AND BACKFILL MATERIALS****PS.DB.1.1 General**

- 1) The measurement for bedding shall be the total through length along the centre of the pipeline measured HORIZONTALLY with deductions made for stormwater manholes.
- 2) The unit of measurement for bedding shall be the Linear Metre (m), and the rate shall include for the placing and compacting of the bedding material up to the underside of the backfill for the various pipe diameters.
- 3) Separate items have been included in the Bill of Quantities for the provision of bedding material from a Contractor's commercial source.
- 4) Backfill materials shall comply with Clause DB.3.4. An item has been allowed in the Bill of Quantities for the importation of backfill material where so ordered by the Employer's Agent's Representative.
- 5) The Contractor shall allow for haulage in the rate for provision of imported bedding and backfill. No overhaul will be paid for these items.
- 6) The depth category shall be calculated from the design drawings (unless an approved change was made on site) from the average depths of the upstream and downstream manhole in relation to the pipe invert level.

**PS.DB.1.2 Stormwater Pipes**

- 1) All bedding to stormwater pipes on this Contractor shall be either Type "B" or Type "C" as is specified in Part DB of the Departmental Technical Specification.

**PS.DB.2 EXCAVATION AND BACKFILLING - EXISTING SERVICES**

The Tenderer's attention is drawn to the presence of existing services in the area. The Contractor may find it impractical to use mechanical plant for excavation on some portions of the works due to conditions caused by the presence of these services.

The Tenderer's attention is further drawn to the fact that his rates for excavation and backfilling must include for all costs associated with working around these existing services and their protection and accommodation, as no claim for extra payment will be accepted for increased working space or for the inability to use plant in any circumstances.



**PS.DB.3 EXCAVATION, BACKFILLING AND REINSTATEMENT OF TRENCHES (CLAUSE DB.5.3.2)**

Further to and notwithstanding the requirements of the Departmental Specification, Part DB, the following requirements in respect of trench excavation, backfilling and reinstatement shall be adhered to:

- 1) It is considered that portion of the excavated material will not comply with the specification for material suitable for backfilling. It will be the Contractor's responsibility to use selective methods of excavation to ensure that this unsuitable material does not contaminate other materials suitable for reuse.
- 2) It is anticipated that a portion of the material excavated for trenches in existing natural ground is likely to be classified intermediate in terms of Part DB of the Departmental Technical Specification, Tenderers are to note that the unit of measurement shall be the linear metre (m), and that the rate tendered shall be inclusive of all work or operations necessary to excavate, backfill, spoil or stockpile the material.
- 3) Where the Contractor chooses to trench by open excavation e.g. battering sides of the trenches, this over-excavation shall not be backfilled with unsuitable excavated material but shall be backfilled with the same imported material as used for the pay-width of the trench. Payment for the imported backfill shall be limited to the pay-width of the trench only and the Contractor shall allow in his rates for any extra backfill material that may be required as a result of over-excavating
- 4) Notwithstanding the method of trench excavation adopted by the Contractor, the restriction on the maximum trench width as defined in specification Clause DB.6.1 - must be strictly adhered to. Should the Contractor over-excavate the trench then he will be responsible for increasing the pipe strength and / or bedding class to be used, all to his cost.

The measurements for excavation shall be the total through-length along the centre-line of a pipeline measured HORIZONTALLY with deductions for manholes. In addition, trench depth will be measured vertically on the centre-line of the pipeline from the existing ground level to the invert level.

**PS.DB.4 SHORING OF TRENCHES TO EXCAVATIONS**

The Contractor shall be responsible for the design and installation of all shoring where applicable, which must not only comply with all of the relevant safety regulations pertaining to the provision of safe working conditions in earthwork excavations but also will provide sufficient lateral support to minimise any damage to adjacent structures, services or road surfaces.

In addition to the above and the requirements of Clause DB.5.3.2 (a) all excavations in road reserves and adjacent to structures and where excavations are in excess of 1,5 m in depth shall be supported with close shoring and no open or intermittent shoring of any description will be permitted.

The minimum requirements for shoring of these trench excavations shall be as follows:

- 1) Either ribbed steel trench sheeting of suitable thickness with an edged return for interlocking or suitably sized timber poling boards or runners are to be used. Adequately sized waling at suitable intervals are to be provided. Struts shall consist of either adjustable tubular steel jacks or timber suitably sized for the load application.
- 2) The shoring for the excavations shall be progressively installed as the excavation proceeds. Care being taken to ensure the soil is not removed within a minimum 300 mm of the toe of the runners.
- 3) Installation of shoring after the trench has been excavated to a depth in excess of 1,5 m is not acceptable.
- 4) Details of the proposed shoring must be supplied to the Employer's Agent's Representative at least two weeks before the operation commences. During the backfilling, the sides of the trench including the road layers above any over-excavated sections are to be cut back to a point behind the over excavation.
- 5) No separate item has been allowed for in the Bill of Quantities and the Contractor shall allow in his excavation rates for shoring as necessary.

The cutting back of the trench sides shall be to the Contractor's account. Payment for reinstatement of the road hardening shall be based on the widths given in Clause DB.8.3.3.

**PS.DB.5 EXCAVATION FOR SERVICES TO BE LAID BY OTHERS**

Where indicated, the Contractor shall be required to excavate a trench for the installation of services by others. Water, Sewer / Wastewater, Electricity, Fibre, Telkom. (Depth and width of trench shall be confirmed on site). The trench bottom shall be trimmed to comply with the tolerances specified under Clause DB.6.3, after which it shall be taken over by the service organisation. After installation of the services the trench shall be backfilled as part of the bedding operation to approximately 300 mm above the service.

Thereafter the Contractor shall continue the backfilling utilising suitable material from the trench excavation, in 150 mm layers which shall be compacted to 95% Mod. A.A.S.H.T.O. density. The unit of measurement shall be the cubic metre (m<sup>3</sup>) and the rate shall cover the work described under Clause DB.8.1.

An item for handling costs has been provided in the BOQ for the Contractor markup in this regard. Handling costs and profit in respect of the provided invoiced amounts shall not exceed a maximum of 10%. No delay / disruption / standing time claims will be entertained during this period for service relocations, known and unknown, inter-alia service department liaison / design drawing preparation, procurement of materials, installation / relocation, backfilling, coordinating / protecting the service, damages to services. Further to that no delay / disruption / standing time claims will be entertained during the rest of the construction period for service relocations up to the practical completion date. **It is reiterated that the Contractor is fully responsible for all service relocations, liaison and verification / design in consultation with the Employer's Agent's Representative's Representative for approval, followed by the associated programming and execution.**

**PS.DB.6 EXCAVATION IN ROAD AND PAVED AREAS**

Further to Clause DB.8.7 the rate tendered shall include for saw cutting the existing road asphalt.

**PS.DB.7 RESTRICTED EXCAVATION**

The nature of the trench excavations are such that a considerable amount of the excavation shall be in restricted conditions. No additional payment shall be made for such excavation and the Tenderer shall therefore make due allowance in the rates for any additional work or hand excavation. Restricted excavation is classified to be in an area or width or length whereas to preclude the removal of materials by use of machinery, i.e. bobcat / TLB / Excavator etc and where hand excavation is used for the excavation and removal being the most likely solution and where services exist that traverse the excavation extent requiring additional care.

**PS.DB.8 COMPACTION OF TRENCHES**

Further to Clause DB.8.5, Tenderers are to note that in all cases the compaction of the trench bottom and the trench backfill shall be to 95% Mod. A.A.S.H.T.O. An extra-over item has not been included in the Bill of Quantities and tenderers shall include for these costs under the relevant excavate and backfill items.

**PS.DB.9 BACKFILLING OF SERVICE TRENCHES**

As part of the bedding operation, services laid or relocated by others will be backfilled by them to approximately 300 mm above the service. The backfill shall then be continued by the Contractor up to the original level. The backfilling shall be carried out using suitable material from the trench excavation, in 150 mm layers which shall be compacted to 95% Mod. A.A.S.H.T.O. density.

The unit of measurement shall be the cubic metre (m<sup>3</sup>) and the rate shall include for all plant and labour required to select, place and compact the material as specified.

**PS.DB.10 OVERHAUL**

Notwithstanding the requirements of Clauses DB.8.1 and DB.8.17 no additional payment shall be made for haulage.

**PS.DB.11      GEOFABRIC BLANKET**

The geofabric to stone bedding must comply with Clause PG.3.8 of Part PG : Non-Pressure Pipelines and Precast Concrete Culverts.

The unit of measurement shall be the square metre (m<sup>2</sup>). The rate shall include for its supply, laying, joining, cutting and waste.

**PS.DB.12      WATERMAINS**

Notwithstanding Clause DB.3.6 of Part DB : "Earthworks for Pipe Trenches", only a clean sand containing no particles of diameter exceeding 10mm, having a Plasticity Index (P.I.) not exceeding 10mm and free from vegetation and lumps shall be used for the bedding cradle and selected fill blanket. It is anticipated that most of the bedding material will have to be provided from an off-site source. Bedding shall be constructed to the dimensions required for Class 'C' bedding.

Contractors are advised that the choice, placement and compaction of bedding and backfill materials are critical to the satisfactory performance of steel pipes. Therefore, strict adherence to all specifications in this regard will be enforced.

**PS.DB.13      SEWER PIPES**

Bedding for the sewers shall be class "C" for rigid pipe or "flexible" for flexible pipes. Where the sewer pipe offered is classified in accordance with SABS 0102 part 1 1987 as a rigid pipe, the bedding shall be class "B" and for flexible / semi-flexible pipes, the bedding shall be as for flexible pipes as detailed in the Standard Engineering Specification Part DB, Earthworks for pipe trenches. However in the case of flexible / semi-flexible pipes the material to be used in the selected fill blanket and selected fill bedding cradle shall be selected granular material.

**PS.DB.14      TELKOM AND OTHER SERVICE DUCTS**

Notwithstanding Clause DB.3.6 of Part DB : "Earthworks for Pipe Trenches", only a clean sand containing no particles of diameter exceeding 10 mm, having a Plasticity Index (P.I.) not exceeding 10 and free from vegetation and lumps shall be used for the bedding cradle and selected fill blanket. It is anticipated that most of the bedding material will have to be provided from an off-site source. Bedding shall be constructed to the dimensions as is detailed on drawing 38589: "Telkom Cable Ducts and Junction Box Details".

**PS.DB.15 SAFEGUARDING OF EXCAVATIONS**

The precautions for excavations as specified in the relevant clauses in this section shall apply to all trench excavations.

The Contractor or his agent or his representative shall take all the steps necessary to ensure that no person is required or allowed to work in a trench or any other unsupported overhanging excavation which is more than 1,0m deep, and any excavation which has not been adequately supported, shored or braced if there is any danger whatsoever of the sides of the excavation collapsing. The support, shoring or bracing to be designed and constructed by the Contractor, shall be strong and sturdy enough to support the sides of the excavation in question.

The Contractor shall note that this clause does not relieve him of any obligations required in terms of the Occupational Health and Safety Act.

**PS.DB.16 BARRICADING EXCAVATIONS**

All excavation areas are to be barricaded to the satisfaction of the Employer's Agent's Representative.

All costs arising from these requirements are to be included in the relevant rates for excavation.

**PS.DB.17 HALF ROUND PRECAST CHANNELS**

Half Round concrete channels shall be laid where so shown in the drawings or instructed by the Employer's Agent's Representative. The top edges shall be flush with the finished level and finished with a wood float. Details of the drain are shown on Drawings.

The unit of measurement shall be the meter (m) and the rate shall include for excavation, shuttering joints and the supply, placing, of the pipes.

It is drawn to the contractor's attention that it is vital that both edges of this drain are parallel, perfectly straight (or perfectly curved if on a curve) and this will be insisted upon. Provision must therefore be made in the rate for suitable supports, workmanship and intense supervision to achieve the required standards. Deviations from tolerances will not be accepted.

The horizontal alignment of the edges shall not deviate from the prescribed alignment by more than 5mm and the rate of deviation from the design line or lines shall not exceed 1 in 500 when tested over any section of length exceeding 10m. Surface irregularities (line or level) when tested with a 3m straight edge shall not exceed 3mm.

**PS.DB.18 ANTICIPATED EXCAVATION CONDITIONS**

It is anticipated that excavation in soft and intermediate material may be required.

**PS.DB.19 HORIZONTAL DIRECTIONAL DRILLING**

For all installations, the Contractor shall include in his detailed method statements his proposed strategy. Monitoring of pumping rate, pressures, viscosity, and density of drilling fluids shall be carried out during pilot bore, back-reaming, and pipe installation stages, to ensure adequate removal of the soil cuttings and the stability of borehole. Holes may be used as necessary for excess-pressure relief. To minimize heave during pullback, the pullback rate shall be determined in order to maximize the removal of soil cuttings without building excess down-hole pressure. Excess drilling fluids shall be contained at the entry and exit points until they are recycled or removed from site. Entry and exit pits shall be of sufficient size to contain the expected return of drilling fluids and soil cuttings.

The Contractor shall ensure that all drilling fluids are disposed of or recycled in a manner acceptable to the appropriate regulatory agencies. When drilling in suspected contaminated ground, the drilling fluid shall be tested for contamination and disposed of appropriately. Any excess material shall be removed upon completion of bore.

If during installation an obstruction is encountered which prevents installation of pipe in accordance with this specification, this pipe may be taken out of service and left in place at discretion of the Employer's Agent's Representative and shall immediately be filled with an approved cementitious grout. A new installation procedure and revised plans must be submitted and approved by the Employer's Agent's Representative before work resumes. Restoration for damage remains the responsibility of the Contractor. Any pavement heaving or settlement damage shall be repaired to the Employer's Agent's Representative's satisfaction.

The diameters given shall be applicable:

**Maximum Back-Ream Hole Diameter**

Pilot Hole Diameter (mm)	Back-Ream Hole Diameter (mm)
50	100
75	150
100	200
150	250
200	300
250	350
≥300	Maximum Casing/sleeve OD plus 150 mm

The tendered rate for each pay item shall include full compensation for providing, operating, maintaining and decommissioning upon completion, of all the construction



equipment, labour, tools, incidentals and supervision to carry out the activity or construct the works in the pay item as specified, unless otherwise stated.

#### **PS.DB.20 ESTABLISHMENT ON SITE FOR HORIZONTAL DIRECTIONAL DRILLING**

The unit of measurement shall be a sum. The tendered sum for above shall include full compensation for establishing all necessary plant and equipment on site to carry out the works and for removal from site of all such plant and equipment including all temporary works such as access roads, staging, platforms and such like on completion of the works. Work shall be paid as a sum, 50 % of which shall be due when all the equipment is on site and trials (if any) are successfully completed to the Employer's Agent's Representative's satisfaction. The second instalment of 25 % shall be payable after half-length is installed and the final 25% instalment after full-length, in service, acceptable installation, and all equipment is removed from site.

The tendered sum shall include full compensation for all post-construction requirements as specified.

No extra payment shall be made for establishment of additional plant, should established plant not be capable of achieving desired objectives.

#### **PS.DB.21 MOVING TO AND SETTING UP EQUIPMENT AT EACH POSITION FOR HORIZONTAL DIRECTIONAL DRILLING**

The unit of measurement shall be the number of positions to which equipment is moved and set up in position. The quantity measured shall be number of set ups at positions as well as at trial positions or at positions where Employer's Agent's Representative ordered re-setup.

The tendered rate shall include full compensation for all costs involved in moving and setting up any equipment.

#### **PS.DB.22 INSTALLING HOLES**

The unit of measurement shall be the meter of hole installed to length required.

Material Type is 250mm High Density Polyethylene HDPE lining to required length for services



**PS.DB.23 RIVER SAND BACKFILL ABOVE PIPE CRADLE**

The following clause shall replace Clause PG.3.11.

"River sand for selected fill material to 300mm above pipe cradle shall consist of clean river sand conforming to the following grading:-

Sieve size mm	67	475	150	75
% Passing	100	90 -100	0 - 15	0 - 3

and having a Fineness Modulus of 2,0 - 3,5."

**PS.DB.24 IMPORT G7 FILL MATERIAL FOR STOMWATER TRENCHES**

The fill material shall conform to the requirements as indicated in the schedule of quantities and as described in TRH 14 with the following Amendments: -

The material shall be free of weathered shale and will be subject to the approval of the Employer's Agent's Representative.

**PS.EB     GRADED CRUSHED STONE**

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**PS.EB.1 BASE AND SUB-BASE**

(a) Details of the source of the supply of the base and sub-base material are required by the Employer's Agent's Representative before roadworks commence.

A Certificate of Acceptance for these layers will only be issued by the Employer's Agent's Representative when levels and densities are correct.

(b) No additional payment shall be made for restricted conditions, and the Tenderer shall therefore make due allowance in the rate for the graded crushed stone layer for any additional work (including hand work) required to place, spread, process and compact the layer in restricted conditions.

**PS.EB.2 PRIMING OF BASE AND SUB BASE (NON – CEMENT STABILISED AREAS)**

After the issue of the Certificate of Acceptance referred to in PS.EB.1, the sub-base shall then be primed with an Inverted Emulsion Primer conforming to S.A.B.S. 1260 of 1979 and applied at the rate of 0,6 l/m<sup>2</sup>. Refer to PS.EC.2 for Priming of Cement Stabilised Areas

**PS.ED     ROAD ASPHALT**

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**PS.ED.1 SMOOTHNESS APPLICABLE TO WEARING COURSE (Clause ED.6.2)**

The smoothness applicable to the wearing course shall be that specified in Clause ED 6.2(b).

**PS.ED.2 RESTRICTION ON PLACING OF ASPHALT**

The Contractor shall, wherever possible, complete the earthworks and compaction to sidewalks prior to the laying of the wearing course on the adjacent section of road so as to prevent construction plant and equipment from damaging the freshly laid wearing course.

**PS.ED.3 PATCHING OF EXISTING SURFACE**

Where existing roads are to be patched, or prior to resurfacing existing roads, those areas of the existing asphalt pavement which require patching will be marked by the Employer's Agent's Representative.

**PS.ED.3.1 CONSTRUCTION**

In the areas to be patched the in-situ asphalt surfacing shall be removed to a depth of 100 mm. The sides shall be cut vertically with the edges square. The exposed surface shall be swept of all loose material, a tack coat applied to the bottom and sides and then patched with asphalt base course. After compaction the surface of the patch shall be flush with the adjacent road surface.

**PS.ED.3.2 MATERIALS**

The asphalt base course shall comply with the requirements of Part ED : Road Asphalt.

**PS.ED.3.3 MEASUREMENT AND PAYMENT**

The unit of measurement shall be the square metre (m<sup>2</sup>) and the rate shall include for removal of the in-situ layers, trimming the sides, compaction, application of the tack coat, supply and laying of the asphalt, loading and haulage to the tip of excess material.

**PS.ED.4 BASE COURSE MIX REQUIREMENTS**

The design and manufacture of the asphalt shall be in accordance with TN001 latest version available by Roads Provision Pavement and Geotechnical Department. Mix Design shall also be in accordance with Manual 35 – eThekwini modified.

**PS.ED.5 WEARING COURSE**

The design and manufacture of the asphalt shall be in accordance with TN001 latest version available by Roads Provision Pavement and Geotechnical Department. Mix Design shall also be in accordance with Manual 35 – eThekwini modified.

**PS.ED.6 LAYING OF ASPHALT**

(a) The Contractor shall supply the Employer's Agent's Representative with the name of the asphalt Sub-Contractor before asphalt is laid.

The asphalt shall be laid by an approved paving machine. Hand-laying shall be permitted at the Employer's Agent's Representative's discretion when the area involved is small. The asphalt shall not be laid if its temperature is below 140°C.

The asphalt shall be rolled in accordance with the method described in chapter VI of the Asphalt Institute Paving Manual (MS-8). The density of the layer shall satisfy the following:

$X \geq 93\% \text{ Maximum Theoretical Relative Density} + 0.5 S$  where:-

X - arithmetic means of densities

S - standard deviation

An acceptance certificate for this layer will be issued by the Employer's Agent's Representative's inspector when all requirements have been met.

(b) Further to Clause ED.8.1, the rate tendered shall include for all extra work required to lay and compact the asphalt base and make-up courses in restricted areas.

**PS.ED.7 LONGITUDINAL AND TRANSVERSE JOINTS**

Tenderer's are to note that the tendered rate per Section 3 Item ED.1 are not to include for saw cutting. If the Employer's Agent's Representative requires the joint to be saw cut, the saw cutting to the longitudinal joint and transverse joint will be paid for under Section 3 Item ED.3 as an extra over to Section 3 Items ED.1.

A longitudinal joint is to be formed by cutting into the existing road surface by a width of 300 mm to a depth of 50 mm where the new surface is to be tied longitudinally into the adjacent existing pavement as shown on Drawing No. 47983. The position of the joint shall be indicated by the Employer's Agent's Representative on site. After cutting / milling the joint shall be swept of all loose material and painted with a tack coat.

Cutting of the joints shall only take place immediately prior to the laying of the wearing course.

The unit of measurement shall be linear metre (m). The rate tendered shall cover the neat cutting of the joint, the cutting of the additional 150 mm step into the existing adjacent asphalt base layers as shown on Drawing No. 47983 and the removal of all the old asphalt to tip off site inclusive of haulage.

## **PS.ED.8          SAW CUT TO LONGITUDINAL AND TRANSVERSE JOINTS**

The saw cut shall be cut with a diamond cutter to a neat uniform line 50 mm deep along the edge of the existing road where directed by the Employer's Agent's Representative.

The unit of measurement for the saw cut shall be linear metre (m) and the rate shall cover the overall depth of cut.

**PS.ED.9 TECHNICAL SPECIFICATION FOR HOT/WARM MIX ASPHALT**

The design and manufacture of the asphalt shall be in accordance with TN001 latest version available by Roads Provision Pavement and Geotechnical Department. Mix Design shall also be in accordance with Manual 35 – eThekweni modified.

Reference to the following standard specifications, guideline documents and codes of practice (Table 1) shall be deemed to be references to the latest issues of the relevant documents:-

SANS 9001	Quality management systems – Requirements
SANS 4001-BT1	Penetration grade bitumen
SANS 4001-BT3	Anionic bitumen road emulsions
SANS 4001-BT4	Cationic bitumen road emulsions
SANS 1083	Aggregates from natural sources
SANS 824	Lime for soil stabilization
SANS 50197-1	Cement – Part 1:Composition, specification and conformity criteria for common cements
SANS 1491:Part 1	Portland cement extenders - Part 1:Ground granulated blast-furnace slag
SANS 1491:Part 2	Portland cement extenders - Part 2:Fly ash
Act 85 of 1993	Occupational health and safety act
Act 39 of 2004	National environmental management : Air quality act
Sabita Manual 5	Guidelines for the manufacture and construction of hot mix asphalt
Sabita Manual 27	Guidelines for thin hot mix asphalt wearing courses on residential streets
Sabita Manual 32	Best practice guideline for warm mix asphalt
Sabita Manual 33	Interim design procedure for high modulus asphalt
Sabita Manual 35	Design and use of asphalt in road pavements
Sabita TG1	The use of modified bituminous binder in road construction
TRH 21	Hot mix recycled asphalt

Table 1 Reference and Standard Specifications



## Asphalt Mix Design

Asphalt mix designs are required for every mix supplied. Mix designs for each mix type are to be conducted in accordance with the guidelines noted in Table 8.

Sand Skeleton Mixes	Sabita Manual 35	Design and use of asphalt in road pavements
Stone Mastic Asphalt (SMA)	Sabita Manual 35	Design and use of asphalt in road pavements (Appendix B)
Enrobé à Module Élevé (EME)	Sabita Manual 33	Interim design procedure for high modulus asphalt

Table 8 Asphalt Mix Design Guideline Documents

The mix design process shall consist of a laboratory design, a plant trial and (if required) a paved trial. Once satisfied that the laboratory design and plant and paved trials meet the specified mix requirements, the contractor is to document the final mix parameters (i.e. the Job Mix Formula (JMF)). These parameters will be used for production quality control and acceptance purposes (see Table 9).

Grading
Voids in the Mix (@ design compaction)
Binder Content

The contractor shall also include the following “mix characteristics” as a part of his mix design submission:-

- A unique identification number for every mix design
- The binder storage constraints (e.g. maximum storage times, etc.)
- The type of modifier used and the modified binder characteristics to TG1 (if applicable)
- Binder classification in terms of the SA PG Binder Classification System
- Whether the asphalt mix is using a Warm Mix Asphalt technology/additive. The contractor shall comment on any modifications to the “standard” mix design process consequential to the use of the Warm Mix Asphalt technology/additive.
- The maximum mix temperature in the truck at the exit from the plant (in line with industry norms)
- The minimum mix temperature in the truck on delivery (in line with industry norms)
- The minimum recommended mix temperature for compaction of the mix on site (in line with industry norms)

- Comment on any asphalt mix characteristics that should be brought to the attention of the asphalt paving/laying team on site (e.g. EME asphalt mix longitudinal joint construction)

Should substantial changes to material types and properties occur, the asphalt mix designs for affected mixes shall be reviewed and where necessary re-constituted and re-submitted for approval.

### **Mix Design Approval**

No mixes may be supplied without approval of the mix design by the Senior Manager: Pavement & Geotechnical Engineering, Roads Provision Department.

The contractor shall label every mix design with a unique identification number to facilitate traceability of mixes using the mix design.

### **Mix Design Approval Process**

The contractor shall submit his proposed mix design to the Roads Provision Department for acceptance of the mix design at least 2 weeks prior to initial supply of any particular mix.

Upon request by the Roads Provision Department, the contractor shall also supply samples of raw materials. The minimum sample sizes shall be 50 kg for each aggregate type/size and 5 litres of bitumen/binder. The contractor shall also supply any other relevant information as may be requested.

Once satisfied with the content of the mix design, the Senior Manager : Pavement & Geotechnical Engineering (or his nominee) will give signed approval for the mix.

### **Mix Design Review**

Every mix design is to be reviewed. The review should include verification of the asphalt mix through testing of at least the following characteristics: -

Binder compliance with SANS 4001-BT1

Modified binder compliance with TG1

Binder classification in terms of the SA PG Binder Classification System

Aggregate and filler compliance with Table 2

Aggregate BRD, ARD and water absorption

## Mix BRD (@ Ndesign) and MTRD

### Particular mix type characteristics

#### Sand skeleton mixes

#### Level I design mix volumetric and performance characteristics

All requirements in Tables 11, 12 and 13 (as applicable) at the appropriate compaction (Table 10 for Level I design and Table 14 for Level II and III designs).

#### Level II design mix performance characteristics (Table 15)

##### Workability

##### Durability

#### Level III design mix performance characteristics (Table 15)

##### Workability

##### Durability

### SMA mixes

All requirements in Table 19

#### SMA mix performance characteristics (Table 15)

##### Durability

### EME mixes

#### Mix performance characteristics (Table 20)

##### Workability

##### Durability

Should the binder, aggregate or mix characteristics of any particular mix differ significantly from the characteristics obtained in the initial mix design, then the mix shall be re-designed to meet the relevant volumetric and performance characteristics. In the event of a dispute over the significance of a particular characteristic, the contractor shall undertake the appropriate performance test to prove compliance with the specification.

## ASPHALT PRODUCTION

### Mixing Plant

Asphalt shall be manufactured through a batch-mixing or drum-mixing plant (approved by the Roads Provision Department) such that the requirements of this specification can be met in full. The plant shall be operated and kept in a well-maintained condition as directed by the Quality Management System. Records of such maintenance shall be

made available on request.

All cold aggregates shall be stockpiled in a manner that precludes the possibility of aggregate contamination. At the very least aggregate stockpiles shall be physically separated on concrete slabs. Undue wetting/saturation of (particularly fine) aggregates shall also be prevented through covering (particularly fine) aggregate stockpiles with reinforced waterproof covers at all times when mixing is not in progress. Natural sand aggregates shall be pre-screened through a 13 mm screen before being fed into the cold feed hoppers.

Sufficient binder storage tanks shall be provided to ensure that adequate reserves are maintained for each binder type held without risk of contamination of binders. Binder storage tanks shall be heated in such a manner that the binder is not degraded during heating. The tanks shall also incorporate a circulating system for the binder.

The plant control panel shall enable the plant operator to have simultaneous view of the critical components of the plant inclusive of :-

- Binder storage temperature
- Cold hopper feed settings
- Hot aggregate bin masses (as appropriate)
- Binder feed rate
- Plant speed (as appropriate)
- Mixing temperature

The plant and its operation shall also conform to the requirements of the following legislation:

- Occupational Health and Safety Act
- National Environmental Management: Air Quality Act

## **Quality Control**

The quality of mix produced shall be monitored as directed in the contractor's Quality Management System. The asphalt mix constituents (i.e. binder and aggregates), and the asphalt mix produced shall be checked for compliance and consistency on a regular bases through routine process control testing. The results of such testing shall be available for review by the Roads Provision Department at all times.

## Quality Management System

The Quality Management System (QMS) should include documentation outlining the asphalt mix design process, the annual mix review process and processes pertaining to delivery of the asphalt mix.

The QMS shall also include any agreed frequency of split sampling of either raw mix constituents or asphalt mixes (prepared as agreed) with the Roads Provision Department. Such samples are to be delivered to the eThekweni Municipality's Bitumen and Asphalt Laboratory located at the Roads Provision

The QMS shall also document the processes to be followed whenever a deviation from specifications is identified. The Contractor shall provide full rectification of any work undertaken with such asphalt mix or materials.

Where applicable, testing is to be conducted using the SANS 3001 series of test methods.

All process control testing undertaken by the contractor shall be signed off by the responsible person identified in the QMS and shall be made available to the Roads Provision Department.

All process control test results shall be referenced back to the unique Mix Design reference number.

Mix extraction gradings shall be made available within 48 hours of the asphalt being manufactured.

Binder content and void content shall be made available by 08:00am on the day following manufacture of the asphalt.

Should the test results not be provided as required or should the results fall outside the applicable specifications, the Roads Provision Department reserves the right to suspend any supply until the results are produced and the mix is accepted.

The Contractor shall be responsible for rectification of any work completed (or partially completed) with asphalt mix that does not meet the specification to the satisfaction of the Roads Provision Department. The processes related to the rectification of such work shall be outlined in the QMS.

## Acceptance Testing

After reviewing the results of the process control testing, the Roads Provision Department may elect to conduct their own testing of the binder, aggregates or asphalt mix produced. A copy of test results will be submitted to the Contractor as soon as they are available.

Should the acceptance tests indicate that the mix (or any part thereof) is not to specification, the cost of any re-test by the Council shall be to the Contractor's account and shall be deducted from any payments owed to the Contractor.

## On Site Mix Problems

The contractor shall also make himself available on site should the workability and compaction of the mix during the paving/laying operation be problematic in order to assist in trouble-shooting the cause of such problems. If the root cause of the problem is related to the asphalt mix design, the contractor shall re-evaluate his mix design to correct such issues and re-submit his mix design for approval.

## **PS.ED.10      MILLING OF EXISTING ROADWAY TO MUNICIPAL STOCKPILE**

The asphalt on the existing roadway shall be milled out and stockpiled at the eThekweni Municipality's Roads Provision's Malacca Road Depot, space permitting.

The unit of measurement shall be the square metre (m<sup>2</sup>) and the rate shall include for all the materials, labour and plant necessary to plane / mill existing roadway and joints / tie-ins as directed on site by the Employer's Agent's Representative.

Payment shall not distinguish between the number of milling machines provided on the site or for the number of times a milling machine is brought onto the site where it was temporarily removed. Where required the contractor may be instructed to level the stockpile area for the milled materials and costs shall be included in the relevant rate.

## **PS.ED.11      TACK COAT**

The unit of measurement shall be square metres (m<sup>2</sup>). The rate tendered shall include for sweeping the previous surface where necessary, protecting the adjacent concrete kerbing, inlet covers and street furniture and testing in accordance with the specification. The application rate shall be 0,3 l/m<sup>2</sup>.

**PS.EF     KERBS AND HAUNCHES**

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**PS.EF.1            KERBING**

Measurement and payment shall conform with clause EF.8 within the standard engineering specifications. Manufactured kerbs shall be free from cracks, other than hair line cracks, free from visible twists and dents. No patching of defective surfaces or edges will be permitted. The colour of the products should be uniform.

All cast in-situ concrete shall be Grade 20/13. The surfaces of the cast in situ channel / fillet are to be properly compacted and to have a steel float finish. Expansion joints are to be formed through the channel / fillet and foundations at intervals not exceeding 18m. Contraction joints are to be formed through the channel/fillet at 2m intervals.

Where the kerb radius is less than 25m, the kerbs shall be 1/3m kerbs.

Where the kerb radius is less than 2m, the kerbing shall be cast-in situ.

All precast kerbs shall be laid with a 13mm gap between kerbs, which shall be filled with a cement mortar matching the current kerb colour.

**PS.EF.1.1            MODIFIED TYPE A - FIG 6 BARRIER KERB AND CHANNEL /  
FILLET**

The kerbing to be used for this contract shall be a modified type A barrier kerb and channel/fillet as detailed on the drawings. The unit of measurement shall be the metre (m) and shall cover the supply and placing of the kerbing, preparation and construction of the concrete base setting out compaction and any formwork that may be required.



**PS.EF.1.2      FIG 3 – TYPE A - MEDIAN KERB AND CHANNEL/FILLET**

Before laying the kerbing, a concrete foundation 700 mm wide x 200 mm deep consisting of unreinforced class 25/19 concrete shall be cast. After not less than 3 days and concrete strength exceeding 5 MPa, the kerbing shall be placed on a thin mortar bed (bed for aligning and levelling purposes).

The kerbing must be adjusted to the correct line and level, taking into account the slope on the top of the kerb. The toe of the kerb must be flush with the top of the mixed traffic road surfacing.

The kerbing must be laid with closed joints with 3:1 sand: cement mortar not exceeding 10 mm in thickness and neatly pointed with a pointing trowel.

Once the kerbing is installed, concrete haunching about 230 mm wide shall be placed behind the kerbing on the station building side and as high as possible allowing for the platform paving.

The unit of measurement shall be the metre (m) and shall cover the supply and placing of the kerbing, preparation and construction of the concrete base setting out compaction and any formwork that may be required.

**PS.EF.1.3      MODIFIED TYPE A - FIG 6 – MOUNTABLE KERBING AND CHANNEL/FILLET**

Before laying the kerbing, a concrete foundation 700 mm wide x 200 mm deep consisting of unreinforced class 25/19 concrete shall be cast. After not less than 3 days and concrete strength exceeding 5 MPa, the kerbing shall be placed on a thin mortar bed (bed for aligning and levelling purposes).

The unit of measurement shall be the metre (m) and shall cover the supply and placing of the kerbing, preparation and construction of the concrete base setting out compaction and any formwork that may be required.

**PS.EF.1.4      BARRIER TO MOUNTABLE / LOW PROFILE TYPE A – KERBING  
AND CHANNEL/FILLET**

The kerbing to be used for this shall be a 1m transition kerb from barrier to mountable/  
low profile – Type A

The unit of measurement shall be the metre (m) and shall cover the supply and placing  
of the kerbing, preparation and construction of the concrete base setting out compaction  
and any formwork that may be required.

**PS.EF.1.5      MODIFIED TYPE A MOUNTABLE KERB AND CHANNEL / FILLET**

The kerbing to be used for this contract shall be a modified type A barrier kerb and  
channel/fillet as detailed on the drawings. The unit of measurement shall be the metre  
(m) and shall cover the supply and placing of the kerbing, preparation and construction  
of the concrete base setting out compaction and any formwork that may be required.

**PS.EF.2 EXCAVATION FOR KERB AND CHANNEL/FILLET IN EXISTING ASPHALT/GRADED CRUSHED STONE/CEMENT TREATED CRUSHED STONE**

The unit of measurement shall be the cubic metre (m<sup>3</sup>). The rate shall include all the materials, labour and plant necessary to scabble the existing layers to the width of the kerb base to be laid, the excavating, loading and transporting of surplus material to spoil.

Over-excavation is likely to occur and this is to be made up in mortar (3 sand, 1 cement ) Further to the above the rate tendered shall include for all additional mortar required to make up the over-excavated areas.

**PS.EF.3 ADDITIONAL CONCRETE GRADE 20/13 TO KERB FOUNDATION**

The rates tendered for kerbs shall be based on the minimum dimensions indicated on the drawings. Where the asphalt layers necessitate an increase in the kerb foundation thickness, the supply of this additional concrete shall be paid for separately. The unit of measurement shall be the cubic metre (m<sup>3</sup>) and shall cover the supply and placing of the concrete, compaction and any formwork that may be required.

**PS.EF.4 EXCAVATION FOR KERB AND CHANNEL/FILLET IN EXISTING ASPHALT LAYERS**

The unit of measurement shall be the cubic metre (m<sup>3</sup>). The rate shall include all the materials, labour and plant necessary to cut two parallel joints in the existing asphalt the width of the kerb base to be laid, the excavating, loading and transporting of surplus material to the approved tip. Saw cutting, if necessary, shall be measured separately.

**PS.EF.5 CONCRETE**

The following concrete grades and maximum nominal size of coarse aggregate will apply to this project

SECTION	STRENGTH (Mpa)	Max Nom. Aggregate (mm)
Manholes and chamber slabs	25	19
Head Walls and cover slabs	25	19
Kerbing and stormwater channels	25	19
Pipe Encasement and Thrust Blocks	15	26
Mass Concrete below foundation (soft Spots)	15	26
Concrete Blinding	15	26
Culvert Structures	40	19
Retaining Wall Structures	40	19
Parapets	40	19
Deck Slab	30	26
Additional Concrete to Kerb Foundations	20	13
Road Sign Footings	20	19
Encasing of Pipes	20	26
Concrete Edge Beams	20	26

All concrete surfaces from 200mm below ground level or otherwise obscured from view shall be a rough finish

All concrete surfaces above 200mm below final ground level and not obscured from view shall be a smooth float finish

The Contractor is required to provide the moulds and to make and cure the test cubes and to convey them to an approved and accredited testing laboratory.

Admixtures will be acceptable in concrete – but the Employer's Agent's Representative is to be advised on the quantity and type of admixture before use or mixing.

No air entraining agents will be acceptable.

#### **PSEF.6 EXTRA OVER ITEMS**

The unit of measure is an extra over (m), i.e., an additional cost over and above the main pay Part EF. The rate shall cover labour and plant necessary for excavation, setting out, placing Kerbing, constructing concrete nibs.

No additional payment shall be made for restricted excavation and the Tenderer shall therefore make due allowance in the rates for any additional work or hand excavation.

**PS.EG     SIDEWALK/MEDIAN AREAS**

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**PS.EG.1            APPROVED WEED KILLER**

Wherever mentioned, the approved weed killer shall be “OUTPACE 100GR” or approved equivalent. Approved weed killer shall be applied twice, at formation prior to installation of any paving, and on completion prior to vacating the site. It is preferable that the approved weed killer is blended / mixed in the correct proportions into the slurry sealant for any paving.

**PS.EG.2            SCOOP AND ACCESS HARDENING CONSTRUCTION**

The Tenderer's attention is drawn to the various types of pavement construction for the various types of access. The type of construction applicable to a particular scoop shall be indicated in writing by the Employer's Agent's Representative on site. The unit of measurement shall be the square metre (m<sup>2</sup>)

**PS.EG.3            ASPHALT FOR SIDEWALKS / DRIVEWAYS**

Asphalt sidewalk - Asphalt Private Plant - (50mm Mix A, 150mm G4 Crusher Run, formation and compaction, approved weedkiller and priming. The unit of measurement shall be the square metre (m<sup>2</sup>)

**PS.EG.4            CONCRETE G – BLOCK**

The Tenderer's attention is drawn to the various types of pavement construction for the various types of access. The type of construction applicable to a particular area shall be the G-Blok 221.2mm x 110.8mm x 60/80mm to be placed where directed by the Employer's Agent's Representative for Heavy industrial areas, heavy parking areas, abnormally heavy industrial stacking areas, medium industrial working areas, parking areas and driveways, service areas and sloped embankments. The unit of measurement shall be the square metre (m<sup>2</sup>) at approx. 40 pavers per m<sup>2</sup>

**PS.EG.5            COROLOCK MULTIBLEND BRICK**

The Tenderer's attention is drawn to the various types of pavement construction for the various types of access. The type of construction applicable to a particular median shall be the Corolock Multiblend S-A 200 x 100 x 60/80mm . S-A : Allows interlock between all vertical faces of adjacent blocks. The unit of measurement shall be the square metre (m<sup>2</sup>)

The unit of measurement for the header course shall be the metre (m)

**PS.EG.6 G4 GRADED CRUSHED STONE**

The material shall conform to the requirements for a G4 or better material as described in TRH 14:1985 and shall be free of shale or weathered dolerite materials. The unit of measurement shall be the cubic metre (m<sup>3</sup>). The following additional requirements shall also be met:

Before stabilising :-

Percent passing 0.425 mm sieve (TMH1-A1) Max. 15

pH (of fines passing 0.425 mm sieve) Min. 6

**PS.EG.7 BEDDING SAND**

Sand for mortar should comply with SABS 1090 and be well graded from 5mm downwards. Sand should be evenly graded and should not contain an excess of dust or other fine material. The use of fine sands, that are more or less uniform in particle size, may contribute to workability, but frequently leads to excessive shrinkage and cracking of the joints. Sands containing high percentage of clay, tend to give a conveniently plastic mix, but also leads to undue shrinkage.

**PS.EG.8 GROUTING**

Notwithstanding clause EG.5.3, 2:1 grout shall be used for this contract. Paving will only be measured for payment and contract progress records once all the necessary grouting has been completed. All storm water inlets / sewers, cable ducts etc. are to be protected from the ingress of diluted cement mix and sand into the system.

Where directed by the Employer's Agent's Representative, backfill material shall be stabilised (12 parts suitably approved backfill material : 1 part cement) The unit of measurement shall be the square metre (m<sup>2</sup>) of paving covered and the rate shall include for all the materials, labour and plant, brooming and watering and cleaning.

**PS.EG.9 CONCRETE EDGE BEAM**

A concrete edge beam seated on 100 thick x 200 wide concrete foundation comprising grade 20/26 concrete shall be laid to support unconstrained edges of brick paved areas. The top edges shall have a 12 mm chamfer whilst the top surface shall be flush with the grassed areas adjacent the finished paving level and finished with a steel trowel.



This in particular shall generally be used behind the kerb below the paving header course.

#### **PS.EG.10      EXPANSION JOINTS**

The sealer used in the expansion joints shall be polysulphide conforming to BS.4252 of 1967 - Two part polysulphide base sealant for the building industry, as amended. The joint filler shall be of compressible material approved by the Employer's Agent's Representative. Expansion joints, wherever possible, shall be formed using "Jointex" or similar type material laid simultaneously with the paving and sealed as soon as the grout has cured. Where it is necessary to cut expansion joints these shall be cut before paving is extended past the position of the next expansion joint. In both cases the joint shall extend through the sand / cement bedding. Expansion joints shall be at +/- 7,5m centres or in positions as indicated on the contract drawings or indicated by the Employer's Agent's Representative on site.

#### **PS.EG.11      REMOVAL OF PAVING RUBBLE AND WASTAGE TO SPOIL**

The unit rate for excavation to spoil shall include for separation from suitable material, loading, deposition and spreading of excess and unsuitable material. The unit of measurement shall be the cubic metre (m3). measured from tally slips (approved weighbridge) and the rate shall include for all the materials, labour and tools necessary to load / haul and spoil.

**PS.EM****CONCRETE SURFACE TO ROAD****INDEX****PAGE**

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**PS.EM.1 CONCRETE**

The following concrete grades and maximum nominal size of coarse aggregate will apply to this project

<b>SECTION</b>	<b>STRENGTH (Mpa)</b>	<b>Max Nom. Aggregate (mm)</b>
Manholes and chamber slabs	25	19
Head Walls and cover slabs	25	19
Kerbing and stormwater channels	25	19
Pipe Encasement and Thrust Blocks	15	26
Mass Concrete below foundation (soft Spots)	15	26
Concrete Blinding	15	26
Culvert Structures	40	19
Retaining Wall Structures	40	19
Parapets	40	19
Deck Slab	30	26
Additional Concrete to Kerb Foundations	20	13
Road Sign Footings	20	19
Encasing of Pipes	20	26
Concrete Edge Beams	20	26

All concrete surfaces from 200mm below ground level or otherwise obscured from view shall be a rough finish

All concrete surfaces above 200mm below final ground level and not obscured from view shall be a smooth float finish

The Contractor is required to provide the moulds and to make and cure the test cubes and to convey them to an approved and accredited testing laboratory.

Admixtures will be acceptable in concrete – but the Employer's Agent's Representative is to be advised on the quantity and type of admixture before use or mixing.

No air entraining agents will be acceptable.

The contact face shall be cut to predetermined lines and levels, any loose and fragmented material shall be removed, and surface watered prior to placement of concrete.

No separate payment will be made for this work,

No hand mixed proportions will be permitted in the roadway surfaces. Ready-mix concrete shall be supplied and delivered to site. Should small batches of less than 4m<sup>3</sup> be required, batching will be permitted on site by use of concrete mixer. Batch measurements of aggregates and water quantity to be accurately monitored.

## **PS.EM.2      MULTI-CELL – OR APPROVED EQUIVALENT**

Multi-Cell® is a honeycombed structure that is manufactured from strips of a coated slit film woven polypropylene tape that are stitched alternatively together to form a three-dimensional diamond shaped cells.

Multi-Cell® is used as an in-situ shuttering to cast continuous interlocking concrete paving for road or canal construction and as an erosion control formwork for soil vegetated embankments.

Multi-Cell® has been extensively used in the construction industry as a fast and effective solution to canal / channel protection, load support and erosion control.

- Set out area to be covered by Multi-Cell®. Lay the first panel expand and peg the tension frame, 1 to 1, 5 m across the long side (Figure 1). Y10 or Y12 pegs can be used
- The next Multi-Cell® panel is joined at corresponding cells by vertically threading standard wire nails or by clipping into existing pegs.
- Where changes in direction occur, insert binding wire/builders twine centrally through the cell walls at the inflection point of the profile. Tension the wire and peg along the wire with hooked pegs to press down the panel to the surface
- Filling of material can begin once the Multi-Cell® sections have been anchored

down

- Mixing, placing, vibrating, finishing and curing should be carried out in the conventional manner. Temporary edge rails and a vibrating screed bar can significantly accelerate the procedure. Float concrete surface to the required finish
- Limit the drop height of material to a 1 m maximum
- For low volume roads compact 100 – 150 mm base to a minimum of 93% Mod AASHTO. Make sure the final level of the base is the exact thickness below the final finished road surface.

### **PS.EM.3 JOINTS**

Suitable expansion joints 13 mm in width shall be provided at  $\pm 18,0$  m centres through kerb, channel and supporting concrete. This joint shall consist of a compressible material and polysulphide filler which shall match the colour of the concrete.

**PS.F      PROTECTION WORKS**

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## **PS.F.1 TOPSOILING**

### **PS.F.1.1 Materials**

The soil shall be loamy with a well defined crumb structure, neither too sandy nor too clayey. It shall contain evidence of fibrous plant roots and shall be free from perennial weed root stocks, stone, glass, metallic and plastic substances.

The imported topsoil shall be obtained from a source approved by the Employer's Agent's Representative.

A sample of the topsoil shall be submitted to a SANAS accredited laboratory for testing as prescribed by the Employer's Agent's Representative. Test results are to be forwarded to the Employer's Agent's Representative for approval 4 weeks before the top soiling operation commences

### **PS.F.1.2 Measurement and Payment**

The unit of measurement shall be the square metre (m<sup>2</sup>). Further to Clause F.8.1 and F.8.2, the rate shall include for the purchase, supply, transport, mixing, distributing, spreading, trimming and finishing of the topsoil and compost mixture.

## **PS.F.2 OVERHAUL**

Notwithstanding the requirements of Clause F.8.1 and Clause F.8.2, no additional payment shall be made for haulage. The rates tendered for items in Part F of the Bill of Quantities shall include the cost of haulage.

## **PS.F.3 PEDESTRIAN GATE**

The requirements for the pedestrian gate shall conform to standard drawing 38583.

The rate shall include all the materials, labour and plant necessary to erect the standard wire mesh pedestrian gate complete as per drawing 38583.

## **PS.F.4 VEHICULAR GATE**

The requirements for the vehicular gate shall conform to standard drawing 38583.

The rate shall include all the materials, labour and plant necessary to erect the vehicular gate rails and make necessary adjustments. Paving (concrete/asphalt or G-Block shall tie into the existing gate rail level. New gate rails shall be Sliding Gate U Groove to

match existing rails. .

#### **PS.F.5 CONCRETE FOR FOOTINGS TO RETAINING WALL**

The following statement shall amend Clause F.8.7 (C).

Clause 8.7 within the standard engineering specifications shall allow for concrete in TB500 wall footings.

#### **PS.F.6 INTERLOCKING EARTH RETAINING SYSTEMS / WALL**

Terrace Block TB500 or approved / similar equivalent plantable interlocking earth retaining system as detailed on contract drawings and as directed by Employer's Agent's Representative on site. The materials required for the full construction of the retaining wall shall comply with the relative SABS standards. The rates shall be measured in square metres squared (m<sup>2</sup>) of slope area. The rate shall cover the supply and transport of suitable and approved retaining blocks, materials, geofabric, excavation, preparation and construction of the retaining wall fully as detailed on Contract Drawings.

#### **PS.F.7 WEEPHOLES IN RETAINING WALLS**

Weep holes consisting of 50mm diameter AC pipes are to be provided at 1250mm centres horizontally and 900mm centres vertically. Weep holes are to be backed by a 300x300x300mm no fines concrete block. The unit of measurement shall be the number (No.) and the rate shall include for all the materials, labour and tools necessary to construct the weep holes as specified in Clause F.5.6.2

#### **PS.F.8 DRAINAGE GRADE GEOFABRICS**

The geofabric to stone bedding must comply with Clause PG.3.8 of Part PG: Non-Pressure Pipelines and Precast Concrete Culverts.

The unit of measurement shall be the square metre (m<sup>2</sup>). The rate shall include for its supply, laying, joining, cutting and waste.

**PS.F.9 BITUMEN IMPREGNATED SOFTBOARD IN EXPANSION JOINTS**

The bitumen impregnated softboard shall be 13 mm thick.

The unit of measurement shall be the square metre (m<sup>2</sup>) and the rate shall include for the supply, cutting, waste. Allowance must also be made for placing/fixing the softboard against the brickwork face of the expansion joint.

**PS.F.10 POLYSULPHIDE SEALANT TO FRONT FACE OF EXPANSION JOINTS**

The sealer used in the expansion joints shall be polysulphide conforming to B.S. 4254 of 1967 - Two part polysulphide based sealants for the building industry as amended.

The unit of measurement shall be the metre (m) and the rate shall include for the supply of the material, necessary labour and tools to perform the work and wastage.

**PS.F.11 WORKS TO PROPERTY FRONTAGE**

A sum has been included in the Bill of Quantities for work to properties fronting on the roadworks and will be used for items not covered elsewhere in the Bill of Quantities. An item for handling costs has been provided in the BOQ for the Contractor markup in this regard. Work to property frontages shall be determined on site of the extent and scope and thereafter will be measured, minimum 3 quotations obtained, recorded for the scope of the work and time frames determined to complete the task. Handling costs and profit in respect of the provided invoiced amounts shall not exceed a maximum of 10%. This will be measured in terms of a variation order.

**PS.F.12 BRICKWORK**

The construction of brickwork shall be as specified in Clause F.5.6.3. Mortar shall conform to mix Class A as defined in the latest edition of the Standard Building Regulations.

The unit of measurement shall be the square metre (m<sup>2</sup>) and the rate shall include for all the materials, labour and plant necessary as directed on site by the Employer's Agent's Representative.

Bricks shall be engineering bricks conforming to the requirements of SABS 227. The limit for water absorption in the 24 hour immersion test shall be 8%. Brickwork shall be



built in English bond, or in a stretcher bond where its thickness does not exceed 115 mm. It shall be well and regularly bonded without any false headers. All bricks shall be unbroken, except where required as closers. Bricks shall be well wetted before laying and each brick shall be pressed into its bed so as to leave a finished joint not exceeding 10 mm in thickness. All joints shall be filled solid with mortar, and joints for exposed faces shall be pointed as the work proceeds.

### **PS.F.13 FACE BRICKWORK**

The construction of face brickwork shall be as specified in Clause F.5.6.3. Mortar shall conform to mix Class A as defined in the latest edition of the Standard Building Regulations.

The unit of measurement shall be the square metre (m<sup>2</sup>) and the rate shall include for all the materials, labour and plant necessary as directed on site by the Employer's Agent's Representative. The product shall be the Clay Montrose Travertine FBA imperial Corobrick

Bricks shall be engineering bricks conforming to the requirements of SABS 227. The limit for water absorption in the 24-hour immersion test shall be 8%. Brickwork shall be built in English bond, or in a stretcher bond where its thickness does not exceed 115 mm. It shall be well and regularly bonded without any false headers. All bricks shall be unbroken, except where required as closers. Bricks shall be well wetted before laying and each brick shall be pressed into its bed so as to leave a finished joint not exceeding 10 mm in thickness. All joints shall be filled solid with mortar, and joints for exposed faces shall be pointed as the work proceeds.

### **PS.F.14 LOFFELSTEIN OR TB BLOCK RETAINING WALLS**

Mass stabilised earth walls are to be used to retain certain areas within the construction site. The type of block walls to be use shall be SABS approved as well as approved by the Municipality. Once approved by the Employer's Agent's Representative / Employer for use and work has commenced, the type of wall shall be maintained throughout the contract on other areas where mass stabilised walls are required unless the Employer's Agent's Representative instructs otherwise

Supply and Lay TB500's Retaining Blocks or similar, including sliders, as per detail on Standard Drawing

The unit of measurement shall be square metre (m<sup>2</sup>).

Supply and lay of cement stabilised fill, 5% cement with clean coarse sand well rammed between blocks, in blocks and 500mm behind blocks as detailed. This consists of 12 sand : 1cement. The unit of measurement shall be the cubic metre (m<sup>3</sup>).

**PS.F.15 PERIMETER FENCING**

Permanent installation of perimeter fence shall be 2.4m high and 2,5m wide panels (width 50mm x 200mm aperture), 3.15mm wire diameter, EMU Green, Hot Dipped Galvanised - Clearvu or approved equivalent - supply and install including support posts. The unit of measurement shall be metre (m). The tendered rate shall include for all materials, plant and labour required to fully construct.

**PS.F.16 ELECTRICAL SECURITY FENCING**

The tendered rate shall include for all materials, plant and labour required to fully construct, install,

**PS.F.17 TEMPORARY FENCING**

Temporary fencing shall be 2.4m high lightly galvanised Bonnox Econo range wire mesh fence. Allowance shall be made in the rate to install the temporary fence, including the horizontal wire at 100mm centres and vertical stay wires and wooden poles cast in concrete foundation. The tendered rate shall include for all materials, plant and labour required to fully construct.

**PS.F.18 EROSION PROTECTION**

The product shall be a fibre, biodegradable, and compost blankets/mats to minimize the effects of water erosion on slopes and embankments. Rolled mats are made from mulch that is held together by a fibre mesh. They degrade slowly, allowing vegetation that may have been grown in the area to grow and take over the job of protecting the soil from erosion when the mats have finally degraded completely. The unit of measurement shall be square meter (m<sup>2</sup>).and shall be placed in areas where directed by the Employer's Agent's Representative.

## PS.F.19 GABIONS

- General** The size and type of wire mesh, diaphragms binding wires, and selvedge wire are specified in the following paragraphs. The fabric of the gabions shall be triple twisted hexagonal woven steel wire mesh. The wire shall be galvanized before weaving. All wire used in the manufacture and tying of gabion shall comply with the BS.1052: 1980 "Mild steel wire for general engineering purposes" and shall be galvanized in accordance with BS 443: 1982 "Specifications for testing zinc coatings on steel wire and for quality requirements."
- Mesh** The gabion boxes shall have hexagonal woven mesh with a maximum size of 100 mm x 120 mm, with the joints formed by twisting each pair of wires through three half turns. Wire used for the formation of the mesh panel will have a diameter of 3.0mm.
- Wire** The diameter of the wire used in the fabrication of the mesh shall be 3.0 mm. Sufficient binding and tie wires, horizontal and vertical bracers, and other accessories needed for the assembly and erection of the gabion works shall be supplied, at no additional cost, by the Contractor. The quantity of such wire shall be not less than 10% by weight of the gabions supplied under this Contract. The diameter of the binding and connection wires shall be 2.4 mm.
- Galvanizing** All wire used in the manufacture of gabion boxes and in the wiring operations during construction shall be heavily coated with zinc. The minimum weight of zinc coating shall be as follows:  
The adhesion of the zinc coating to the wire shall be strong enough of an extent that when the wire is wrapped six turns around a mandrel of four times the diameter of the wire, it does not flake or crack to such an extent that any zinc can be easily removed by rubbing with the bare fingers.
- Selvedge's** All edges of the gabion boxes including end-panel and diaphragms shall be mechanically selvedged in such a way to prevent unravelling of the mesh. The selvedge shall be of a wire having a diameter of 3.9 mm.
- Diaphragms** Diaphragms shall be supplied to divide each gabion unit into cells to control movement of fill material within the gabion. The diaphragm to be provided shall be equally spaced at a distance of 1 m along the length of the gabion. The diaphragms shall be selvedge to a diameter of 3.9 mm.

### Gabions

## Mattresses

- Mesh** The gabion mattresses shall be triple twisted hexagonal woven steel wire mesh of size 6cm x 8cm. The mattresses shall be divided by internal diaphragms into compartments of 1 m width.
- Foundations** The ground on which the gabions are to be founded shall be trimmed by hand to form a plane surface before placing the baskets, Where shown on the drawing or ordered by the Project Manager the gabions mattresses shall be laid on a graded filter or an approved geotextile, Filtered material shall consist of graded rock of a dense, sound quality free from weathering or mechanical weakness, The size and grading shall be such that the filter will be retained by the rock in the gabion and will itself retain the finer particles of the adjacent general filling, If necessary the filter shall be placed in successive layers of different grading, reducing in particle size from the gabions to the general filling, The completed filter layer shall be such that it shall represent a dense mass well consolidated and not subject to settlement
- Fixing** After placing in position and before filling, the gabions shall be stretched to their full size and shall be stretched to their full size and shall be wired to the adjoining row at the top and bottom edges and at the corners.
- Stone Fill** Stone for filling gabions shall be between 100 mm and 250 mm dia stone, It shall be hard and resistant to abrasion, uniform in texture and sound, without cracks or other imperfections likely to impair resistance to weathering,
- Gabion Stone** The rock is un-weathered and solid without flaking or weathering evident. The correct size to be used must be 100-250 mm minimum size for gabions (1m high baskets). With river mattresses the rock size is also 100-2/3 the mattress thickness so that at least two layers of rock can be used in the mattress layer thickness. Small rock fragments must not be used on the surface of either gabions or mattresses in river course situations as the fine material will be removed in high water flows. Always check that the rock size is bigger than the hexagonal mesh opening, within the centre of a gabion basket smaller rock may be used and limited to the centre of the gabion only. Soft rocks and brick fragments are not suitable due to its capacity to absorb water and soften over time, flat rock is usually not adequate as it does not provide for the same mechanical interlock in the gabion provided by blasted angular rock, rounded river rock is ok, however it does harm the environment after removal and it is more difficult to obtain a flat gabion facing. The rock should be placed as close to the packing position when offloaded from the truck to reduce double handling of this resource on sites.

**PS.F.20 EXTRA OVER ITEMS**

Refer to PS.F.19. rate shall include for the erection, packing, cutting, positioning, shaping of the non-standard gabion boxes and mattresses.

The unit of measure is an extra over (m3), i.e. an additional cost over and above the main pay Part F.

No additional payment shall be made for restricted excavation and the Tenderer shall therefore make due allowance in the rates for any additional work or hand excavation.

**PS.PG    NON-PRESSURE PIPELINES AND PRECAST CONCRETE CULVERTS**

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**PS.PG.1 SUBSOIL PIPES**

The following clause shall replace Clause PG.3.5.

"These shall be "Geopipe" plastic subsoil pipes complying with SABS 791 as amended.

Hole Size : 5 ± 1 mm Diameter  
Diameter of Pipe : 100 ± 10 mm.  
Pipe Invert : 25% of the circumference of the pipe is to be free from slots or holes to form an invert to the pipe."

**PS.PG.2 SUBSOIL DRAINS AND OUTLETS**

Positions and type of subsoil drains have not been shown on the plans but will be indicated on site by the Employer's Agent's Representative.

Subsoil drains shall be type A, B or C as detailed on standard drawing No. 38575.

Subsoil pipes shall be "Geopipe" plastic pipes conforming to SABS 791. The outfall end of each run of subsoil drain shall be built into the nearest inlet/manhole or headwall in accordance with Clause PG 5.5, or into a special outlet structure as detailed on the project drawings and measured under part PH.

**PS.PG.2.1 CONNECTION OF SUBSOIL DRAINS TO EXISTING STORMWATER SYSTEM**

Where subsoil pipes require to be built into an existing stormwater inlet/manhole or headwall, the unit of measurement shall be number (No.)

The rate tendered shall include for all labour and materials to construct the connection in accordance with Clause PG.5.5. and for trimming the geofabric at the connection.

**PS.PG.2.2 SUBSOIL TERMINATION STUB**

The final 1 metre length of the subsoil drain before the manhole/catchpit shall be 100 mm diameter non-perforated U.P.V.C. pipe.

The unit of measurement shall be number (No.). The rate shall include for the supply and laying of the pipe, and for all work necessary to tie into the stormwater manhole/catchpit.

**PS.PG.3 STONE FOR SUBSOIL DRAIN FILTER / RETAINING WALL**

The following clause shall replace Clause PG.3.10.

"The stone aggregate used for the subsoil drain filter shall consist of 19.0 mm crushed stone conforming to the following grading :

Sieve size mm	19.0	13.2	9.5	6.7	4.75
% Passing	100	85 - 100	0 - 50	0 - 25	0 – 5

**PS.PG.4 RIVER SAND BACKFILL FOR SUBSOIL DRAIN FILTER**

The following clause shall replace Clause PG.3.11.

"River sand for subsoil drain filter shall consist of clean river sand conforming to the following grading:-

Sieve size mm	67	475	150	75
% Passing	100	90 -100	0 - 15	0 - 3

and having a Fineness Modulus of 2,0 - 3,5."

**PS.PG.5 GEOFABRIC BLANKET**

The geofabric shall comply with Clause PG.3.8 and the rate tendered shall include for wrapping the geofabric around either the subsoil pipe, subsoil drain or stone bedding.

**PS.PG.6 CONNECTION TO SEWER MAIN**

The requirements shall include all the materials, labour and plant necessary to provide a connection point (domestic connection) from the newly laid sewer line.

**PS.PG.7 DUCTS**

The unit of measurement shall be linear meter. The requirements shall include all the materials, labour and plant necessary to fully install the cable ducts as specified.

"Burnt clay masonry units for duct headwalls with a nominal compressive strength of 14 MPa to S.A.B.S. 227:1986. Ducts shall have brick headwalls constructed at each end of the ducts, as shown on standard Drawing No. 38581. Bricks for these headwalls shall be Non-Facing Extra (NFX). Construction of brickwork shall be as specified in clause F.5.6.3. Mortar shall conform to mix Class A as defined in the latest edition of the



Standard Building Regulations.

#### **PS.PG.8 CONCRETE STORMWATER PIPES**

Concrete pipes shall be class 100D, as detailed in the drawings and schedules

The concrete pipes shall be jointed by means of a spigot and socket joint with a rubber sealing ring. The unit of measurement shall be linear metres (m). The unit rate for supply shall include for: - The supply of all pipes complete with couplings and joint material.

- Their inspection, transport to and about site and all handling costs.

#### **PS.PG.9 IMPORT G7 FILL MATERIAL FOR STOMWATER TRENCHES**

The fill material shall conform to the requirements as indicated in the schedule of quantities and as described in TRH 14 with the following Amendments: -

The material shall be free of weathered shale and will be subject to the approval of the Employer's Agent's Representative.

#### **PS.PG.10 SAND / CEMENT MIX BACKFILL TO DUCTS – ROAD CROSSINGS**

Supply and lay of cement stabilised fill G7 well rammed for backfill to ducting consists of 3 sand: 1 cement. The unit of measurement shall be the cubic metre (m<sup>3</sup>).

#### **PS.PG.11 DUCT ENCASEMENT GRADE 20/26 CONCRETE**

The unit of measurement shall be the cubic metre (m<sup>3</sup>) and the rate shall include for all the materials, labour and plant necessary to concrete encase the placed ducts and compact as directed on site by the Employer's Agent's Representative.

#### **PS.PG.12 JUNCTIONS, BRANCHES, BENDS AND ADDIITONAL COUPLINGS**

The unit of measure is an extra over (No.), i.e. an additional cost over and above the main pay Part PG. The rate shall cover labour and plant necessary for excavation, placing, laying, connecting and backfilling the pipes.

No additional payment shall be made for restricted excavation and the Tenderer shall therefore make due allowance in the rates for any additional work or hand excavation.

**PS.PH MANHOLES AND APPURTENANT DRAINAGE WORKS**

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**PS.PH.1 MANHOLES AND INLETS**

Tenderers are to note that manholes and inlets shall be measured according to type and varying depth only. The rate tendered for the manholes/inlets shall include for the different pipe sizes and benching configurations.

The Contractor shall note that the rate for inlets shall include the cost of the graded channel in front of the inlet and / or splay and the cost of the transition kerb and channel upstream and downstream from each inlet. This will not form part of the payment for kerb and channel.

**PS.PH.2 MANHOLES AND APPURTENANT WORKS : REVISED DRAWING NUMBERS**

Clause PH.3.2.1.1 second paragraph is replaced by the following :

Details of the precast concrete components of standard manholes are shown on standard drawings 38570 for both foul-water sewers and stormwater drains, 38574 for foul-water sewers and 38571 for stormwater drains.

Clause PH.5.11 first paragraph:

Standard drawing 21701 is replaced by drawing 38574.

**PS.PH.3 BRICKS**

Clause PH.3.1 first paragraph shall be replaced by the following :

"Burnt clay masonry units for foul-water and stormwater sewer manholes, stormwater inlets and inspection chambers shall be Non-Facing Extra (NFX) with a nominal compressive strength of 14 MPa to S.A.B.S. 227:1986.

**PS.PH.4 MANHOLES WITH TYPE S1, S2 AND D3 INLET COVERS**

A number of Type "A" and "B" stormwater manholes with various types of inlet covers have been scheduled on this contract. The manholes are schedule by type and in depth increments of 500 mm.

The unit of measurement shall be number (No.) and the tendered rate for each type shall include for the supply of all labour, plant and materials required to construct the manhole complete in accordance with the Standard Drawings and Specification, and inlet type

cover as is specified in the contract drawings.

Stormwater manholes shall be constructed in accordance with the Standard Drawings. Steps irons are required in manholes deeper than 1.2m. Cast iron ring manholes shall be bedded in 25Mpa concrete flush with the sidewalk or road surface and inclined where necessary to conform to the slope of the sidewalk or road crossfall.

#### **PS.PH.5 INLET AND OUTLET HEADWALLS**

Drawing number 38576 shows details of outlet headwalls. The unit of measure for these headwalls shall be Number (No.) and shall include for all labour, plant and materials required for the construction of the headwall inclusive of the base and cut-off walls.

The construction of brickwork shall be as specified in Clause F.5.6.3. Mortar shall conform to mix Class A as defined in the latest edition of the Standard Building Regulations.

#### **PS.PH.6 BRICK HEADWALLS TO DUCTS**

Ducts shall have brick headwalls constructed at each end of the ducts, as shown on standard Drawing No. 38581. Bricks for these headwalls shall be Non-Facing Extra (NFX) with a nominal compressive strength of 14 MPa to S.A.B.S. 227:1986.

Construction of brickwork shall be as specified in clause F.5.6.3. Mortar shall conform to mix Class A as defined in the latest edition of the Standard Building Regulations.

#### **PS.PH.7 CONNECTION TO EXISTING MANHOLE**

The requirements shall include all the materials, labour and plant necessary to connect/tie-in of newly laid sewer line to existing sewer manhole as directed by the Employer's Agent's Representative on site.

#### **PS.PH.8 POLYMER MANHOLES – COVERS / FRAMES / INLETS**

The unit of measurement shall be Number (No.). In addition to the construction of the **Compression Moulded Polymer Covers and Frames** all requirements under PH.8 shall apply. Products shall comply with SANS 1882:2003 and SABS approved.

**PS.PH.9 CONSTRUCTION OF MANHOLE/INLET OVER EXSITING  
STORMWATER PIPE**

The unit of measurement shall be Number (No.)

Further to Clauses PH.8.2 and PH.8.3 the rate shall include for:

Breaking into existing pipe.

Cutting and reinstating the ends of the existing pipe.

The restricted work around the existing pipe.

Disposal of any spoil, etc., to the tip.

**PS.PH.10 INLET AND OUTLET HEADWALLS**

Drawing number 38576 shows details of outlet headwalls. The unit of measure for these headwalls shall be number (No.) and shall include for all labour, plant and materials required for the construction of the headwall for pipe diameters up to and including 1200 mm inclusive of the base and cut-off walls.

The construction of brickwork shall be as specified in clause F.5.6.3. Mortar shall conform to mix Class A as defined in the latest edition of the Standard Building Regulations.

The inlet headwall will be as per the outlet headwall detail, except that the splitter blocks shall be omitted.

**PS.PH.11 BREAK INTO EXISTING BRICK MANHOLE/INLET FOR  
STORMWATER PIPE**

The unit of measurement shall be Number (No.). Separate items have not been scheduled for each diameter of pipe to be connected to a manhole. The unit rate for breaking into a brick manhole to connect a stormwater pipe shall include for all the materials, labour and plant necessary for :

(a) The breaking into the existing manhole, including the demolition of the benching necessary to accommodate the pipe.

The building in of the stormwater pipe, including the re-shaping and making good of benching and the disposal of all resultant rubble to approved tip.

**PS.PH.12 RESTRICTED EXCAVATION**

The nature of the trench excavations are such that a considerable amount of the excavation shall be in restricted conditions. No additional payment shall be made for such excavation and the Tenderer shall therefore make due allowance in the rates for any additional work or hand excavation. Restricted excavation is classified to be in an area or width or length whereas to preclude the removal of materials by use of machinery, i.e. bobcat / TLB / Excavator etc and where hand excavation is used for the excavation and removal being the most likely solution and where services exist that traverse the excavation extent requiring additional care. Payment shall not distinguish between the number of excavators provided on the site or for the number of times the excavator machine is brought onto the site where it was temporarily removed.

**PS.PH.13 EXTRA OVER ITEMS**

The unit of measure is an extra over (No.), i.e. an additional cost over and above the main pay Part PH. The rate shall cover supply, labour and plant necessary for excavation, placing, laying, connecting and installing the manhole polymer type 2A and 2B **compression moulded approved** Heavy-Duty cover and frames.

No additional payment shall be made for restricted excavation and the Tenderer shall therefore make due allowance in the rates for any additional work or hand excavation.

**PS.S      REINSTATEMENT**

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## PS.S.1 LAYERS

The pavement layers to be used for the permanent reinstatement of roadways are as follows :

- X 150 mm graded crushed stone.
- X 40 mm asphalt wearing course

### Permanent Reinstatement

The edges of existing surfacing shall be trimmed to a depth of at least 100 mm with an approved mechanical cutter to obtain even, regular and straight joints and then painted with a primer. Permanent reinstatement shall consist of :-

CATEGORY	TYPE OF ROAD	ASPHALT LAYERS	CRUSHER RUN LAYER	TRENCH BACK FILL MATERIAL
A	Arterials CBD Streets Industrial Road	240 mm in 3 layers of 80 mm each	150 mm G4 Graded Crushed Stone	CBR 7 or more
B	Residential Bus Route Collector Roads	160 mm in 2 layers of 80 mm each	150mm G4 Graded Crushed Stone	CBR 7 or more
C	Residential Roads	80 mm	150mm G4 Graded Crushed Stone	CBR 4 or more
D	Parking Areas Access Roads	50 mm	150mm G4 Graded Crushed Stone	CBR 4 or more
E	Footpaths	25 mm	75mm G4 Graded Crushed Stone	CBR 4 or more



## **PS.S.2 KERBING AND HAUNCHING**

The Contractor shall use new materials for the reinstatement of all kerbing and where possible it shall match the existing on either side of that to be reinstated. Should it not be practicable to use new materials the Employer's Agent's Representative may allow the Contractor to reuse materials carefully preserved during excavation.

## **PS.S.3 HARDENED AREAS**

Reinstatement of areas such as concrete and asphalt paved sidewalks, patios, etc., shall be of a permanent nature and shall match that removed. If it is not possible for the Contractor to reuse the existing removed material he shall endeavour to obtain new material to match that removed as closely as possible. The rate for both temporary and permanent road reinstatement shall cover the supply, placing and compaction of materials to form the new foundation layers as specified.

The rate for in-situ concrete slabs shall include for all formwork and joints and for a wood float surface finish. The rate for laying all other paved areas such as blocks, bricks, slabs etc., shall include for the supply of new materials where the original materials cannot be reused, and for supplying a bed of granular material at least 50 mm in compacted thickness and for bedding the paving thereon to the falls, levels and slopes to suit the original paving. Where applicable, the rate shall include for mortar to the joints and for the pointing thereof. The unit of measurement shall be the square metre (m<sup>2</sup>) and the rate shall cover the work to expose, remove, spoil, backfill, compact and reinstate the hardened areas.

## **PS.S.4 SURFACE REINSTATEMENT IN PRIVATE PROPERTIES AND OTHER DEVELOPED AREAS**

The surface of the ground through private properties, gardens, established road verges and other such developed areas shall be reinstated to a condition equivalent to that which existed before the works commenced. The work shall include the replacement of topsoil and replanting of all grass, turf, flowers, gardens, etc., and the Contractor shall maintain and water the replanted areas until growth is properly established.

Work within private properties shall also include the replacement or relaying of all fences, walls, paved areas, driveways, etc., which were removed or damaged during the works. Upon completion of work in any property the Contractor shall obtain a written clearance from the owner or occupier of the property confirming that the property has been cleared and reinstated to their satisfaction. The unit of measurement shall be the square metre (m<sup>2</sup>) and the rate shall cover the work to expose, remove, spoil, backfill, compact and reinstate the surface excavation. Before and after photograph evidence is important.

## **PS.S.5 SURFACE OBSTRUCTIONS**

Payment for the reinstatement of surface obstructions in private properties will only be made for those obstructions which are ordered by the Employer's Agent's Representative to be removed and reinstated. Provisional Items are scheduled for the various types of obstruction likely to be removed and the Contractor's rates shall include for the supply of all materials where the original materials cannot be reused and for the reconstruction of the item to match the original item as closely as possible. Any obstruction preventing the contractor from accessing any component of the work is required to be moved at the contractors expense, Numerous heavy duty truck tyres with infill are present that will need to be removed, spoiled or relocated. The unit of measurement shall be included in site clearance.

## **PS.S.6 UNDERGROUND OBSTRUCTIONS**

Provisional Items are scheduled for the reinstatement of various types of underground obstructions that might be encountered on the Works. Rates shall cover the cost of excavation and for the provision of all materials, together with the disposal of the surplus excavated spoil.

The unit of measurement shall be the cubic metre (m<sup>3</sup>) and the rate shall cover the work to expose, remove, spoil , backfill , compact and reinstate the excavation related to the underground obstruction.

## **PS.S.7 CONCRETE EDGE BEAMS**

Concrete edge beams, 250m x 250mm shall be constructed at the end of the asphalt surfacing on each road, where the asphalt surface meets an existing gravel surface or existing unhardened portion or driveway and at position along the road where the traffic movement on and off of the finished road surface to prevent the asphalt surface from breaking up when under traffic load..

The unit of measurement shall be the cubic metre (m<sup>3</sup>) and the rate shall cover the work to construct the concrete edge beam to specification using 20/26Mpa Concrete. No steel reinforcement is required.

**PS.TA    ROAD SIGNS**

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## **PS.TA.1 GENERAL**

The Tenderer shall make allowance in the time related rates under Section 1.AB in the Bill of Quantities rates, repositioning, covering/uncovering, relocating or removing temporary signs and other forms of road furniture as required during the progress of the works.

## **PS.TA.2 ROAD SIGN BOARDS**

Further to Item TA.8.1, Tenderers are to note that the signs measured under this item are the various type of standard regulatory signs (e.g. stop, yield, keep left etc.).

Notwithstanding the requirements of Clause TA.8.1 the unit of measure shall be number (No.).

The support poles shall be 75mm x 75mm square hot dipped galvanised for sign boards. Rate to include all haulage for the permanent poles

## **PS.TA.3 RE-ERECT ROAD SIGNS**

The unit of measurement is number (No.) which shall consist of one pole and one sign.

The rate shall cover the cost of collecting the pole and sign from the site yard and planting of the pole in the PVC sign sleeve or ground, together with compacting the soil around the pole.

## **PS.TA.4 TEMPORARY ROAD SIGNS**

### **PS.TA.4.1 Materials**

All temporary signs shall be manufactured from Chromadek steel plate as detailed under Clause TA.3.3 and retroreflective material as follows:

Black	semi-matt finish
Yellow background (with no red material)	Class I
Yellow background (if red material used)	Class II
Red	Class I

With the exception of signs R1, R2, R3, R1.5A and R1.5B, the temporary road signs shall be in accordance with the colour code for temporary road signs.

**PS.TA.4.2 Erection**

The temporary road signs shall be erected in a manner such that the face of the sign is not defaced, obscured or deflected in any way.

Where necessary, for high visibility, the temporary signs shall be erected on 100 mm creosoted gum posts such that the underside of the sign is not less than 2,2 m above ground level. The post/s shall be supported in a drum/s which shall be ballasted and braced or stayed so that the sign cannot be blown over. In all other instances, the temporary signs shall be adequately secured to a drum.

**PS.TA.5 TIMBER POSTS**

The timber posts for the temporary sign supports shall be 100 mm diameter creosote gum posts.

**PS.TA.6 DRUMS**

All drums shall be white painted, 200 litre drums or similar approved by the Engineer's Representative. Drums shall not be used for delineation purposes.

**PS.TA.7 PROTECTION AND MAINTENANCE**

The Contractor shall protect and maintain all road furniture (road signs, delineators, drums, barriers, barricades etc.) throughout the course of the contract and shall be responsible for the cost of replacing any road furniture that may be damaged or stolen.

**PS.TA.8 160mm DIAMETER PVC SIGN SLEEVES**

The 160mm diameter PVC Sign sleeve shall be installed 700mm deep and have 25mm show above finished paved area. The rate shall include for excavation, supply and placing of the sleeve and backfilling.

**PS.TB     ROAD MARKING**

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**PS.TB.1 PLASTIC ROAD MARKING MATERIAL**

Further to Clause TB.3.1(c) the plastic road marking material shall comply with the requirements of Specification BS.3262, 1987 Part 3.

(a) The material shall consist of a light-coloured aggregate, pigment and extender, bound together with a thermoplastic resin, plasticised as necessary.

The approximate composition of the material as laid is dependent on the appropriate specification, but for example shall be:

Aggregate	40 parts
Solid Glass Beads	20 parts
Pigment and Extender	20 parts
Binder	20 parts

The proportioning of the various ingredients shall be such that the material, when in a molten state, can be sprayed readily onto the road surface to give an even line of good definition.

(b) Aggregate

The aggregate shall consist of white silica sand, crushed calcite calcined flint, quartz, or other approved aggregate.

(c) Reflectorisation

The solid glass beads incorporated in the mixture shall comply with the Class A category of BS 6088 (1981), that is:

Sieve	% Retained
0,18 mm	0 - 3
0,850 mm	5 - 20
0,425 mm	65 - 95
Below 0,425 mm	0 - 10

Minimum of spherical beads by number 70%

(d) Luminance

The luminance factor of white SPRAYPLASTIC shall be not less than 70.

(e) Flow resistance

The percentage decrease in the height of the cone of SPRAYPLASTIC shall not be more than 25 after testing for 48 hours at 23 C (temperate grade) or 40 C (semi-tropical or tropical grades).

(f) Low Temperature Impact Resistance

SPRAYPLASTIC shall pass the impact test when tested at -10 C (temperate grade) or -1 C (semi-tropical or tropical grades).

(a) Abrasion resistance

The abrasive wear of SPRAYPLASTIC shall typically be less than 0,5 g per 100 revolutions.

## **PS.TB.2 LETTERING, SYMBOLS AND TRAFFIC ISLAND MARKING**

Notwithstanding the requirements of Clause TB.8.1.2, traffic island marking shall be measured under Clause TB.8.1.1 lines.

## **PS.TB.3 SANDBLASTING**

Where directed, the Contractor shall remove existing lane lines and painted islands by sandblasting. The Contractor shall ensure that the method of sandblasting used will not damage the road surface permanently.

The Contractor shall take all necessary precautions to avoid damage to the public traffic during the removal of existing markings.

All loose material remaining on the road after obliteration of markings shall be suitably disposed of to avoid clogging the drainage systems.

The unit of measurement shall be the square metre (m<sup>2</sup>). The rate shall include for the successful removal of the paint on the road surface, the continual sweeping and removal of grit and the screening of the sand blasting apparatus to ensure that the dust from the operation does not become a hazard.



**PS.TB.4 TEMPORARY ROADMARKING**

Items have been included in the Bill of Quantities for the provision of temporary road marking using P.V.A. paint.

**PS.TB. 5 PAINTED PRECAST CONCRETE KERBS**

The unit of measurement shall be linear metre (m). Separate items have been scheduled for each specified colour and the quantity paid for shall be the actual painted kerb of the exposed front face and the top of the Figure 6 type precast concrete kerb. The kerbs shall be painted alternately in black and white colours where required.

The rate shall include for procuring and furnishing all material, including PVA Road Paint and the necessary equipment, and for painting, protecting, and maintenance as specified.

**PS.TB. 6 ROAD STUDS**

Five (5) types of road studs / markers will be used on this contract, i.e..

- Solar rechargeable roadstuds,
- Uni-directional road studs- Stimsonite or similar approved,
- Bi-directional road studs- Stimsonite or similar approved,
- Tempered Glass 360 degrees, and
- Temporary Roads Marker.

The Temporary Road Markers will be used for all temporary works, i.e. deviations / detours. The unit of measurement shall be number (No.). The rate shall include for the installation and removal of the markers. They shall be amber and red in colour.

The Permanent Road Studs will be used in the permanent works. They will be of type (i) to (vi) as detailed above. The unit of measurement shall be number (No.). The rate shall include for the supply and installation of the studs. They shall be white, yellow and red in colour.

**C3.4: PARTICULAR SPECIFICATIONS**

In addition to the Standardized and Project Specifications the following Particular Specifications / Policies shall apply to this contract and are available on request.:

- C3.4.1 Part AH - OHSA 1993 Safety Specification  
(26 Pages)
- C3.4.2 Standard Environmental Management Plan for Civil Engineering Construction Works (24 Pages)

**C3.5: CONTRACT AND STANDARD DRAWINGS****C3.5.1 CONTRACT DRAWINGS / DETAILS**

There are a number of drawings available – hardcopy and electronic PDF

It is possible that all services will not be shown on the drawings due to the unavailability of the GIS layers or alternatively should the layer exist, not necessarily shown or plotted on the relevant drawing. There are a combination of options available to show services, individually in relation to design or globally in relation to the design, but it must be made clear that the service shown may or may not exist in the position shown and the onus will be upon the Contractor to verify the existence of all of the services, locality and depth. Service currently marked where available on the Contact Drawings are not necessarily accurate as this data is provided by independent service providers and may not necessarily exist where shown. Particular attention must be provided to fibre and Telkom services where no accurate electronic as-built drawings exist. Not all services indicated may be found or other service may exist that are not marked or indicated. Numerous abandoned electrical cables may exist. Abandoned electrical cables are not normally removed. Any cable found must be treated and considered as live until confirmed by eThekweni Electrical Department.

Figured dimensions to be taken in preference to scaling. All dimensions in units as indicated unless stated otherwise.

All work to be executed in strict accordance to local authority by laws

The Contractor is responsible for the correct setting out of the works, particularly boundaries, building lines, servitudes and structures in relation to the boundaries.

The contractor is to verify all levels heights and dimensions on site and to check these against the drawings before commencement of work.

Detailed method statement to be provided for each component of the work before the work commences.

The Contractor is to locate and identify any / all existing services and to protect them from damage whilst on site throughout the duration of the contract period

Any discrepancies, errors, omissions are to be brought immediately to the attention of the Engineers Representative.

All materials to be used must be in strict accordance with specifications.

Workmanship is to be of the highest standard through including all finishes.

All structural elements, foundation elements, reinforced retaining wall, normal retaining wall elements, surface beds, slabs to be designed and certified by appointed structural Engineer and shall be strictly in accordance with detail and specification.

All foundations supported on ground or on fill to be per Engineers details and specification.

Coro brick engineering bricks to be used below ground level in foundation walls, brick force to every 3rd course

Type and size of foundations / footings / shape of walls, regular and irregular are to be to Engineers detail in accordance with geotechnical Engineers report suggestions.

Any pipes under structures to be protected against loading and layed in sleeves and protected against load.

Detailed reference shall be made to Standard Drawings and to Engineering Specifications.

Particular reference must be made to the scope, interpretations, definitions, supporting specifications, materials and grading, plant, construction method, setting out, mixing, compaction, preparation, application, acceptance, dips and tolerances, rectification, testing, measurements and payment. As built information to be strictly compiled as the work progresses.

Decrements and references shall be read in conjunction with the PS clauses as references or as amended. Any discrepancies, errors, omissions are to be brought immediately to the attention of the Engineers Representative

### **C3.5.2 STANDARD DRAWINGS**

The Standard Drawings to which these Standard Engineering Specifications refer are listed below.

Dwg No	Description	Date of Issue	
38570	Ring Manholes	February	1990
38571	Brick Manhole Details	February	1990
38572	Stormwater Inlet Details	February	1990
38573	Stormwater Inlet Special Details	February	1990
38574	Sewer Manholes: Ramp, Backdrop and Channelling Details	February	1990
38575	Sub-Soil Drain, Pipe Bedding and Pipe Protection Details	February	1990
38576	Headwall Details	February	1990
38577	Kerbing Details	February	1990
38578	Concrete Median Barriers	February	1990
38579	Vehicular and Pedestrian Scoops	February	1990
38580	Concrete Bollard and Steel Guard Rail	February	1990
38581	Retaining Wall, PC Steps, Staircase, Cable Ducts and Headwalls	February	1990
38582	Precast Concrete Fencing and Aluminium Gates	February	1990
38583	Wire Mesh Fence and Gate Details	February	1990
38584	Standard Hydrant Thrust Blocks and Trenches	February	1990
38585	Water Connections, Pipework and Fittings	February	1990
38586	DP & TC Manholes - Rectangular	February	1990
38587	DP & TC Manholes - "L" Shaped	February	1990
38588	DP & TC Manholes - "T" Shaped	February	1990
38589	DP & TC Cable Ducts and Junction Box Details	February	1990
43120	Typical Details of Grid Inlets	February	1990

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### **C3.6: ANNEXURES**

**C3.6.1 Site Specific Health and Safety Specification**

**C3.6.2 Baseline Risk Assessment**

**C3.6.3 Covid-19 Specification**

**C3.6.4 Environmental Management Plan**

### **C3.6.1 Site Specific Health and Safety Specification**

### **C3.6.2 Baseline Risk Assessment**



### **C3.6.3 Covid-19 Specification**

### **C3.6.4 Environmental Management Plan**

## **PART C4: SITE INFORMATION**

### **C4.1 LOCALITY PLAN**



#### **Peter Road**

**S29 47 51.7 E30 59 26.7**

## **C4.2 CONDITIONS ON SITE**

High probability of Poor Subsoil Conditions, varying materials, underground water. Formation levels will need to be tested to ascertain quality and required tests will need to be carried out to determine suitability of material and possibility of removal and replacement.

Road situated in zone of Pietermaritzburg Shale / Vryheid Shale with pockets of dolerite intrusions.

High probability of seepage and poor underground conditions.

Natural Ground is on steep embankments with restricted access. Embankments may be potentially unstable.

According to the Geological sheet “Geological Map of Durban and environs”, Dwyka Group tillite and geologically faulted shale of the Pietermaritzburg / Vryheid Shale formation is present.

As work progresses and as the earthworks, foundation excavations proceed, confirmation of the site conditions, material types, existence of underground water can be verified again for a more accurate determination of stability and other associated criteria can be ascertained. Geotechnical investigations may not have been determined at or below the proposed formation levels and proposed founding levels and site conditions will differ and range along the extent of the site.