

**CLUSTER**  
Human Settlement, Engineering, and Transport

**UNIT**  
Engineering

**DEPARTMENT**  
Roads Provision

**PROCUREMENT DOCUMENT**  
**INFRASTRUCTURE**

Documents are to be obtained, free of charge, in electronic format, from the National Treasury's eTenders website or the eThekweni Municipality's website.

**Contract No: 1R-24953**

**Contract Title: Upgrade of Ndlebenye Road in Ntuzuma A, Ward 38**

**Est. CIDB Grade/ Class: 3 CE**

**CLARIFICATION MEETING AND QUERIES**

**Clarification Meeting: Compulsory Clarification Meeting**

**Meeting Location, Date, Time:** At the corner of Ndlebenye and Mdubu Road in Ntuzuma A, Ward 38 on the 22 February 2024 at 11:00am GPS Coordinates (S 29°44'53" E 30°55'58")

**Queries can be addressed to:** Lerato Khumalo  
**The Employer's Agent's:** Tel: 031 311 6042  
**Representative:** eMail: lerato.khumalo@durban.gov.za. Consolidated answers to questions will be uploaded 29 February 2024.

**TENDER SUBMISSION**

**Delivery Location:** The Tender Box in the foyer of the Municipal Building  
166 KE Masinga Road, Durban

**Closing Date/ Time:** Friday, 08 March 2024 at 11h00

**FACSIMILE, eMAIL, or POSTED TENDERS WILL NOT BE ACCEPTED**

**Issued by:**

**ETHEKWINI MUNICIPALITY**

**Deputy Head: Roads Provision**

**Date of Issue: 16/02/2024**

Document Version 25/10/2023

**FOR OFFICIAL USE ONLY**

Tenderer Name:			VAT Registered: Yes No
	Price (excl)	VAT	Price (incl)
Submitted: R	R	R	R
Corrected: R	R	R	R

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## PART T1: TENDERING PROCEDURES

### T1.1.1: TENDER NOTICE AND INVITATION TO TENDER

Tenders are hereby invited for the upgrade of existing gravel surface road to an asphalt surface in Ntuzuma A under Ward 38. The works include construction of pavement layerworks, laying of precast concrete kerbs and channel, construction of stormwater drainage system, installation of retaining walls and grass plant on road embankments.

Subject	Description	Tender Data
<b>Employer</b>	The Employer is the eThekweni Municipality as represented by: Deputy Head: <b>Roads Provision</b>	F.1.1.1
<b>Tender Documents</b>	Documents can only be obtained in electronic format, issued by the eThekweni Municipality. Documentation can be downloaded from the <b>National Treasury's eTenders website</b> or the <b>eThekweni Municipality's Website</b> . The <u>entire document</u> should be printed (on A4 paper) and suitably bound by the tenderer.	F.1.2
<b>CIDB Eligibility</b>	It is <u>estimated</u> that tenderers should have a CIDB contractor grading designation of <b>3 CE</b> (or higher).	F.2.1.1
<b>Clarification Meeting</b>	<b>At the corner of Ndlebenye and Mdubu Road in Ntuzuma A, Ward 38 on the 22 February 2024 at 11:00am GPS Coordinates (S 29°44'53" E 30°55'58")</b>	F.2.7
<b>Seek Clarification</b>	Queries relating to these documents are to be addressed to the Employer's Agent's Representative whose contact details are: <b>Lerato Khumalo</b> <b>Tel: 031 311 6042</b> <b>eMail: lerato.khumalo@durban.gov.za</b>	F.2.8
<b>Submitting a Tender Offer</b>	Tender offers shall be delivered to: <b>The Tender Box in the foyer of the Municipal Building</b> <b>166 KE Masinga Road, Durban</b>	F.2.13
<b>Closing Time</b>	Tender offers shall be delivered on or before <b>Friday, 08 March 2024</b> at or before <b>11h00</b> .	F.2.15
<b>Evaluation of Tender Offers</b>	<b>The 80/20</b> Price Preference Point System, as specified in the PPPFA Regulations 2022 will be applied in the evaluation of tenders. Refer to Clause F.3.11 of the Tender Data for the <b>Specific Goal(S)</b> for the awarding of Preference Points, and other related evaluation requirements.	F.3.11

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

## **T1.1.2: NOTES TO TENDERERS**

These Notes are intended to provide guidance to tenderers regarding tendering obligations and requirements. Compliance requirements are stated in the relevant parts of the Tender Data.

### **eThekwini Supply Chain Management Policy (SCMP)**

The requirements as stated in the Employer's SCM Policy include, but are not limited to, the following:

#### **1) Clause 14(4): ETM Supplier Database**

The eThekwini Supply Chain Management Policy requires suppliers/ service providers/ contractors to be registered on the eThekwini Municipality's Supplier Database (Vendor Portal).

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

- Business
- Supply Chain Management (SCM)
- Accredited Supplier and Contractor's Database.

The following is to be noted:

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

#### **2) Clause 21(1)(d)(i): Audited Financial Statements**

Audited Financial Statements (prepared for auditing) are required to be submitted if the value of the tender offer exceeds R10 million (incl VAT).

#### **3) Clause 21(1)(d)(iii): Contracts Awarded during the past 10 Years**

Tenderers are to include with their submission a listing of any contracts awarded to the tenderer during the past 10 years, including particulars of any material non-compliance or dispute concerning the execution of the contracts. Tenderers are referred to **Returnable Form T2.2.3**.

#### **4) Clause 21(1)(d)(ii), Clause 28(1)(c) and Clause 29(10): Municipal Fees**

Tenderers are to be referred to **Returnable Form T2.2.12**: "Declaration of Municipal Fees", to certify that they have no undisputed commitments for municipal services towards a municipality. Prior to an award, a Tenderer's municipal rates and taxes cannot be in arrears. Should a Tenderer be in arrears with respect to municipal services and has formalised an agreement with the respective municipality to offset the arrears, the agreement must be in place at time of tender closing.

#### **5) Clause 28(1)(d), Clause 28(1)(h) and Clause 29(10): Certifications and Registrations**

CIDB Registration and Status, B-BBEE Certificates, and Tax Compliance Status PIN must be valid at tender closing, and before final award.

The Tenderer's Tax Compliance Status, CIDB Registration and Status, and B-BBEE Level Status (if required), will be confirmed using the National Treasury Central Supplier Database (CSD). Tenderers are referred to **Returnable Form T2.2.1**.

It is the Tenderer's responsibility to ensure that their data on the CSD is kept updated and correctly reflects the status of the tendering entity.

**6) Clause 28(1)(e): Joint Ventures (JV)**

Each party of a JV must submit separate Tax Compliance Status PINs.

Also, and unless otherwise stated, the requirements for a single entity submission in terms of documentation requirements, will apply to each member of a JV making a submission.

As proof that a JV has been formalised, or that the parties to the JV agree to formalise the JV should they be successful in being recommended for the award of this tender, Tenderers are referred to **Returnable Form T2.2.10**.

**CIDB Regulation 25(8)**

- 7) It should be noted that this contract is not part of a **Targeted Development Programme (TDP)**. The CIDB provisions in relation to a Contractor's **Potentially Emerging (PE) status** do not apply. Tenderers are referred to **CIDB Inform Practice Note #32**: "Application of the Potentially Emerging (PE) Status".

**Test for Responsiveness**

- 8) In this regard, Tenderers are referred to **Clause F.3.8** of 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.

<b>F.1: GENERAL</b>
---------------------

**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:

- 1) This procurement document.
- 2) "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.
- 3) "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.
- 4) Drawings, issued separately from this document, or bound in Section C3.4 (as an Annexure).
- 5) 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 Employer's current (as at advertising date) Supply Chain Management Policy.
  - The Preferential Procurement Policy Framework Act No 5 of 2000, and the Preferential Procurement Policy Framework Act Regulations (2022).
  - 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).
  - SANS 1921:2004 – Construction and Management Requirements for Works Contract, Parts 1-3.
  - Any other eThekweni Policy documents referenced in the Tender Documents.

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

- <https://www.etenders.gov.za/>
- <https://www.durban.gov.za/pages/business/procurement>

The entire downloaded document should be printed on white A4 paper (single-sided) and suitably bound by the tenderer.

**F.1.4 Communication and employer's agent:** The Employer's Agent is:

**Name: Balan Govender**  
**Tel: 031 322 2861**  
**eMail: balan.govender@durban.gov.za**

The Employer's Agent's Representative is:

**Lerato Khumalo**  
**Tel: 031 311 6042**  
**eMail: lerato.khumalo@durban.gov.za**

The Tenderer's contact details, as indicated on **Returnable Document T2.2.1: "Compulsory Enterprise Questionnaire"**, shall be deemed as the only valid contact details for the Tenderer for use in communications between the Employer's Agent and the Tenderer during tender evaluation.

## F.2: TENDERER'S OBLIGATIONS

**F.2.1.1 Eligibility: General**

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

- (a) In the event of a Compulsory Clarification Meeting:
  - i) the Tenderer fails to attend the Compulsory Clarification Meeting.
  - ii) the Tenderer fails to have **Returnable Document T2.2.2: "Certificate of Attendance at Clarification Meeting / Site Inspection"** signed by the Employer's Agent or his representative.
- (b) at the time of tender closing, 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.
- (c) in the case of Joint Venture (JV) submissions, two or more JV entities have common directors / shareholders or common entities tendering for the same works.

**F.2.1.2 Eligibility: CIDB**

Tenderers are to reference the provisions of **Clause F.2.23: "Certificates"** and **Returnable Document T2.2.15: "Verification of CIDB Registration and Status"** with respect to CIDB registration.

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.2.1.3 Eligibility: Tenderer’s Experience

Tenderers are to complete and sign **Returnable Form T2.2.16: “Eligibility: Experience of Tenderer”** (4 pages).

Only those tenderers that can demonstrate experience and submit the associated documentation/ information, in works of a similar nature, within the past 10 years, will be eligible to have their tenders evaluated in terms of Clause F.3.11.

- **Table 1:** The **Experience Requirement** is specified on this table.
- **Table 2:** The experience is to be **Similar in Nature** to that specified on this table. Tenderers are to note the exclusions (if any) stated on this table.
- **Table 3:** The **Documentation/ Information** that is required to be included in this submission is specified on this table (which includes the Notes below the table).
- Tenderers may submit experience gained as **Sub-Contractors or Main Contractors**.
- **Guidance** on the completion of the **Experience Submission Form** is provided on the first page of **Returnable Form T2.2.16**.

Tenderers are to indicate the documentation that has been included in the tender submission, in support of each experience submission, in the shaded column on page 39.

Should there be insufficient evidence for verification of the information submitted for any specific experience submission, that experience submission may be deemed invalid.

<b>Table 1: Experience Requirement</b>
A minimum of 2 contracts, with works of a similar nature, within the past 10 years, <u>each</u> with a value of 50% of the tender value submitted for this tender on the <b>Form of Offer (C1.1.1)</b> .

<b>Table 2: Works of a Similar Nature</b>	
<b>Provision of Roads and Ancillary Works</b>	
<ul style="list-style-type: none"> <li>• Projects of a similar nature that will be considered will be one, or a combination of, the following types of projects: <ul style="list-style-type: none"> <li>○ new road construction</li> <li>○ road widening/upgrades</li> <li>○ provision of interim roadway related services to informal settlements</li> <li>○ intersection improvements</li> <li>○ gravel to surfaced road upgrades</li> <li>○ access road upgrades</li> <li>○ major parking areas</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>• Each project must consist of <u>at least two</u> of the following elements: <ul style="list-style-type: none"> <li>○ bulk earthworks</li> <li>○ roadway layer-works</li> <li>○ asphalt roadway surfacing</li> <li>○ kerbing / channelling</li> <li>○ sidewalk / walkway construction</li> <li>○ stormwater drainage</li> <li>○ traffic calming measures</li> <li>○ retaining structures</li> <li>○ dealing with underground services (watermains, sewers, electricity, communication infrastructure)</li> </ul> </li> </ul>	
<ul style="list-style-type: none"> <li>• Projects that will be <u>excluded</u> are: <ul style="list-style-type: none"> <li>○ road rehabilitation projects</li> <li>○ the construction of gravel roads</li> <li>○ road maintenance projects</li> </ul> </li> </ul>	

<b>Table 3: Documentation / Information Requirements</b>				
<u>Note:</u> an "X" in this table indicates that the associated documentation should be provided, if applicable.	Works as Sub-Contractor		Works as Main Contractor	
	Current Contracts	Completed Contracts	Current Contracts	Completed Contracts
Proof of Sub-Contract Agreement <b>See Note 1.</b>	X	X	-	-
Letter of Award OR Form of Offer & Acceptance <b>See Note 2.</b>	-	-	X	X
Most recent Payment Certificate OR Invoice with Quantities summary. <b>See Note 3.</b>	X	-	X	-
Final Payment Certificate OR Invoice with Quantities summary. <b>See Note 4.</b>	-	X	-	X
Completion Certificate. <b>See Note 5.</b>	-	-	-	X
Scope of Work <b>See Note 6.</b>	To be indicated on individual experience submission form			

**NOTES** (for Table 3)

1. To include the names of the parties, the managing entity's name, the effective dates, and the signature(s) page, all pertaining to the agreement.
2. Issued by the Client / Employer.
3. Proof of the most recent payment received from the Main Contractor or Client/ Employer, OR most recent submitted INVOICE, with a summary breakdown of quantities.
4. Proof of the final payment received from the Main Contractor or Client/ Employer, OR most recent submitted INVOICE, with a summary breakdown of quantities.
5. Issued by the Client/ Employer.
6. 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.  
If executed as a Main Contractor, the overall contract Scope-of-Work is to be indicated.

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

“Documents are to be obtained, free of charge, in electronic format, from the **National Treasury’s eTenders website** or the **eThekwini Municipality’s Website**. The entire electronically downloaded document should be printed on white A4 paper (single-sided) and suitably bound by the tenderer.

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

“Addenda will be published, in electronic format, on the websites specified in Clause F.1.2. Tenderers are to ensure that the eTenders website is consulted for any published addenda pertaining to this tender up to 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 physical or 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:**

**At the corner of Ndlebenye and Mdubu Road in Ntuzuma A, Ward 38 on the 22 February 2024 at 11:00am GPS Coordinates (S 29°44’53” E 30°55’58”)**

In the event of a Compulsory Clarification Meeting, Tenderers must sign the attendance register in the name of the tendering entity. The Tenderer’s representative(s) at the clarification meeting must be able to clearly convey the discussions at the meeting to the person(s) responsible for compiling the entity’s tender offer.

**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 eThekwini Municipality.

Should the **Form of Offer** (C1.1.1) and/ or any part of the **Pricing Data** (C2.2) be completed using erasable ink OR pencil, the tender offer will be deemed non-responsive.

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

- Contract No. : **1R-24953**
- Contract Title : **Upgrade of Ndlebenye Road in Ntuzuma A, Ward 38**

The Employer’s address for delivery of tender offers is:  
**The Tender Box in the foyer of the Municipal Building  
166 KE Masinga Road, Durban**

Tenderers are to include, with their paper submission (“hard copy”), a memory-stick containing an electronically scanned (300 dpi resolution) Public Document Format (PDF) copy of their complete bid submission. This PDF file should be named using the contract number and the Tenderer’s name, eg. “**1R-24953 – Tenderers Name.PDF**”. The memory-stick must be labelled with the Tenderer’s name and securely fixed to the paper submission.

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, 08 March 2024**
- Time : **11h00**

**F.2.16 Tender offer validity:** The Tender Offer validity period is **120 Days** from the closing date for submission of tenders.

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

**Tenderers are to include at the back of their tender submission a printout of the required documents/ certificates.**

#### **Compensation Commissioner**

Reference is to be made to **Returnable Document T2.2.13: “Registration with Compensation Commissioner”**.

If required to be registered in terms of the Occupational Injuries and Diseases Act (130 of 1993 as amended), the Tenderer is to supply proof of being registered and in good standing with the compensation fund by submitting a valid **Letter of Good Standing** from the Compensation Commissioner.

Should the Tenderer’s **Letter of Good Standing** be expired at time of tender closing, but an application for renewal has been made, the Tenderer is to include the expired **Letter of Good Standing AND** proof of application for renewal.

Separate **Letters of Good Standing** are required for each party to a Joint Venture.

#### **Central Supplier Database (CSD)**

Reference is to be made to **Returnable Document T2.2.14: “CSD Registration Report”**.

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

The date of the report, as indicated at the top right of each page, should be on or after the date of advertising of this tender.

Separate **CSD Registration Reports** are required for each party to a Joint Venture.

#### **CIDB Registration**

Reference is to be made to **Returnable Document T2.2.15: “Verification of CIDB Registration and Status”**.

Tenderers are to include with their submission a printout of their **CIDB Registration**, obtained from the CIDB website ( <https://registers.cidb.org.za/PublicContractors/ContractorSearch> ).

Separate **CIDB Registration printouts** are required for each party to a Joint Venture.

The date of obtaining the CIDB printout(s) is to be indicated on the printout, and the Tenderer’s registration with the CIDB must be reflected as “Active” as at the date of tender closing.

The **Joint Venture Grading Designation Calculator** printout should also be included when making a submission as a Joint Venture:

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

### 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 same platform(s) as the Tender Notification (refer to **Clause F.1.2**).

**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.3.8 Test for Responsiveness**

Add the following:

F.3.8.3 “Unless otherwise stated in the tender documentation, the following will be deemed as non-material deviations or omissions, applicable to the documents listed below:

- non-submission of required documentation (including attachments).
- the submission of expired versions of required documentation.
- the submission of incomplete, or unsigned, returnable documentation.”

“The above is applicable to the following returnable documents:

- T2.2.1: Compulsory Enterprise Questionnaire
- T2.2.3: Contracts Awarded by Organs of State in the past 5 years
- T2.2.4: Contractor's Health and Safety Declaration
- T2.2.5: MBD 4: Declaration of Interest
- T2.2.6: MBD 5: Declaration for Procurement Above R10 Million
- T2.2.8: MBD 8: Declaration of Bidder's Past SCM Practices
- T2.2.9: MBD 9: Certificate of Independent Bid Determination
- T2.2.10: Joint Venture Agreements (if applicable)
- T2.2.12: Declaration of Municipal Fees
- T2.2.13: Registration with Compensation Commissioner
- T2.2.14: CSD Registration Report
- T2.2.15: Verification of CIDB Registration and Status”

F.3.8.4 “Should the Employer require the rectification of the non-conforming, non-material, deviation(s) and/ or omission(s), the Tenderer will be requested to address such rectification, within a specified time period, prior to the award of the contract. Failure to provide the rectified documentation within the specified time period will result in the tender offer being deemed non-responsive.”

F.3.8.5 “It must be emphasised that any request for the rectification of deviations or omissions cannot:

- detrimentally affect the scope, quality, or performance of the works identified in the Scope of the Work,
- significantly change the Employer's or the Tenderer's risks and responsibilities under the contract,
- affect the competitive position of other tenderers presenting responsive tenders, if the deviation or omission was rectified.”

**F.3.11 Evaluation of Tender Offers:****Eligibility**

Tenders will be checked for compliance with the ELIGIBILITY requirements, as specified in **Clause F.2.1**. Tenderers not in compliance will be deemed non-responsive.

**Preference Point System**

The procedure for the evaluation of responsive tenders is **PRICE AND PREFERENCE** 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 (2022).

**Price Points**

The **80/20** preference points system will be applied. The Formula used to calculate the **Price Points (max. 80)** will be according to that specified Regulation 4.1.

**Preference Points**

Reference is also to be made to T2.2.7: "MBD 6.1: Preference Points Claim".

The Preference Points (either 20 or 10) will be derived from points allocated/ claimed for **Specific Goals** as indicated in the table(s) below, according to the specified **Goal/ Category Weightings**.

- **Ownership Goal**

Goal Weighting: 80%

The tendering entity's **Percentage Ownership**, in terms of the **Ownership Category(s)** listed below, is to be used in the determination of the tenderer's claim for Preference Points.

<b>Ownership Categories</b>	<b>Criteria</b>	<b>80/20</b>
<b>Race: Black (w1)</b>	Equals 0%	0
	Between 0% and 51%	6.4
	Greater or equal to 51% and less than 100%	12
	Equals 100%	16
<b>Maximum Goal Points:</b>		16

<p><b>Proof of claim as declared on MBD 6.1</b> (1 or more of the following will be used in verifying the tenderer's status)</p> <ul style="list-style-type: none"> <li>• Companies and Intellectual Property Commission registration document (CIPC)</li> <li>• CSD report.</li> <li>• B-BBEE Certificate of the tendering entity.</li> <li>• Consolidated BBBEE Certificate if the tendering entity is a Consortium, Joint Venture, or Trust (Issued by verification agency accredited by the South African Accreditation System).</li> <li>• Agreement for a Consortium, Joint Venture, or Trust.</li> </ul>
---

- **RDP Goal: The promotion of South African owned enterprises**

Goal Weighting: 20%

The tendering entity's **Address** (as stated on the National Treasury Central Supplier Database (CSD) or on the eThekweni Municipality Vendor Portal) is to be used in the determination of the tenderer's claim for **Preference Points** for this Specific Goal.

<b>Location</b>	<b>80/20</b>
Not in South Africa	0
South Africa	1
Kwa Zulu Natal	2
eThekweni Municipality	4
<b>Maximum Goal Points:</b>	4

**Proof of claim as declared on MBD 6.1** (1 or more of the following will be used in verifying the tenderer's status)

- CSD report

**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's municipal rates and taxes are not in arrears, or they have made arrangements to meet outstanding municipal fee obligations.
- (b) The Tenderer's tax compliance status has been verified, or they have made arrangements to meet outstanding tax obligations.
- (c) The Tenderer is **registered**, and **"Active"**, with the **Construction Industry Development Board** in an appropriate contractor grading designation.
- (d) If required to be so registered, the Tenderer is **registered and is in good standing with the compensation fund or with a licensed compensation insurer**, as applicable to the requirements of The Occupational Injuries and Diseases Act.
- (e) The Tenderer or any of its directors/ shareholders are **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.
- (f) The Tenderer has not:
  - i) Abused the Employer's Supply Chain Management System; or
  - ii) Failed to perform on any previous contract and has been given a written notice to this effect.
- (g) The tenderer has completed **Returnable Document T2.2.1: "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.
- (h) 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**.

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.

The municipality has a firm intention to proceed with the work, subject to funding being identified. Notwithstanding clause F.1.1.3 of the Standard Conditions of Tender, the municipality reserves the right to award or not award the tender based on the municipalities available budget.

**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).

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**T1.2.3 ADDITIONAL CONDITIONS OF TENDER****T1.2.3.1 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  
P O Box 1394  
DURBAN, 4000

**T1.2.3.2 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.

**T1.2.3.3 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 Submission Documentation must be submitted in its entirety. All forms must be properly completed and signed as required.

The Tenderer is required to complete and sign each and every Schedule and Form listed below to the best of their 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 non-responsive.

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

##### **Entity Specific**

T2.2.1	Compulsory Enterprise Questionnaire	18
T2.2.2	Certificate of Attendance at Clarification Meeting/ Site Inspection	19
T2.2.3	Contracts Awarded by Organs of State in the past 10 years	20
T2.2.4	Contractor's Health and Safety Declaration	21
T2.2.5	MBD 4: Declaration of Interest	23
T2.2.6	MBD 6.1: Preference Points Claim Form ITO the Preferential Regulations	25
T2.2.7	MBD 8: Declaration of Bidder's Past SCM Practices	27
T2.2.8	MBD 9: Certificate of Independent Bid Determination	29
T2.2.9	Joint Venture Agreements (if applicable)	32
T2.2.10	Record of Addenda to Tender Documents (if applicable)	33
T2.2.11	Declaration of Municipal Fees	34
T2.2.12	Registration with Compensation Commissioner	35
T2.2.13	CSD Registration Report	36
T2.2.14	Verification of CIDB Registration and Status	37
T2.2.15	Experience of Tenderer	38

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

The returnable schedules, forms, and certificates, as listed in T2.1.2, can be found on pages 18 to 38.

### **NOTE**

The following forms in the **Contract Part** of the Documentation are also required to be completed by the tenderer:

- C1.1.1: **Form of Offer,**
- C1.2.2.2: **Data to be Provided by Contractor, and**
- C2.2: **Bill of Quantities.**

**T2.2.1 COMPULSORY ENTERPRISE QUESTIONNAIRE**

Ref	Description	Complete or Circle Applicable	
1.1	Name of enterprise		
1.2	Name of enterprise's representative		
1.3	Email address of representative		
1.4	Contact numbers of representative	Tel:	Cell:
1.5	National Treasury Central Supplier Database Registration number	MAAA	
1.6	eThekwini Supplier Database: Reference number, if any:	PR	
1.7	VAT registration number, if any:		
1.8	CIDB registration number, if any:		
1.9	Department of Labour: Registration number		
1.10	Department of Labour: Letter of Good Standing Certificate number		

2.0 Particulars of sole proprietors and partners in partnerships (attach separate pages if more than 4 partners)			
	Full Name	Identity No.	Personal income tax No. *
2.1			
2.2			
2.3			

3.0 Particulars of companies and close corporations	
3.1	Company registration number, if applicable:
3.2	Close corporation number, if applicable:
3.3	Tax Reference number, if any:
3.4	South African Revenue Service: Tax Compliance Status PIN:

4.0	<b>MBD 4, MBD 6, MBD 8, and MBD9</b> issued by National Treasury must be completed for each tender and be included as a tender requirement.
-----	---

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:	
i) authorizes the Employer to verify the tenderers tax clearance status from the South African Revenue Services that it is in order.	
ii) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises 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 exercises, or may 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 tenderers 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.	

NAME (Block Capitals):

Date

SIGNATURE:

**T2.2.2 CERTIFICATE OF ATTENDANCE AT CLARIFICATION MEETING / SITE INSPECTION**

Reference is to be made to Clauses F.2.1.1(a) and F.2.7 of the Tender Data.

This is to certify that:

(entity 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: .....

**T2.2.3 CONTRACTS AWARDED BY ORGANS OF STATE IN THE PAST 10 YEARS**

Tenderers are to provide details of Works undertaken for the Government or Public Sector entities/ Organs of State in the past 10 Years, including particulars of any material non-compliance or dispute concerning the execution of such contract.

Material non-compliance or dispute (Yes or No)													
Date Completed													
Value of Work													
Consulting Engineer/Engineers representative													
Employer													
Contract Number													

*I, the undersigned, who warrants that they are authorised to sign on behalf of the entity, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

**NAME (Block Capitals):**

**Date**

.....

**SIGNATURE:**

.....

**T2.2.4 CONTRACTOR'S HEALTH AND SAFETY DECLARATION**

If Functionality is applicable as part of tender evaluation, reference is to be made to Clause F3.11.9 of the of the Conditions of Tender.

Reference is to be made to Clauses F.2.1(e) and F.2.23 of the Tender Data.

In terms of Clause 5(1)(h) of the OHSA 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 OHSA 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 OHSA 1993 Construction Regulations 2014.
- 2 I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the 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 - Yes or No)**:

- (a) From my own competent resources as detailed in 4(a) hereafter.
- (b) From my own resources still to be appointed or trained until competency is achieved, as detailed in 4(b) hereafter:
- (c) From outside sources by appointment of competent specialist Subcontractors as detailed in 4(c) hereafter:
- 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:

Circle Applicable	
Yes	NO
Yes	NO
YES	NO

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) 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, the undersigned, hereby undertake, if this 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, the undersigned, confirm that copies of this 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, the undersigned, hereby confirm that adequate provision has been made in the 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, the undersigned, agree that failure to complete and execute this declaration to the satisfaction of the Client will mean that this company is unable to comply with the requirements of the OHSa 1993 Construction Regulations (2014) and accept that this tender will be prejudiced and may be rejected at the discretion of the Client.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

**NAME (Block Capitals):** \_\_\_\_\_ **Date** \_\_\_\_\_

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

**T2.2.5 MBD 4: DECLARATION OF INTEREST**

MSCM Regulations: **“in the service of the state”** means to be:

- (a) a member of:
  - (i) any municipal council.
  - (ii) any provincial legislature.
  - (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.
- (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.

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

3.1 Name of enterprise	
Name of enterprise’s representative	
3.2 ID Number of enterprise’s representative	
3.3 Position enterprise’s representative occupies in the enterprise	
3.4 Company Registration number	
3.5 Tax Reference number	
3.6 VAT registration number	

3.7 The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below. In the case of a joint venture, information in respect of each partnering enterprise must be completed and submitted.

3.8 Are you presently in the service of the state?	Circle Applicable	
If yes, furnish particulars: .....	YES	NO
.....		

3.9 Have you been in the service of the state for the past twelve months? YES NO  
 If yes, furnish particulars: .....

3.10 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: .....

3.11 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: .....

3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state? YES NO  
 If yes, furnish particulars: .....

3.13 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: .....

3.14 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: .....

4 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

Full Name	Identity No.	State Employee No.	Personal income tax No.
Use additional pages if necessary			

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

**NAME (Block Capitals):** \_\_\_\_\_ **Date** \_\_\_\_\_

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

**T2.2.6 MBD 6.1: PREFERENCE POINTS CLAIM**  
**In terms of THE PREFERENTIAL PROCUREMENT REGULATIONS (2022)**

**Reference is to be made to Clause F.3.11 of the Tender Data.**

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

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

**1.0 GENERAL CONDITIONS**

- 1.1 The following preference point systems are applicable to invitations to tender:
- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included).
  - the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).
- 1.2 The applicable preference point system for this tender is the 80/20 preference point system.
- 1.3 Preference Points for this tender shall be awarded for:
- **Price and Specific Goals:** Either 80 or 90 (price) and 20 or 10 (specific goals), in terms of 1.2 above.
  - The total Preference Points, for Price and Specific Goals, is 100.
- 1.4 Failure on the part of the tenderer to submit the required proof or documentation, in terms of the requirements in the Conditions of Tender for claiming specific goal preference points, will be interpreted that preference points for specific goals are not claimed.
- 1.5 The Municipality reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard of preferences, in any manner required by the Municipality.

**2.0 DEFINITIONS**

- 2.1 “**tender**” means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation.
- 2.2 “**price**” means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts.
- 2.3 “**rand value**” means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes.
- 2.4 “**tender for income-generating contracts**” means a written offer in the form determined by Municipality in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the Municipality and a third party that produces revenue for the Municipality, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions.
- 2.5 “**the Act**” means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

**3.0 FORMULA FOR CALCULATION OF PREFERENCE PRICE POINTS**

**3.1 PROCUREMENT OF GOODS AND SERVICES**

**POINTS AWARDED FOR PRICE:** A maximum of 80 or 90 points is allocated for price on the following basis:

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

Where:  $P_s$  = Points scored for price of tender under consideration,  $P_t$  = Price of tender under consideration,  
 $P_{min}$  = Price of lowest acceptable tender

#### 4.0 POINTS AWARDED FOR SPECIFIC GOALS

4.1 In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goal(s) stated in **Table 1** below, as supported by proof/ documentation stated in the **Conditions of Tender**:

4.2 In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of:

- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system, or
- (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

The Specific Goals to be allocated points in terms of this tender	Maximum Number of points ALLOCATED (80/20 system)	Number of points CLAIMED (80/20 system)
<b>Ownership Goal:</b> Race (black)	16	
<b>RDP Goal:</b> The promotion of South African owned enterprises.	4	
<b>Total CLAIMED Points (maximum 20)</b>		

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, certify that the points claimed, based on the specific goals as specified in the tender, qualifies the tendering entity for the preference(s) shown.

I acknowledge that:

- 1) The information furnished is true and correct.
- 2) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
- 3) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct.
- 4) If the specific goals have been claimed or obtained on a fraudulent basis, or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have:
  - (a) disqualify the person from the tendering process.
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct.
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation.
  - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
  - (e) forward the matter for criminal prosecution, if deemed necessary.

**NAME (Block Capitals):**

**Date**

**SIGNATURE:**

**T2.2.7 MBD 8: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES**

- 1.0 This Municipal Bidding Document must form part of all bids invited.
- 2.0 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3.0 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.
  - d) been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4.0 In order to give effect to the above, the following questions must be completed and submitted with the bid.

4.1 Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?

(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer / Authority of the institution that imposed the restriction after the audi alteram partem rule was applied.)

The Database of Restricted Suppliers now resides on the National Treasury's website ([www.treasury.gov.za](http://www.treasury.gov.za)) and can be accessed by clicking on its link at the bottom of the home page.

4.1.1 If YES, provide particulars.

.....

.....

Circle Applicable	
YES	NO

4.2 Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)?

The Register for Tender Defaulters can be accessed on the National Treasury's website ([www.treasury.gov.za](http://www.treasury.gov.za)) by clicking on its link at the bottom of the home page.

4.2.1 If YES, provide particulars.

.....

.....

YES	NO
-----	----

4.3 Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?

4.3.1 If YES, provide particulars.

.....

.....

YES	NO
-----	----

4.4 Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?

YES	NO
-----	----

4.4.1 If YES, provide particulars.

.....  
.....

4.5 Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?

YES	NO
-----	----

4.5.1 If YES, provide particulars.

.....  
.....

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

*I accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.*

**NAME (Block Capitals):**

**Date**

**SIGNATURE:**

.....  
.....

**T2.2.8 MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION****NOTES**

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

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

<sup>3</sup> 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.

- 1.0 This Municipal Bidding Document (MBD) must form part of all **bids**<sup>1</sup> invited.
- 2.0 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or **bid rigging**).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3.0 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
  - a. take all reasonable steps to prevent such abuse;
  - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
  - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
- 4.0 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of **bid rigging**.
- 5.0 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid.

**CERTIFICATE OF INDEPENDENT BID DETERMINATION**

I, the undersigned, in submitting the accompanying bid:

-----  
(Bid Number and Description)

in response to the invitation for the bid made by:

-----  
(Name of Municipality / Municipal Entity)

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

I certify, on behalf of:

-----  
(Name of Bidder)

that:

1. I have read and I understand the contents of this Certificate.
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect.
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation.
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience.
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder.
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement, or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>9</sup> will not be construed as collusive bidding.

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

**NAME (Block Capitals):** \_\_\_\_\_

**Date**

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

**T2.2.9 JOINT VENTURES AGREEMENTS**

If this tender submission is to be made by an established Joint Venture, the Joint Venture Agreements and Power of Attorney Agreements are to be attached here.

Should the Joint Venture, at the time of submission, not yet be formalised, this form is to be completed in full and signed by all parties to the proposed Joint Venture.

The Lead Partner of the Joint Venture is to sign the Form of Offer in **Part C1.1.1**.

**INTENT TO FORM A JOINT VENTURE**

Should our submission for CONTRACT: **1R-24953** be successful, a Joint Venture will be established by the parties as listed below, as an unincorporated association, with the purposes of securing and executing the Contract, for the benefit of the Members.

**Proposed Joint Venture**

Joint Venture Title (name):

Represented by (name):  Tel:

**Lead Partner/ Member 1**

Entity Name:

Ownership Interest in JV %:  CSD Registration:

CIDB #:  Vendor Portal:

Represented by (name): \_\_\_\_\_ Signature: \_\_\_\_\_

**Partner/ Member 2**

Entity Name:

Ownership Interest in JV %:  CSD Registration:

CIDB #:  Vendor Portal:

Represented by (name): \_\_\_\_\_ Signature: \_\_\_\_\_

**Partner/ Member 3**

Entity Name:

Ownership Interest in JV %:  CSD Registration:

CIDB #:  Vendor Portal:

Represented by (name): \_\_\_\_\_ Signature: \_\_\_\_\_

**Note:** All requirements for Joint Ventures, as stated elsewhere in this procurement document, must be complied with in full.

**T2.2.10 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		

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

*It is also confirmed that the requirements, as stated on the Addenda, have been complied with.*

**NAME (Block Capitals):**

**Date**

**SIGNATURE:**

-----

-----

**T2.2.11 DECLARATION OF MUNICIPAL FEES**

Reference is to be made to **Clauses F.2.23 and F.3.13(a)** of the Tender Data.

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:

<u>Account</u>	<u>Account Number: to be completed by tenderer</u>										
Consolidated Account											
Electricity											
Water											
Rates											
JSB Levies											
Other											

- If applicable, a copy of a recent (within the past 3 months) Metro Bill is to be provided.

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.

- 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 are to be provided.
- Where the tenderer’s Municipal Accounts are part of their lease agreement, then a copy of the agreement, or an official letter to that effect, is to be provided.
- Where a tenderer’s place of business or business interests are carried out from premises as part of any other agreement, then a copy of the agreement, or an official letter to that effect, is to be provided.

**Tenderers are to include, at the back of their tender submission, copies of the above-mentioned account’s, agreements signed with the municipality, lease agreements, or official letters.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, **and that the requested documentation has been included in the tender submission.***

**NAME (Block Capitals):** \_\_\_\_\_

**Date** \_\_\_\_\_

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

**T2.2.12 REGISTRATION WITH COMPENSATION COMMISSIONER**

Reference is to be made to **Clauses F.2.23 and F.3.13(d)** of the Tender Data.

The Occupational Injuries and Diseases Act (130 of 1993 as amended) (the Act) refers. A summary of the pertinent Clauses are listed below. The act is to be referenced for the full text of the clauses.

**Clause 80: Employer to register with commissioner and furnish him with particulars**

The Act requires that an Employer carrying out business in the Republic to register with the Compensation Commissioner. Any person who fails to comply with the provisions of the this clause is guilty of an offence.

**Clause 82: Employer to furnish returns of earnings**

The Act requires an Employer to furnish the commissioner with a return showing:

- The amount of earnings paid by him to his employees.
- Any further information as may be prescribed or as the commissioner may require.

Any Employer who fails to comply with the provisions of the this clause is guilty of an offence.

**Clause 86: Assessment to be paid by an employer to commissioner**

The Act states that an Employer will receive notices of assessment from the commissioner. The Employer must pay the commissioner the assessment amount on the notices.

**Clause 89: Mandators and contractors**

The Act requires a contractor (a person with a contract with a mandator) to register as an Employer in accordance with the provisions of the Act and pay the necessary assessments. Failing registration or payment of assessments, the mandator is required to pay the assessments in respect of the employees of the contractor. The mandator is allowed to recover the assessment amounts paid from the contractor.

The Department of labour issues contractors with a **Letter of Good Standing** if the contractor has complied with the requirement(s) of the Act and is in “good standing” with the Compensation Fund. Employers can check the validity of such Letters of Good Standing on the internet (<https://cfonline.labour.gov.za/VerifyLOGS> ).

**If required to be registered in terms of the Occupational Injuries and Diseases Act, Tenderers are to include, at the back of their tender submission, a printout of their most recent Letter of Good Standing from the Department of Labour, and if application for renewal has been made, proof of such application.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

**NAME (Block Capitals):**

**Date**

\_\_\_\_\_

**SIGNATURE:**

\_\_\_\_\_

\_\_\_\_\_

**T2.2.13 CSD REGISTRATION REPORT**

Reference is to be made to **Clauses F.2.1.1(b) and F.2.23** of the Tender Data.

The Conditions of Tender, Clause F.2.1: 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.

CSD Registration Reports can be obtained from the National Treasury's CSD website at <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.

**CENTRAL SUPPLIER DATABASE 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	_____		

**Tenderers are to include, at the back of their tender submission, a printout of their (full) CSD Registration Report.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

**NAME (Block Capitals):** \_\_\_\_\_

**Date** \_\_\_\_\_

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

**T2.2.14 VERIFICATION OF CIDB REGISTRATION AND STATUS**

Reference is to be made to **Clauses F.2.1.2, F.2.23, and F.3.13(c)** of the Tender Data.

The Conditions of Tender, **Clause F.2.1.1: 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.

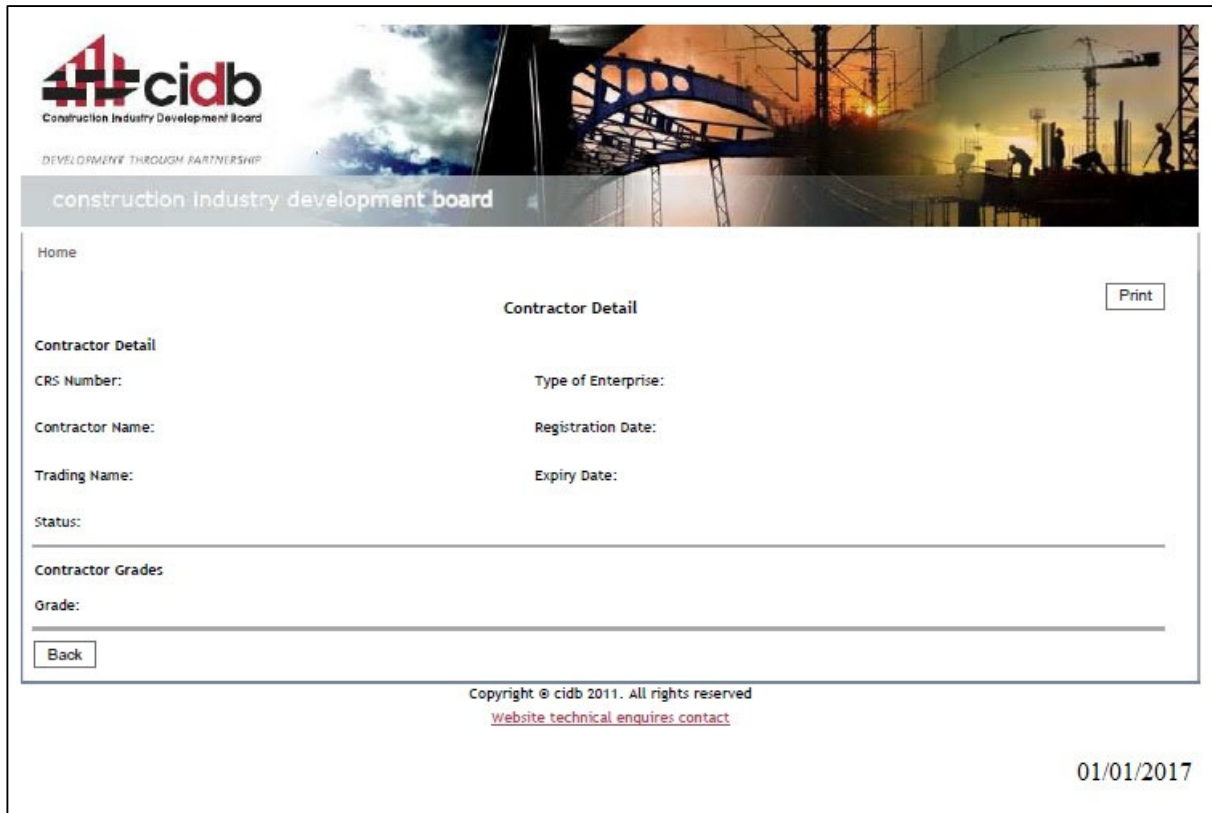
The required class of construction work is specified in **Clause F.2.1.2** of the Tender Data.

CIDB Registrations can be obtained from the CIDB website at:

<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 the beginning of the printout obtained from the above website.



**Tenderers are to include, at the back of their tender submission, a printout of their registration with the CIDB.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

**NAME (Block Capitals):**

**Date**

**SIGNATURE:**

**T2.2.15 ELIGIBILITY: EXPERIENCE OF TENDERER**

Reference is to be made to F.2.1.3 of the Tender Data.

Only those Tenderers that can demonstrate experience and submit the associated documentation/ information, in works of a similar nature, within the past 10 years, will be eligible to have their tenders evaluated in terms of Clause F.3.11.

- The **Eligibility Criteria Requirement** is as stated on **Table 1: “Experience Requirement”**.
- The experience is to be **“Similar in Nature”** to that specified on **Table 2: “Works of a Similar Nature”**. Tenderers are to note the exclusions (if any) stated on this table.
- The **Documentation/ Information** that is required is specified on **Table 3: “Documentation/ Information Requirements”** (which includes the Notes below the table).
- Tenderers may submit experience gained as **Sub-Contractors or Main Contractors**.

**It is the responsibility of the tenderer to ensure that the experience submissions comply with the requirements as stated in F.2.1.3 of the Tender Data.**

**Guidance to Tenderers: Experience Submission Form****Client / Employer Details**

- Provide details for whom the works were carried out (works owner).
- Provide **Contact details of the Client or Main Contractor** (if experience was gained as a sub-contractor) is required to be provided.

The contact details may be used by the Employer to verify the information, pertaining to the experience submission. Should the Employer’s reasonable attempts to make contact with the Client or Main Contractor fail (for whatever reason), that specific experience submission may be considered invalid.

**Contract Details**

- Provide the **Contract Reference Number** and **Contract Title**.
- Indicate if this contract has been completed or is still in progress.
- Provide **Contract Dates**.
- Provide **Contract Values** - Where works are still in progress, provide the value of works that have been completed as detailed on the most recent payment to the Contractor / Sub-Contractor. If the works are complete, provide the Final Value of the sub-contract or Final Contract Price.

**Scope of Works**

- Indicate the **Works Type(s)** that best describe the works included in the project.  
Select the most applicable option (only 1).
- Indicate the **Works Elements(s)** that were included in the project.  
Select any elements that were included in the contract.

**Joint Ventures**

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 complies with the requirements, as stipulated in **Table 1**, and that the required documentation/ information is provided.

(T2.2.16 is continued on the next page)

**Confirmation of submission of Information/ Documentation**

The Tenderer is to indicate (by marking with an "X" in the shaded column) the documentation that has been included in this tender submission, in support of each experience submission.

		If submitted, mark with an "X"
<b>SUBMISSION #1</b>	Experience Submission Form (completed and signed)	
	Proof of Sub-Contract Agreement (if experience was gained as a sub-contractor)	
	Letter of Award OR Form of Offer & Acceptance	
	Most recent Payment Certificate, OR most recent INVOICE, with Quantities summary	
	Final Payment Certificate, OR most recent INVOICE, with Quantities summary	
	Completion Certificate	
<b>SUBMISSION #2</b>	Experience Submission Form (completed and signed)	
	Proof of Sub-Contract Agreement (if experience was gained as a sub-contractor)	
	Letter of Award OR Form of Offer & Acceptance	
	Most recent Payment Certificate, OR most recent INVOICE, with Quantities summary	
	Final Payment Certificate, OR most recent INVOICE, with Quantities summary	
	Completion Certificate	

**Note: Should there be insufficient evidence for verification of the information submitted for any specific experience submission, that experience submission may be deemed invalid.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

**NAME (Block Capitals):** \_\_\_\_\_

**Date**

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

\_\_\_\_\_

**EXPERIENCE SUBMISSION #1**

Reference is to be made to **Clause F.2.1.3** of the Tender Data.

(Where required, in the shaded areas, clearly mark selection with an "X" or circle applicable)

<b>Experience as a:</b>	Sub-Contractor:		Main Contractor:							
<b>Client/ Employer OR Main Contractor's Details</b> Should the Employer's reasonable attempts to make contact, to verify the information provided, fail (for whatever reason) this experience submission may be considered invalid.	Entity Name:									
	Contact Name:									
	Contact Tel:					-				
	Contact Cell:					-				
	Contact email / other:									
Enter the Client/ Employer's details, OR, if the works was done as a sub-contractor, enter the Main Contractor's Details										

<b>Contract Details</b>	Contract (Reference) Number:										
	Contract Title:										
	Has this Contract been completed?	Y	N	Commencement Date:	d	d	m	m	2	0	y
			Completion Date (if applicable):	d	d	m	m	2	0	y	y
Tendered Value (Contract Sum) OR Sub-Contract Value:	<b>R</b>	Final Contract Price OR Final Value of Sub-Contract:				<b>R</b>					

**Contract Scope-of-Work (Type of Project and Works Elements):**

<b>Which Works Type(s) best describe the project?</b>		new road construction	
road widening/upgrades		intersection improvements	
gravel to surfaced road upgrades		access road upgrades	
major parking areas		interim roadways to informal settlements	
OTHER: provide a description of the type of project			

<b>Which Works Element(s) were included in the project?</b>		bulk earthworks	
roadway layer-works		asphalt roadway surfacing	
kerbing/ channelling		sidewalk/ walkway construction	
traffic calming measures		stormwater drainage	
retaining structures		dealing with underground services	
OTHER: List works elements included in project			

Confirmation of documentation submitted is to be recorded on Page 39.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

**NAME (Block Capitals):**

**Date**

**SIGNATURE:**

**EXPERIENCE SUBMISSION #2**

Reference is to be made to **Clause F.2.1.3** of the Tender Data.

(Where required, in the shaded areas, clearly mark selection with an "X" or circle applicable)

<b>Experience as a:</b>	Sub-Contractor:		Main Contractor:	
-------------------------	-----------------	--	------------------	--

<b>Client/ Employer OR Main Contractor's Details</b>  Should the Employer's reasonable attempts to make contact, to verify the information provided, fail (for whatever reason) this experience submission may be considered invalid.	Entity Name:													
	Contact Name:													
	Contact Tel:													
	Contact Cell:													
	Contact email / other:													

Enter the Client/ Employer's details, OR, if the works was done as a sub-contractor, enter the Main Contractor's Details

<b>Contract Details</b>	Contract (Reference) 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:	<b>R</b>	Final Contract Price OR Final Value of Sub-Contract:				<b>R</b>							

**Contract Scope-of-Work (Type of Project and Works Elements):**

<b>Which Works Type(s) best describe the project?</b>		new road construction	
road widening/upgrades		intersection improvements	
gravel to surfaced road upgrades		access road upgrades	
major parking areas		interim roadways to informal settlements	
OTHER: provide a description of the type of project			

<b>Which Works Element(s) were included in the project?</b>		bulk earthworks	
roadway layer-works		asphalt roadway surfacing	
kerbing/ channelling		sidewalk/ walkway construction	
traffic calming measures		stormwater drainage	
retaining structures		dealing with underground services	
OTHER: List works elements included in project			

Confirmation of documentation submitted is to be recorded on Page 39.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

**NAME (Block Capitals):**

**Date**

**SIGNATURE:**

**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-24953**

Contract Title: **UPGRADE OF NDLEBENYE ROAD IN NTUZUMA A, WARD 38**

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.

**FOR THE TENDERER**

**FOR THE EMPLOYER**

.....	Signature	.....
.....	Name ( <i>in capitals</i> )	.....
.....	Capacity	.....
.....	Name and Address of	.....
.....	Organisation	.....
.....		.....
.....	Witness Signature	.....
.....	Witness Name	.....
.....	Date	.....

## 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 **16 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:  
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: 031 322 2879 (t)  
Fax: 031 311 7321 (f)  
E-Mail: [sandile.masondo@durban.gov.za](mailto:sandile.masondo@durban.gov.za)
- 1.1.1.16 The **name of the Employer's Agent** Balan Govender (Pr. Tech)
- 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: 031 322 2861 (t)  
Fax: 031 311 7321 (f)  
E-Mail: [balan.govender@durban.gov.za](mailto:balan.govender@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:

- i) "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.
- ii) "experience" implies experience on projects of a similar nature.
- iii) "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 **14 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."

5.8.1 The **non-working days** are **Saturdays and 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.

5.12.2.2 **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 1500** (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>
• "M" is the "Materials Index"	P0151.1	Table 6	Civil Engineering Material (excluding bitumen)	<b>c = 0.38</b>
• "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 Whole Sale 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 2,000,000.**
- Maximum first excess: **R 10,000.**

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: **R20,000.**

**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: **R2,000,000.**
- Maximum first excess: **R 10,000.**

**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 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:

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

1.2.1.2 The Physical address of the Contractor is:

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

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) 38**. 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 **10%** of the contract value (excluding PC Sum items and Fixed Cost allowances) to be subcontracted to contractors who are **>51% Black 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

<b>Category A:</b> Employed as Local Labour for this contract only <b>Category B:</b> Temporarily employed by the Contractor <b>Category C:</b> 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 (S.53) of the Employer’s Supply Chain Management Policy.

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

**C1.2.3.6 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:

- Part AA: Preliminaries
- Part AB: General Specifications
- 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 15 pages. The pages are numbered BoQ 1 to BoQ 15

**PART C3: SCOPE OF WORK**

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

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

This project is in Ntuzuma A under Ward 38. The contract entails the upgrading of Ndlebenye Road from gravel to an asphalt surface road with pavement layerworks. The total length of this road is approximately 260m. The scope of works for this project entails following:

- Site establishment
- Proving and protection of existing underground services and structures during the construction phase,
- Bulk earthworks including cut to fill operations for the road
- Installation of 375mm diameter stormwater pipeline, with associated catchpit manhole and outlet headwall.
- The construction of layerworks (125mm G4 base, 125mm G6 subbase, 150mm G7 subgrade and rip and recompact material)
- Installation of Figure 12 edge restraint kerbs,
- Installation of Figure 6 precast concrete kerbs and 150mm wide channel,
- Asphalting for a 4.0m wide road (35mm thick asphalt),
- Installation of road signs and Road Marking,
- Trimming, landscaping and grassing of road embankments for erosion protection.
- Relocation and installation of services (liaison with relevant departments is imperative).

The contractor must take note that the above works must be carried out for the duration of 16 weeks. The contractor is to ensure that sufficient plant and resources are provided to carry out the works.

Note that the CPG component of a minimum of 10% has been included in the scope of works. Work will be identified by the main contractor and be given to the subcontractor residing within Ward 38.

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. For municipal services, bulk materials should be sourced from the respective Department. Connection to houses will require the appointment of a Metro approved service provider.

Water and sewer reticulation materials may require protection, relocation, installation, collection, transportation, storage and security from stores. The contractor will be responsible for collection of materials from store on authorisation and it may be on more than one occasion

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:

- 1) Identification of service relocation/renewal scope of work in consultation with the service owner.
- 2) Preparation of a tender and bill of quantities for service management in consultation with service owner or the employer's agent.
- 3) Sourcing prices for the works done through a process directed by the employer's agent that subscribes to a fair, transparent and equitable practices.
- 4) Enter into a sub-contract relationship with selected sub-contractor.
- 5) Manage the workflow process, risk, time, cost, quality of the sub-contractor.
- 6) 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.

The contractor must take note 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 timelines that attends to the service management scope of this project.

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

- 1) Access to Ndlebenye Road is off Dukuza Street and Mdubu Road

GPS co-ordinates for the site are:

Latitude: S 29° 44' 53"                      Longitude: E 30° 55' 58"

Refer to Item C4.1: Locality Sketch

### **C3.1.3 Nature of Ground and Subsoil Conditions**

There are no records supplied for the ground conditions of the site.

## **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 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? (eg. 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:

- 1) Identification of service relocation/renewal scope of work in consultation with the service owner.
- 2) Preparation of a tender and bill of quantities for service management in consultation with service owner or the employer's agent.
- 3) Sourcing prices for the works done through a process directed by the employer's agent that subscribes to a fair, transparent and equitable practices.
- 4) Enter into a sub-contract relationship with selected sub-contractor.
- 5) Manage the workflow process, risk, time, cost, quality of the sub-contractor.
- 6) 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.

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**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 “SADC 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 Engineer 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, Traffic Signals (ETA) and numerous fibre lines. There will be numerous service providers to consult regarding the existing fibre service 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. All service relocations shall be completed and finalised within 2 months or sooner of the commencement date. 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 eThekwini Electricity and cannot be found after proving trenches have been put down, assistance may be obtained by calling an official of the Works Branch on Telephone No. 311-1111 during office hours, or by contacting Control on Telephone No. 305-7171 after hours.

It should be noted that 33,000 Volt and 132,000 Volt cables may only be exposed by the eThekwini 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 eThekwini Electricity shall be contacted immediately on the above telephone numbers.

Proving of services shall be completed at least two weeks in advance of the actual programmed date for commencing work in the area. 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. All service relocations shall be completed and finalised within 2 months or sooner of the commencement date. 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.

#### **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 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. All service relocations shall be completed and finalised within 2 months or sooner of the commencement date. 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.

Furthermore, 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**

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 sewer mains are normally done by the Wastewater Branch of eThekweni Municipality. Metro Wastewater 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 during the construction period. Relocations shall run concurrently with programmed activities. All service relocations shall be completed and finalised within 2 months or sooner of the commencement date. 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.

Furthermore, 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**

Existing stormwater pipes which are affected may be replaced with new pipes. Pipe sizes vary from standard 375mm Class100D and upwards. Bulk of new stormwater shall be 450mm Class 100D. 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.

Furthermore, 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**

There are existing electrical poles and electricity lines in the works area. Special attention must be paid to ensure there is no damage to the existing electricity infrastructure. The Tenderer is responsible to communicate and actioned the relocation of the electrical poles and cables with the Electricity department as per PS.2.3.

**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. All service relocations shall be completed and finalised within 2 months or sooner of the commencement date. 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 eThekwini 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 street lighting 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**

Certain MV / LV cables are 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 eThekwini Electricity and it is stressed that the two week period referred to in Clause PS.2 is the minimum period required to enable eThekwini Electricity to be on site timeously.

### **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. All service relocations shall be completed and finalised within 2 months or sooner of the commencement date. 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 / NEOTEL PLANT**

Work to Telkom / Neotel Plant is 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. All service relocations shall be completed and finalised within 2 months or sooner of the commencement date. 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 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. All service relocations shall be completed and finalised within 2 months or sooner of the commencement date. 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 Engineer.

### **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:

1. The contract area is a busy road with exceptionally high volumes of vehicular traffic and pedestrian movement,
2. The area is also bounded by business and industrial properties and office parks.
3. The proposed works will require machinery and plant of varying size,
4. The manual moving of heavy precast products will be required,
5. The raw asphalt used will be delivered to site at a high temperature, which, after processing, remains hot for some time,
6. 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.
7. The deviation of the traffic must be maintained throughout the day and night, weekends and Public holidays included, and
8. All road signs must be maintained to allow for adequate sight distance by the road users
9. 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 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 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 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 OHS 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.

Payment for this item shall be made under Section 1, Part AB of the Bill of Quantities.

#### **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 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.

**PS.14 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.15 STAKEHOLDER MANAGEMENT AND LIAISON**

The construction environment is one of uncertainty in terms of participation expected from various bodies, organisations and community structures that may present themselves in various guise and forms.

The employer has identified this as a contractual risk, but is unable to directly influence actions that will mitigate these risks. It is therefore a condition of this contract that any risk pertaining to the above stated conditions are placed as the sole responsibility of the contractor who is best suited to and possesses the most influence in identifying, mitigating and managing these risks.

The contractor is therefore required to take whatever steps deemed necessary to prevent any delays or cost implications to the project, by actively putting in place a Stakeholder Management Plan that deals with:

- Create a Stakeholder Register which identifies all stakeholders at the onset and throughout the duration of the contract
- Categorizing of stakeholders according to their interests, influence and contribution to the project
- Rating of stakeholders according to their influence and power on the project
- Addressing and communicating contractual opportunities to the identified groups
- Identifying Risks associated with stakeholders
- Continuous mitigation of Risks in terms of the Stakeholder Management Plan

The identification of Stakeholders and the contents of the Stakeholder Management Plan must be continuously updated, and shall be approved by the Employer's Agent.

The provisions of this payment item, as a monthly Time related rate, is to cover all actions required by the contractor in terms of preventing any delays or added cost implications to this project. This risk is deemed to have been transferred to the contractor.

There will be no liability in the form of extension of time, Preliminary and General payment items and standing time costs attributable to the Employer in terms of any disruption arising from the actions of the identified or unidentified stakeholders.

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**PS.16 CONSTRUCTION AND MANAGEMENT REQUIREMENTS****PS.16.1 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 throughout the contract.

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.16.2 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.16.3 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.16.4 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.

### **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.

<b>Part</b>	<b>Description</b>	<b>Date of Issue</b>	
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
EB	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 Guard-rails and Conc. Median Barriers	July	1992
EL	Dump-rock Subgrade Improvement		
F	Protection Works	July	1992
PG	Non Pressure Pipelines and PC Culverts	July	1992
PH	Manholes and Appurtenant Drainage Works	July	1992
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 EB	Graded Crushed Stone
PS ED	Road Asphalt
PS EF	Kerbs and Haunches
PS EG	Sidewalks, Footpaths and Median Areas
PS EL	Dumprock Subgrade Improvement
PS F	Protection Works
PS PG	Non Pressure Pipelines and PC Culverts
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## **PS.AB PRELIMINARY AND GENERAL SPECIFICATION**

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PS.AB	GENERAL SPECIFICATIONS
PS.AB.4	CONTRACTOR'S CAMP SITE AND DEPOT
PS.AB.4.1	ACCOMMODATION OF EMPLOYEES
PS.AB.4.2	SERVICES CONNECTION FEE
PS.AB.5	NOTICE BOARD
PS.AB.7	ROAD DEVIATIONS AND TRAFFIC CONTROL
PS.AB.8	TESTING FOR SUB-GRADE MATERIAL
PS.AB.9	AS BUILT SURVEY/ DRAWINGS

### **PS.AB GENERAL SPECIFICATIONS**

#### **PS.AB.4 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) Contractor's Camp Site / Store Yard**

The recommended position of the camp site/store yard will be pointed out by the Engineer. However the Contractor may, if he prefers to have a camp site at another location of the work, site it elsewhere provided that he first obtains the written permission of the landowner, and subsequently the Engineer, 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:

- i. None of the existing roads shall be damaged in any way.
- ii. No waterborne sewerage facilities or potable water connection are available on the site. The Contractor shall make his own arrangements in this regard.
- iii. No electrical facilities exist on site.
- iv. 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 other owner. Particular attention should be directed to these requirements and written clearances from the relevant Departments or other owners will be required.

#### **PS.AB.4.1 ACCOMMODATION OF EMPLOYEES**

No employees except for security guards will be allowed to sleep or be accommodated on the site. 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.4.2 SERVICES CONNECTION FEE**

Further to Clause AB.4. a prime cost item has been included in Part 1. AB in the Bill of Quantities. This item covers the connection fee for the following services to the camp site area for the Engineer's office:

- (i) Electricity: Connection of one single phase 220 volt 60 amps electrical supply to the site distribution box.
- (iii) Water: 25 mm Diameter connection.

Should the Contractor require either additional connection or an increased power supply any additional costs shall be to the Contractor's account.

Payment under Item10.AB.2 will be based on the actual accounts for the connection fees described above.

#### **PS.AB.5 NOTICE BOARD**

The typical notice board layout is given in Part C3.6.1 The following requirements shall apply with regards to the notice board.

#### **PS.AB.7 ROAD DEVIATIONS AND TRAFFIC CONTROL**

- (a) Allowance has been made in the Bill of Quantities for those deviations listed below only. Costs of any additional deviations required by the Contractor shall be included in the rates tendered.

It shall be assumed that if no deviations are listed then no deviations will be measured as part of this contract.

DEVIATION DESCRIPTION	CLASS

- (b) Deviations required by the Contractor shall comply with the requirements of Clause AB.7. Details shall be submitted to the Engineer for approval at least two weeks in advance of date on which it is anticipated that work on the deviation will commence.
- (c) 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.
- (d) 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.

- (e) At all times signposting shall be detailed in the South African Road Traffic Signs Manual – Vol2 : Chapter 13 : Roadworks Signing.

#### **PS.AB.8 TESTING FOR SUB-GRADE MATERIAL**

##### Process control

The Contractor shall arrange for all tests required for process control to be done by a laboratory acceptable to and approved by the Engineer. The Contractor may establish his own laboratory on site or he may employ the services of an independent commercial laboratory. Whatever method is used, the Contractor must submit the results of tests carried out on materials and workmanship when submitting work for acceptance by the Engineer. The costs for these tests shall be deemed to be included in the relevant rates and no additional payment will be made for testing as required.

##### Acceptance control

The process control test results submitted by the Contractor for approval of materials and workmanship may be used by the Engineer for acceptance control. However, before accepting any work, the Engineer may have further control tests carried out by the Ethekewini Municipality Laboratory. The cost of such additional tests will be covered by a provisional sum provided in the schedule of quantities, but tests that failed to confirm compliance with the specifications, will be for the account of the Contractor.

#### **PS.AB.9 AS BUILT SURVEY/ DRAWINGS**

The contractor is to provide a full survey drawing of the entire works, indicating all key aspects of the works including position of the fence, levels and street furniture within the scope of works.

The contractor shall commission a surveyor close to the end of the works such that the survey shall be concluded on completion of the work. Should the as built survey not be ready once the works are completed, the final payment certificate shall exclude payment for this item and a completion certificate and retention money shall be withheld until such time the as built survey is handed to the Engineer.

## **PS.AH OCCUPATIONAL HEALTH AND SAFETY UNIT SPECIFICATION**

### **INDEX**

#### **PS.AH.1 OCCUPATIONAL HEALTH AND SAFETY UNIT SPECIFICATION**

The contractor shall allow in their cost provision for complying with all the requirements as covered in the:

1. Site Specific Health and Safety Specification in terms of 2014 Construction Regulations, referenced HSS 179/08/2023
2. Baseline Risk assessment document in terms of Construction Regulation 5.1 (a), referenced BRA 179/08/2023

These documents are found under Part C3: Scope of Works subheading C3.4 Particular Specifications.


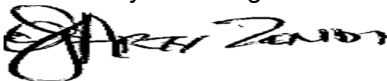
# ETHEKWINI MUNICIPALITY

## Occupational Health & Safety Unit



Site Specific Health and Safety Specification in terms of 2014

Construction Regulations 5.1(b)

Document Title	HSS 179.08.23 Site Specific Health and Safety Specification
Client	eThekwini Municipality Road Provision
Project Name	Upgrade of Ndlebenye road in Ntuzuma, ward 38
Contract Number	1R-24953
Revision	n/a
Date	28/08/2023
Compiled by:	Name: Siziwe Chiliza  signature
Approved BY:	Name: Arty Zondi signature 

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## 1. PROJECT DESCRIPTION AND SITE ACCESS

### Description of Works

This project is in Ntuzuma A under Ward 38. The contract entails the upgrading of Ndlebeye Road from gravel to an asphalt surface road with pavement layerworks. The total length of this road is approximately 260m.

### Description of Site and Access

Access to Ndlebenye Road is off Mdubu Road and Dukuza Street

GPS co-ordinates for the site are:

Latitude: S 29° 44' 53"                      Longitude: E 30° 55' 58"

## 2. LIMITATIONS OF LIABILITY

The Principal Contractor shall enter into a Mandatory Agreement with the Client, as defined in Section 37(2) of the Occupational Health and Safety ACT.

The Principal Contractor shall ensure that each contractor appointed by the Principal Contractor and each sub-contractor appointed by a contractor also into a Mandatory Agreement with the Principal Contractor, as defined in Section 37(2) of the Occupational Health and Safety ACT. These agreements shall be included in the Principal Contractor's H&S File on site and be valid for the duration of the contractors' work on the construction site.

## 3. PURPOSE OF THE CONSTRUCTION SPECIFICATION

This document defines the minimum management requirement that is to be implemented by the Principal Contractor/ Contractor for the management of Health and Safety on any eThekweni Municipality project. The aim of this document is to present the health and safety aspects that need to be controlled and managed on the project.

This Health and Safety specification identifies and encompasses the working behaviors and safe work practices that are expected of all employees, Vendors and Contractors, Sub-Contractors and Visitors, engaged on construction site.

Providing a guideline to comply with best Health & Safety practices and the Occupational Health and Safety Act 85/1993 as amended, including reference to applicable legislative requirement.

## 4. PROJECT HEALTH AND SAFETY COST

The Client must ensure that potential Principal Contractor submitting tenders have made adequate provision for the cost of health and safety measures.

The Principal Contractor shall allow in their cost provision for complying with the requirements of this Construction Health and Safety Specification; resources for the following Health and Safety controls shall be in place.

NO.	H&S cost item	Description
1.	Construction Health and Safety Officer	A part-time Construction health and safety officer is required to ensure that the health and safety lan is implemented on site.

2	Medical certificate of fitness	Medical examination of all employees and certification of fitness by an Occupational Medicine Practitioner
3	Personal Protective Equipment	Personal Protective Equipment to be provided as per risk exposure, including but not limited to hands protection, and face protection
4	Public protection	To reduce risk exposure to the employees and members of the public
5	Employee facilities	Drinking water, ablution toilet etc..
6	Trainings and competency	Electrician, Risk assessor, Incident Investigator and Firefighter, first aider, Fall protection
7	Safety file	Full completed with all documents
8	Health and safety signage	All signature must be displayed

## 5. SCOPE OF WORK

The works to be completed, inter alia, the following:

- Site and equipment setup
- River diversion and working platform.
- Construction of reinforced concrete pedestrian bridge.
- Construction of approaches and sidewalks on both sides on bridge
- Reinstatement of site.

## 6. COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT

The Principal Contractor, each contractor and each sub-contractor shall submit proof of Good Standing with CODA Commissioner or a Mutual Association licensed in terms of Section 30 of COIDA, prior to starting any work on site. A copy of the Letter of Good Standing with COIDA Commissioner must be included in the H&S Plan of each contractor working on the site and must remain updated for the duration of the construction work.

## 7. NOTIFICATION OF CONSTRUCTION WORK

The Principal Contractor must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2 if the intended construction work will—

Include excavation work;

Include working at a height where there is risk of falling;

Include the demolition of a structure; or

Include the use of explosives to perform construction work.

A contractor who intends to carry out construction work that involves construction of a single storey dwelling for a client who is going to reside in such dwelling upon completion, must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2.

## 8. MANAGEMENT AND SUPERVISION OF CONSTRUCTION WORK

During the submission of your health and safety file for approval, please ensure that at least the following appointments are submitted with the file:

- Construction manager CR8(1)
- Construction work supervisor CR8(7)
- Construction health and safety officer CR8(5) — part-time
- Risk assessor CR9(1)
- Incident investigator GAR9(2)
- Electrical installation controller EIR5(4) and proof of registration with DOL as an electrical installer or contractor • Fall protection planner

### 8.1 Construction Manager

The Principal Contractor shall appoint in writing a full-time competent person as the construction manager with the duty of managing all construction on the site including the duty of ensuring occupational health and safety compliance. The Construction Manager must demonstrate competency in relation to work being performed and the ability to manage construction work which may include making all statutory appointments in terms of health and safety.

### 8.2 Construction health and safety officer

The Principal Contractor shall appoint a part-time competent Construction Health and Safety Officer for the construction work, with at least 1 years in the construction industry as a construction health and safety officer.

### 8.3 Construction supervisor

A Construction Manager must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site. A contractor must, upon having considered the size of the project, in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor contemplated in sub regulation (7), and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor: Provided that the designation of any such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties in terms of this Regulation.

## 9. PRINCIPAL CONTRACTOR'S HEALTH AND SAFETY PLAN

The Principal Contractor shall submit a suitable, sufficiently documented and coherent specific health and safety plan based on the Client documented Health and Safety Specification. The health and safety plan shall include but not limited to the following:

- Objectives
- Scope of work
- Management of construction and supervision
- Monitoring and review plan
- Sub-contractor management

### • CODA

- Risk Assessment & Safe Working Procedures
- Incident Management
- First Aid
- Emergency procedures
- Fire Prevention & Protection
- Public Health and Safety
- PPE provision
- Health & Safety Signage
- Construction Vehicles and Mobile Plants
- Hand tools management
- Electrical Tool Management
- Electrical installation on construction site
- Construction Employees Facilities
- Health & Safety Policies
- Health and Safety Training & Competencies
- Housekeeping
- Inductions
- Medicals
- Stacking and Storage
- Internal and external Audit
- Inspection Registers

- Toolbox Talks
- Carrying out construction work in a residential place
- Hot works
- Fall protection

## 10. HAZARD IDENTIFICATION AND RISK ASSESSMENT

The Principal Contractor shall before commencement of any construction and during such construction works have risk assessments performed by appointed competent person in writing which forms part of the health and safety plan to be applied.

The provisions of Regulation 9 of the Construction Regulations shall be followed in every detail.

## 11. HEALTH AND SAFETY FILE

The Client must discuss and negotiate with a Principal Contractor the content of the Health and Safety Plan and thereafter finally approve the Health and Safety plan for implementation. The recommended Health and Safety file shall include the following:

- SHE Policy
- PPE Policy
- Notification of Construction work
- Client Health & Safety Specification and Baseline
- Principal Contractor Health & Safety Plan
- Letter of good standing
- Section 37.2 Mandatory Agreement
- Contractor appointment letter in terms of CR 5.1 (k)
- Legal appointments and competencies
- Risk Assessments as per scope of work
- Safe Working Procedures for each task
- Incident/Accident Management Procedures
- LOA from SCM
- Organogram as per appointments
- Copy of OHS Act and Construction Regulations 2014
- Health and Safety Induction program me
- Emergency Procedures
- Medical Certificate of fitness
- Toolbox Talks Program me/ Plan ● Fall protection plan

## 12. CLOSE- OUT CONSOLIDATED HEALTH AND SAFETY FILE

The Principal Contractor shall compile a consolidated H&S file and hand over to eThekweni municipality, Human settlements Unit (project manager responsible for the project). OHS Unit will conduct a project close out using the appropriate checklist before the completion of the project. The closeout file forms part of the project completion requirements for the retention payment.

## 13. HEALTH AND SAFETY TRAINING

The Principal Contractor shall ensure that employees are trained on health and safety measures this shall include but not limited to:

- Written Safe Working Procedures
- Risk Assessments
- Health and Safety Plan and other policies
- Fall protection plan
- Emergency Procedures/ Plan
- Incident management procedures
- Induction
- Toolbox Talks

#### **14. INCIDENTS MANAGEMENT & FIRST AID**

All incidents and accidents as per Section of the Act must be reported, recorded and investigated as per General Administration Regulation 8 & 9. Where a fatality or permanent disabling injury or incident occurs on the Construction site, the Client must ensure that the Principal Contractor provides the Provincial Director with a report contemplated in Section 24 of the Act and the report includes the measures that the Principal Contractor intends to implement to ensure a safe construction site.

#### **15. HEALTH AND SAFETY AUDITS**

The Client must ensure that periodic health and safety audits are conducted at intervals mutually agreed upon between the Principal Contractor and the Client at least every 30 days, the copy of the health and safety audit report must be provided to the Principal Contractor within seven days after the audit.

#### **16. FIRE PRECAUTIONS ON CONSTRUCTION SITE**

The Principal Contractor shall provide suitable fire extinguishers which shall be serviced regularly in accordance with the manufacture's recommendations. Safety signage shall be prominently displayed in all areas where fire extinguishers are located. The Principal Contractor shall arrange for training of the relevant personnel, in the use of fire extinguishers.

The provisions of Regulation 29 of the Construction Regulations as well as Regulation 9 of Environmental Regulation for Workplaces shall be followed in every detail.

#### **17. ELECTRICAL INSTALLATIONS AND MACHINERY ON CONSTRUCTION SITE.**

The Principal Contractor shall designate a competent electrician in writing who shall control all electrical installations. All temporary electrical installations used by the contractor are inspected at least once a week by a competent person and the inspection findings are recorded in a register kept on the construction site. All Electrical machinery is inspected by the authorized operator or user on daily basis using a relevant checklist prior to use and the inspection findings are recorded in a register kept on the construction site.

The provisions of Regulation 5, 6 & 9 of the Electrical Installation Regulations shall be followed in every detail.

#### **18. PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.**

The Principal Contractor shall ensure that every employee is issued with, and wears SANS-approved P.P.E. as per the conducted risk assessment. Failure to use protective equipment as per the risk assessment shall require disciplinary intervention and this process shall be documented in the induction. No employer shall in respect of anything which he is in terms of this Act required to provide or to do in the interest of health or safety of an employee make any deductions from any employee's remuneration or require or permit any employee to make any payment to him or to any other person.

The provisions of Regulation 2 of the General Safety Regulations shall be followed in every detail.

## 19. OCCUPATIONAL HEALTH AND SAFETY SIGNAGE

The Principal Contractor shall erect and maintain quality safety signage. The signage shall include but is not limited to:

- The construction work permit number displayed at the entrance (if applicable) ● Access restrictions
- A sign indicating that all visitors must report to the site office and must be accompanied by the Principal Contractor when accessing the site ● The name and telephone number of the responsible person(s)
- Emergency telephone number(s)
- PPE to be worn at the site
- When falling objects may occur, relevant barricading and warning signs must be erected
- Excavations, heights structures, temporary structures and all risk areas must be indicated as per the specific methods defined in the H&S Plan.

## 20. DUTIES OF PRINCIPAL CONTRACTORS AND CONTRACTORS

Contractors and sub-contractors must be given a copy of the H&S specification and any additional specification issued by the Client and shall comply with these specifications integrally. All employers working on the site shall conform to the standard in the CHSS. All the duties of the Principal Contractor in this CHSS equally apply, in full, to contractors of such Principal Contractor and to sub-contractors of such contractors. The Principal Contractor shall ensure that the comprehensive and updated list of all the contractors and sub-contractors on site includes:

- A reference to the agreements between the parties, including all contractors Section 37(2) agreements with the Principal Contractor
- The type of work being done
- The date of the approval of the H&S Plan
- The date of expiry of the COIDA certificate of good standing ● The date of the last monthly audit

The provisions of Regulation 7 of the Construction Regulations shall be followed in every detail.

## 21. PUBLIC HEALTH AND SAFETY

The site shall always be secured to prevent the unauthorized access of persons to construction risk areas. Appropriate health and safety signage shall be posted and access control to site must be exercised via a single access point. All members entering the site must indicate in what capacity they are visiting the site. The access point must be designed and constructed to allow for temporary parking, entry of construction vehicles, entry of personnel transport vehicles and entry of individual workers and other persons. The principal Contractor shall ensure that each person visiting the site shall be inducted to the site and such abridged induction shall outline the hazards from on-site activities and the precautions to be observed to avoid or minimize those risks. Visitors must only enter when accompanied by a responsible person designated by the Principal Contractor.

## 22. CONSTRUCTION EMPLOYEES FACILITIES

The Principal Contractor shall provide at or within reasonable access of every construction site, the following clean, hygienic and maintained facilities: (a) Shower facilities after consultation with the employees or employees representatives, or at least one shower facility for every 15 persons; (b) at least one sanitary facility for each sex and for every 30 workers; (c) changing facilities for each sex; and (d) sheltered eating areas.

The provisions of Regulation 2, 3, 4, 6, 7, 9 of the Facilities Regulations shall be followed in every detail.

## 23. HOUSEKEEPING AND GENERAL SAFEGUARDING ON CONSTRUCTION SITE

The Principal Contractor shall appoint a person responsible for general housekeeping and stacking and storage of materials and equipment on the entire site.

The provisions of Regulation 27 of the Construction Regulations shall be followed in every detail.

## 24. CONSTRUCTION MEDICALS

A Principal Contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an Occupational Health Practitioner in the form of Annexure 3.

## 25. HEALTH AND SAFETY REPRESENTATIVE AND SHE COMMITTEE

Health and Safety Representatives

- The Principal Contractor shall ensure that Health and Safety Representatives are appointed in writing and exercise their functions as defined in OHSWA.
- The Principal Contractor shall elect and appoint a health and safety representative regardless of the number of employees on the site.
- The H&S representative shall always be on site and report to the Health and Safety Officer and Construction Manager.

Health and Safety Committee

- The Principal Contractor shall ensure that the H&S committee meets on a monthly basis
- The Principal Contractor's management and each contractor shall be represented at the H&S committee meeting; contractors with more than 20 employees shall have an H&S representative at each committee meeting and each contractor shall have a management member attending each H&S committee meeting.

## 26. STACKING AND STORAGE ON CONSTRUCTION SITE

A Principal Contractor must, in addition to compliance with the provisions for the stacking of articles in the General Safety Regulations, 2003, ensure that—

A competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site; Adequate storage areas are provided; are demarcated storage areas; and storage areas are kept neat and under control.

## 27. EMERGENCY PROCEDURES/ PLAN

Principal contractor shall submit a detailed Emergency Procedures/ Plan for approval by the client prior to commencement of work on site. The procedures shall detail the response plan including the following:

List of key competent personnel  
 Details of emergency services  
 Action or steps to be taken in the event of emergencies  
 Information on hazardous material  
 Emergency events relevant to the project

## 28. INDUCTION AND TOOLBOX PROGRAMME

No contractor may allow or permit any employee or person to enter any site, unless that employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

A contractor must ensure that all visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site and must ensure that such visitors have the necessary personal protective equipment.

A contractor must at all times keep on his or her construction site records of the health and safety induction training contemplated in sub-regulation (6) and such records must be made available on request to an inspector, the client, the client's agent or the principal contractor; The Principal Contractor must ensure that the toolbox talks are conducted on weekly basis and the training records kept on the safety file.

### **29. CONSTRUCTION VEHICLES AND MOBILE PLANTS**

For any use of construction vehicle and mobile plant in the construction site, contractor must comply with all the provisions of Construction Regulation 23.

### **30. ORGANOGRAM**

Contractor shall submit an organogram outlining the site safety, health and environmental management structure as per appointment. The organogram must reflect the project and the company name and must have legal references.


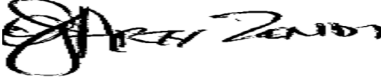
### **31. CARRYING OUT CONSTRUCTION WORK IN A RESIDENTIAL PLACE**

The contractor must highlight the approach on how he/ she will ensure cooperation with other affected parties in the area e.g. Residents, Local businesses ect.

**ETHEKWINI MUNICIPALITY**  
Occupational Health & Safety Unit



**Baseline Risk Assessment in terms of Construction Regulation 5.1(a)**

Document Title	Baseline Risk Assessment in terms of Construction Regulation 5.1(a)
Client	eThekwini Municipality – road provision
Project Name	Upgrade of Ndlebenye road in Ntuzuma ward 38
Contract Number	1R-24953
Revision	01
Date	28/08/2023
Internal Reference no.	BRA 179/08/2023
Compiled by (Safety officer)	Siziwe Chiliza  Signature:
Reviewed by (Manager: Safety & Risk)	Arty Zondi  Signature:

Site Establishment							
MAIN ACTIVITY	REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
	1.1	Travel to site	<ul style="list-style-type: none"> <li>• Potholes</li> <li>• Undulating roads</li> <li>• Poor visibility</li> </ul>	<ul style="list-style-type: none"> <li>• Fatigue</li> </ul>	<ul style="list-style-type: none"> <li>• Oil/diesel spillages</li> </ul>	Community livestock Other vehicles driving recklessly Pedestrians Construction works on public road	<ul style="list-style-type: none"> <li>• All drivers to be deemed competent</li> <li>• No staff to travel in rear of vehicles with equipment</li> <li>• All equipment to be secured during transport</li> <li>• All vehicles to be road worthy</li> <li>• No drivers/Operators to be under the influence of alcohol or drugs of any kind.</li> <li>• Inspection Records must be kept for all vehicles and plant.</li> </ul>

REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
1.2	Site clearance and de-vegetation	<ul style="list-style-type: none"> <li>Poor traffic control</li> <li>Incompetent drivers</li> <li>inadequate signage's</li> <li>Moving of construction vehicles and vehicle colliding</li> <li>Snakes</li> <li>insect bites &amp; stings</li> </ul>	<ul style="list-style-type: none"> <li>Back strain</li> <li>cuts,</li> <li>Abrasion</li> <li>heat exhaustion</li> <li>noise exposure</li> <li>dust inhalation</li> </ul>	<ul style="list-style-type: none"> <li>Spilling of oil diesel, petrol</li> <li>Contamination of ground</li> </ul>	<ul style="list-style-type: none"> <li>Tripping hazard</li> <li>dust inhalation</li> <li>intermittent noise level</li> </ul>	<ul style="list-style-type: none"> <li>All staff to have medicals done by an occupational medical practitioner prior to commencement of work. All workers to have valid medicals with annexure 3 documents signed and stamped by Occupational Medical Practitioner with records in file.</li> <li>All staff to work under supervision</li> <li>Dust suppression is to be maintained</li> <li>Responsible 8.1 to ensure Instructions are given on Manual handling using Safe Work Procedure (SWP) for Manual Handling.</li> <li>Only Licensed and Appointed Mechanical Aids Operators (i.e. Crane Operators, TLB operators, Bobcat Operators, etc.) to operate plant on site.</li> <li>Inspection &amp; Maintenance records must be maintained for all mechanical aids on site.</li> </ul>

REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
1.3	Site fencing	<ul style="list-style-type: none"> <li>Pinch points from manual handling</li> <li>Trip hazards</li> <li>Underground services</li> </ul>	<ul style="list-style-type: none"> <li>Heat exposure</li> <li>Dust</li> <li>Noise</li> <li>Chemical burns/ contact dermatitis from cement and eye injuries from cement splashes</li> </ul>	Hydrocarbon spills	<ul style="list-style-type: none"> <li>Unauthorised persons entering site</li> <li>School learners entering site</li> <li>Damage to underground services</li> </ul>	<ul style="list-style-type: none"> <li>All contractor staff and local labour to be inducted of all "no go" areas</li> <li>All staff have company logo PPE with name tags</li> <li>Contractor staff to work within designated areas only</li> <li>Contractor to conduct DSTI's (Daily Safety Task Instruction) and communicated at the beginning of the shift daily. DSTI close out to be conducted and attendance registered signed by all staff.</li> <li>Flagman to be provided to ensure vehicles are guided onto site.</li> <li>Wear hand protection (PVC Gloves), safety glasses and face shield always by the operator of the concrete chute.</li> <li>Concrete spillages to be cleaned up and concrete truck chute to be cleaned in concrete wash area.</li> <li>Stacking &amp; Storage Supervisor to be appointed to control lay down areas.</li> </ul>

REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
1.4	Placing of mobile offices	<ul style="list-style-type: none"> <li>• Use of mechanical aids for offloading</li> <li>• Failure of lifting equipment</li> <li>• Fall from heights</li> <li>• Manual handling</li> <li>• Mechanical aids overturning</li> <li>• Overhead power lines</li> </ul>	<ul style="list-style-type: none"> <li>• Noise</li> <li>• Hand and body injuries</li> <li>• Heat exposure</li> <li>• Dust exposure</li> </ul>	Hydrocarbon spills	<ul style="list-style-type: none"> <li>• Exposure to dust</li> <li>• Interaction of machinery and learners</li> </ul>	<ul style="list-style-type: none"> <li>• All operators to be deemed competent</li> <li>• All riggers to be deemed competent</li> <li>• All lifting equipment to be. load tested</li> <li>• Flagman/banksman to be present on-site during movement of plant</li> <li>• Access control to be managed on site</li> <li>• All staff to have the required PPE</li> <li>• Staff working at heights to be trained for heights safety</li> <li>• Contractor to conduct DSTI's (Daily Safety Task Instruction) and communicated at the beginning of the shift on a daily basis. DSTI close out to be conducted and attendance registered signed by all staff.</li> <li>• Ensure Offloading area is clear, level, secure and free from slip trip and falling hazards.</li> <li>• Mechanical Aids must be operated in accordance with the operators training and manufacturers guidelines</li> </ul>

REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
1.5	Connection of power supply	Electrocution Hand injuries	Heat exhaustion	None	Interruption of power supply	<ul style="list-style-type: none"> <li>• Only authorised person to do electrical connection</li> <li>• A COC is to be provided for all electrical works done</li> <li>• Monthly inspections to be done for all temporary electrical connections</li> <li>• Contractor is to be responsible for power consumption</li> <li>• Required agreements to be in file for electrical usage</li> </ul>
1.6	Water supply	Injuries during the laying of water pipes	Drinking water which is not safe for human consumption	None	Theft of water by residents	<ul style="list-style-type: none"> <li>• All drinking water is to be labelled/sign posted</li> <li>• Water use is to be managed on site</li> <li>• The location of standpipes to be correctly positioned to mitigate theft of water from site</li> </ul>
1.7	Construction of staff facilities: eat area/toilets/change area	<ul style="list-style-type: none"> <li>• Manual handling</li> <li>• Fall from heights</li> <li>• Hand injuries</li> <li>• Use of portable electrical power tools</li> </ul>	<ul style="list-style-type: none"> <li>• Electrocution</li> <li>• Dust exposure</li> <li>• Heat exposure</li> </ul>	None	None	<ul style="list-style-type: none"> <li>• Separate facilities for both male and female</li> <li>• Drinking water to be provided for staff on site</li> <li>• If portable toilets are to be used required service slips are to be maintained on site</li> <li>• Staff facilities area to be suitable for staff use</li> </ul>

Construction Works						
MAIN ACTIVITY						
REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
2.1	Site survey	<ul style="list-style-type: none"> <li>• Trips and falls</li> <li>• Injuries from use of hand tools</li> </ul>	<ul style="list-style-type: none"> <li>• Heat exhaustion</li> <li>• Dust exposure</li> </ul>	Use of cement for markings contamination	<ul style="list-style-type: none"> <li>• Trips and falls</li> <li>• Unauthorised entrance</li> </ul>	<ul style="list-style-type: none"> <li>• Works to be supervised</li> <li>• DSTI to be done</li> <li>• Lime to be used for ground markings</li> <li>• Required PPE to be used</li> <li>• All survey pegs to be made visible</li> <li>• If steel is to be used rebar caps are to be fitted onto them</li> </ul>
2.2	Mechanical excavations	<ul style="list-style-type: none"> <li>• Machinery collides with people</li> <li>• Collision with machinery</li> <li>• Fall into open excavation</li> <li>• Collapse of side walls</li> </ul>	<ul style="list-style-type: none"> <li>• Dust exposure</li> <li>• Back injuries</li> <li>• Noise exposure</li> </ul>	Hydrocarbon spills	<ul style="list-style-type: none"> <li>• Dust exposure</li> <li>• Collision with machinery</li> </ul>	<ul style="list-style-type: none"> <li>• DSTI to be done</li> <li>• All staff to have the required PPE</li> <li>• All plant to be inspected before use</li> <li>• All open excavations to be netted off and sign posted</li> <li>• Excavated spoil to be 500mm away from edge of excavation</li> <li>• Nil staff to be in any excavation when machinery in use</li> </ul>

2.3	Manual excavations	<ul style="list-style-type: none"> <li>Slips and falls</li> <li>Fall into open excavations</li> <li>Collapse of side walls</li> </ul>	<ul style="list-style-type: none"> <li>Dust exposure</li> <li>Back injuries</li> <li>Heat exhaustion</li> </ul>	None	Fall into open excavations	<ul style="list-style-type: none"> <li>All staff to be trained in safe works procedure</li> <li>All spoil to be away from edge of excavation</li> <li>Ladders to be provided for access and egress from excavations</li> </ul>
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REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
2.4	Unsafe stacking and storage practices	<ul style="list-style-type: none"> <li>Manual handling injuries</li> <li>Pinch points</li> <li>Slips and trips</li> </ul>	Back injuries	None	None	<ul style="list-style-type: none"> <li>Required PPE to be used</li> <li>DSTI to be done</li> <li>All works to be supervised</li> <li>All steel to be stacked within a designated area</li> </ul>
2.5	Installation of Temporary Electrical Installations	<ul style="list-style-type: none"> <li>Use of hand tools injuries</li> <li>Trips and falls</li> <li>Collapse of excavation side walls</li> <li>Contact with machinery</li> </ul>	<ul style="list-style-type: none"> <li>Chemical burns from concrete</li> <li>Heat exhaustion</li> <li>Dust exposure</li> </ul>	Ground contamination	Collision with pedestrians	<ul style="list-style-type: none"> <li>DSTI to be done</li> <li>Flagman to direct all trucks to site</li> <li>All staff to have the required PPE when handling concrete</li> <li>Nil staff to be in foundation during discharge of concrete into excavation</li> <li>Delivery trucks to use designated access</li> <li>Washing of truck chutes to be done within a concrete wash area</li> </ul>

2.6	Housekeeping	<ul style="list-style-type: none"> <li>Manual handling injuries</li> <li>Trips and falls</li> </ul>	<ul style="list-style-type: none"> <li>Dust exposure</li> <li>Back strains</li> <li>Ergonomically injuries</li> </ul>	Ground contamination due to mixing of mortar on natural ground	Unauthorised access to site	<ul style="list-style-type: none"> <li>Proper stacking of bricks to be done</li> <li>Movement of bricks to be done with proper wheelbarrows</li> <li>All staff to have required PPE</li> <li>A platform to be created for mixing of mortar</li> <li>Housekeeping to be maintained on site</li> </ul>
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REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
2.7	Site Induction	<ul style="list-style-type: none"> <li>Struck by machinery</li> <li>Manual handling injuries</li> <li>Fires</li> </ul>	<ul style="list-style-type: none"> <li>Dust exposure</li> <li>Heat exhaustion</li> <li>HAVS</li> <li>Noise</li> </ul>	Hydrocarbon spills	Unauthorised access	<ul style="list-style-type: none"> <li>All staff to have required PPE</li> <li>DSTI to be done</li> <li>All works to be supervised</li> <li>Safe works procedure to be done and communicated to staff</li> <li>Risk assessments to be communicated by means of training</li> </ul>
2.8	Setting up of temporary road works signage	<ul style="list-style-type: none"> <li>Struck by machinery</li> <li>Placing of incorrect signage at locations</li> </ul>	incident Damage to property	Environmental degradation	None	The Contract <ul style="list-style-type: none"> <li>Manager must ensure that a suitable site-specific Traffic Management Plan is developed and implemented and a competent Traffic Safety Officer</li> </ul>

2.9	Public vehicular and pedestrian traffic travelling on the public road during construction work	<ul style="list-style-type: none"> <li>injuries</li> <li>car collision</li> </ul>	<ul style="list-style-type: none"> <li>☒ ☒ incident</li> <li>Damage to property</li> </ul>	None	None	<ul style="list-style-type: none"> <li>All works to be supervised</li> <li>All temporary road traffic signage must comply with the SARTSM</li> <li>Flagman to direct all vehicles to site</li> </ul>
2.10	Layer works (asphalt layer)	<ul style="list-style-type: none"> <li>Use of hand tools</li> <li>injuries</li> <li>Trips and falls</li> <li>Contact with machinery</li> <li>Respiratory failure</li> <li>Burns</li> </ul>	<ul style="list-style-type: none"> <li>Chemical burns from asphalt</li> <li>Heat exhaustion</li> <li>High temperature of product</li> </ul>	Ground contamination	none	<ul style="list-style-type: none"> <li>Flagman to direct all vehicles</li> <li>All staff to have the required PPE when handling asphalt</li> <li>Delivery trucks to use designated access</li> <li>All spills to be cleaned and disposed</li> <li>Enforced reverse alarms to be fitted</li> <li>Application of dust masks</li> </ul>

REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
2.11	Backfilling	<ul style="list-style-type: none"> <li>Manual handling injuries</li> <li>Trips and falls</li> </ul>	<ul style="list-style-type: none"> <li>Dust exposure</li> <li>Back strains</li> <li>Ergonomically injuries</li> <li>Heat exhaustion</li> </ul>	Ground contamination due to mixing of mortar on natural ground	Unauthorised access to site	<ul style="list-style-type: none"> <li>All staff to have required PPE</li> <li>A platform to be created for mixing of mortar</li> <li>Waste skips to be provided on site</li> <li>All asphalt waste to be properly disposed on site</li> <li>Housekeeping to be maintained on site</li> </ul>
2.12	Refuelling plant and equipment	Extremely flammable, high hazard. The liquid can release vapours at temperature below ambient which forms flammable mixtures	Heat exhaustion	Ground contamination due to mixing of mortar on natural ground	Unauthorised access to site	<ul style="list-style-type: none"> <li>Required appointments to be in file</li> <li>All works to be supervised</li> <li>Remove all sources of ignition. Contain and collect spillage with non-combustible absorbent materials. Place in a suitable container for disposal in accordance with waste regulations</li> </ul>

REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
2.13	Excavator Plate compactor, Bomag roller, Front end loader, Mobile crane  TLB, milling machine, paver, excavator, skid steer(bobcat), rollers (steel drum/ rubber tyre) grader, insist recycler, chip spreader, bitumen distributor(tanker)	<ul style="list-style-type: none"> <li>• Collapse of scaffolding</li> <li>• Slips and falls</li> <li>• Fall from heights/ elevated positions</li> </ul>	Heat exhaustion	None	Unauthorised access to site	<ul style="list-style-type: none"> <li>• All staff will be deemed fit for work with medicals records in file</li> <li>• Required PPE will be provided for staff</li> <li>• All works to be supervised</li> <li>•</li> </ul>

REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
2.15	Employees working in close proximity to moving machinery Exposure to noise	noise	noise	none	No unauthorised access	<ul style="list-style-type: none"> <li>All power tools to be inspected before use. Records to be in file</li> <li>Housekeeping to be maintained on site</li> <li>Employee to make use of SABS approved hearing protection, supervisor to ensure that the correct P.P.E is used. Task to be supervised by a competent supervisor</li> </ul>
2.16	<ul style="list-style-type: none"> <li>Hazardous chemical substances</li> </ul>	injuries Contact with skin/ eyes  Inhalation or indigestion	Skin irritation, burns or infections Could cause loss in eyesight		<ul style="list-style-type: none"> <li>Required PPE to be used</li> <li>DSTI to be done</li> <li>All works to be supervised</li> <li>All steel to be stacked within a designated area</li> <li>Exposed rebar to be fitted with rebar caps</li> <li>All power tools to be inspected before use.</li> </ul>	
2.17	Neighbouring business and public exposed to the nature of the construction activities	<ul style="list-style-type: none"> <li>Dust exposure</li> <li>Heat exhaustion</li> </ul>	Dust pollution	Unauthorised access to site	Communication with neighbouring business is critical. Health risk must be communicated to all <ul style="list-style-type: none"> <li>employees' dust, noise generated out of the construction work must be managed</li> <li>Fence constructed to approved standard</li> </ul>	

REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
2.18	Emergency Preparedness, Emergency Drill & Evacuation	No training No implementation Planning done Failure to have a basic site-specific Emergency Management Plan	Person/s unprepared to respond to the emergency at hand	none	none	The Construction Manager must ensure that a site-specific Emergency Management Plan is developed for implementation. Adequate number of employees trained in the use of fire equipment
2.17	Utilizing incompetent Sub-Contractors	<ul style="list-style-type: none"> <li>Use of hand tools injuries</li> <li>Trips and falls</li> <li>Contact with machinery</li> </ul>	<ul style="list-style-type: none"> <li>Chemical burns from concrete</li> <li>Heat exhaustion</li> <li>Dust exposure</li> </ul>	Ground contamination	Collision with pedestrians	The Construction Manager must be reasonably satisfied that the Sub Contractors intended to be appointed have the necessary competencies and resources to carry out the work safely
2.18	Brickwork at manholes	<ul style="list-style-type: none"> <li>Manual handling injuries</li> <li>Use hand tools injuries</li> </ul>	<ul style="list-style-type: none"> <li>Ergonomical injuries</li> <li>Heat exhaustion</li> </ul>	None	None	<ul style="list-style-type: none"> <li>DSTI to be done</li> <li>Risk assessment and SWP to be communicated to all staff</li> <li>All power tools to be inspected before use</li> <li>Fall arrest equipment to be used at all heights</li> </ul>

REF NO	SUB ACTIVITY	SAFETYRISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
2.19	Mixing mortar	<ul style="list-style-type: none"> <li>Unsafe electrocution</li> <li>loading strain</li> </ul>	Loading / unloading material	none	none	<p>The Construction Manager must ensure that a SWP is developed implemented about safe lifting and loading procedures</p> <p>All work needs to be supervised</p>

REF NO	SUB ACTIVITY	SAFETYRISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
2.20	Install Geosynthetic layer	Poor Ergonomics may result in muscular skeletal injuries	<ul style="list-style-type: none"> <li>Ergonomical injuries</li> <li>Heat exhaustion</li> </ul>	None	None	The Construction Manager must ensure that workers are trained in the risk of ergonomically injuries and methods to mitigate the risks

MAIN ACTIVITY						
REF NO	SUB ACTIVITY	SAFETYRISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
3.3	Construction of drains	<ul style="list-style-type: none"> <li>• Trips and falls</li> <li>• Manual handling injuries</li> <li>• Underground services</li> <li>• Open excavations</li> </ul>	<ul style="list-style-type: none"> <li>• Dust exposure</li> <li>• Heat exposure</li> <li>• Ergonomical injuries</li> <li>• Noise exposure</li> </ul>	None	None	<ul style="list-style-type: none"> <li>• All works to be supervised</li> <li>• DSTI to be done</li> <li>• Risk assessments &amp; SWP to be done</li> <li>• All open excavations to be netted off</li> <li>• Access and egress to be provided for all open excavations</li> <li>• All spoil to be away from excavation side wall</li> </ul>

MAIN ACTIVITY						
REF NO	SUB ACTIVITY	SAFETYRISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
3.4	Pouring Ready Mix concrete	<ul style="list-style-type: none"> <li>• Noise</li> <li>• Dust</li> <li>• Bumping against,</li> <li>• Concrete truck tipping over</li> </ul>	<ul style="list-style-type: none"> <li>• noise induced hearing loss</li> </ul>	None	None	<ul style="list-style-type: none"> <li>• flag person required and Visual check required</li> <li>• Wearing required PPE</li> </ul>

3.5	Waste removal	<ul style="list-style-type: none"> <li>Noise</li> <li>Dust</li> <li>Bumping against,</li> <li>Struck by flying items</li> </ul>	<ul style="list-style-type: none"> <li>cuts and abrasions</li> <li>dust inhalation</li> <li>noise induced hearing loss</li> </ul>	None	None	<ul style="list-style-type: none"> <li>Safe &amp; proper use of hand tools</li> <li>Wearing required PPE</li> <li>practise of proper manual lifting of material</li> </ul>
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MAIN ACTIVITY						
REF NO	SUB ACTIVITY	SAFETYRISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
3.9	Inlet and outlet structures	<ul style="list-style-type: none"> <li>Use of hand tools injuries</li> <li>Trips and falls</li> <li>Contact with machinery</li> <li>Working in a restricted area</li> <li>Manual handling</li> </ul>	<ul style="list-style-type: none"> <li>Dust exposure</li> <li>Ergonomical injuries</li> <li>Chemical burns</li> </ul>	None	None	<ul style="list-style-type: none"> <li>Safe &amp; proper use of hand tools</li> <li>Wearing required PPE</li> <li>practise of proper manual lifting of material</li> <li>Supervise the works by a competent supervisor</li> </ul>
3.10	Working with hot asphalt	<ul style="list-style-type: none"> <li>lack of proper access / working platform</li> </ul>	☒ Heat exhaustion	None	None	<ul style="list-style-type: none"> <li>DSTI to be done</li> <li>Risk assessment and SWP to be communicated to all staff</li> </ul>

						<ul style="list-style-type: none"> <li>• Scaffold to be erected by competent person</li> <li>• Scaffold to be erected as per SANS 10085</li> <li>• Supervise the works by a competent supervisor</li> <li>• Staff to be trained for work at heights</li> <li>• Fall arrest equipment to be used at all heights</li> <li>• Adequate lighting to be provided</li> </ul>
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REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
6.3	Cleaning tools with solvent	<ul style="list-style-type: none"> <li>• Use of power tool – electrocution</li> <li>• Manual handling</li> <li>• Work in restricted area</li> </ul>	☒ Dust exposure	None	None	<ul style="list-style-type: none"> <li>• All power tools to be inspected before use</li> <li>• DSTI to be done</li> <li>• Risk assessment/SWP to be done and in file</li> <li>• All staff to have required PPE</li> </ul>
6.5	Manual lifting of tool	<ul style="list-style-type: none"> <li>• Fall from heights</li> <li>• Fall of equipment from heights</li> </ul>	<ul style="list-style-type: none"> <li>• Dust exposure</li> <li>• Heat exhaustion</li> <li>• Manual exertion</li> </ul>	None	None	<ul style="list-style-type: none"> <li>• Work platform to be inspected</li> <li>• Full supervision at all times</li> <li>• Staff to have fall arrest equipment in use</li> <li>• Manual lifting techniques to be always practiced</li> </ul>
	Welding, flame cutting, soldering and similar	<ul style="list-style-type: none"> <li>• Fumes inhalation</li> <li>• Eye injury</li> </ul>	<ul style="list-style-type: none"> <li>• Chest pain</li> <li>• heat</li> </ul>	none	none	<ul style="list-style-type: none"> <li>• Proper PPE required</li> <li>• Close supervision</li> </ul>

	operations					
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MAIN ACTIVITY						
REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
7.1	Inlet and outlet structures	Struck by vehicle	heat	none	none	Traffic management plan required
7.2	Applying tack	Eye injury	contamination	none	none	Close supervision all the time

MAIN ACTIVITY						
REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
8.1	Site levelling using excavator/ bob cat	<ul style="list-style-type: none"> <li>• Trips and falls</li> <li>• Exposed survey pegs</li> <li>• Use of hand tools</li> </ul>	<ul style="list-style-type: none"> <li>• Heat exposure</li> <li>• Noise exposure</li> </ul>	Hydrocarbon spills	<ul style="list-style-type: none"> <li>• Pedestrians exposed to machinery</li> <li>• Accidents</li> </ul>	<ul style="list-style-type: none"> <li>• Works to be supervised</li> <li>• Staff to use required PPE</li> <li>• Dust suppression to be maintained</li> <li>• Refuelling to be done in designated areas</li> <li>• Rebar caps to be fitted on exposed pegs</li> <li>• Risk assessments and SWP to be done for staff</li> <li>• All plant operators to be deemed competent</li> <li>• Flagman to be present on site</li> </ul>
8.2	Backfill and compaction of other layers	<ul style="list-style-type: none"> <li>• Manual handling</li> <li>• Trips and falls</li> <li>• Use of mobile plant accidents</li> </ul>	<ul style="list-style-type: none"> <li>• Heat exhaustion</li> <li>• Dust exposure</li> <li>• Noise exposure</li> </ul>	Hydrocarbon spills	<ul style="list-style-type: none"> <li>• Pedestrians exposed to machinery</li> <li>• Accidents</li> </ul>	<ul style="list-style-type: none"> <li>• Works to be supervised</li> <li>• Staff to use required PPE</li> <li>• Dust suppression to be maintained</li> <li>• Refuelling to be done in designated areas</li> <li>• Rebar caps to be fitted on exposed pegs</li> <li>• Risk assessments and SWP to be done for staff</li> <li>• All plant operators to be deemed competent</li> <li>• Flagman to be present on site</li> </ul>

REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
8.4	Concreting of walkways/ driveway	<ul style="list-style-type: none"> <li>• Use of hand tools injuries</li> <li>• Trips and falls</li> <li>• Collapse of excavation side walls</li> <li>• Contact with machinery</li> </ul>	<ul style="list-style-type: none"> <li>• Chemical burns from concrete</li> <li>• Heat exhaustion</li> <li>• Dust exposure</li> </ul>	Ground contamination	Collision with pedestrians	<ul style="list-style-type: none"> <li>• DSTI to be done</li> <li>• Flagman to direct all trucks to site</li> <li>• All staff to have the required PPE when handling concrete</li> <li>• Nil staff to be in foundation during discharge of concrete into excavation</li> <li>• Delivery trucks to use designated access</li> <li>• All spills to be cleaned and disposed</li> </ul>

MAIN ACTIVITY	COVID 19					
REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
9.1	Travel to site Deliveries -use of public transport	<ul style="list-style-type: none"> <li>• Nil decontamination of public transport</li> <li>• Passengers in public transport not using face masks</li> <li>• Nil social distancing in public transport</li> <li>• Nil decontamination of supplies and deliveries</li> </ul>	<ul style="list-style-type: none"> <li>• Staff contracting the virus during use of public transport</li> <li>• Staff contracting virus during handling of contaminated supplies</li> </ul>	None	None	<ul style="list-style-type: none"> <li>• All staff to ensure that they use a face mask and sanitise when using the public transport</li> <li>• Contractor could arrange for a dedicated transport for all staff to and from work.</li> <li>• Staff are not to use their work PPE when travelling on public transport.</li> <li>• All staff to follow decontamination procedures when entering work site</li> </ul>
9.2	Management to prepare site before construction works commence	<ul style="list-style-type: none"> <li>• Nil decontamination of offices and facilities</li> <li>• Failure to align policies and procedures to COVID 19 virus</li> </ul>	<ul style="list-style-type: none"> <li>• Returning staff not provided with COVID related PPE and disinfectants</li> <li>• Possible contamination to staff</li> </ul>	none	Unauthorised persons entering site	<ul style="list-style-type: none"> <li>• Management to ensure all offices, facilities are disinfected with proper disinfectants</li> <li>• Overgrown vegetation to be cut before any staff can return to site</li> <li>• Required COVID 19 PPE is to be purchased and made available for staff when project commences</li> </ul>

	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
	Site preparation	<ul style="list-style-type: none"> <li>Failure to display related signage's for site access due to COVID virus.</li> <li>Nil PPE and sanitisers (COVID related) for staff to return to work</li> <li>Management not inducted/educated on COVID 19</li> </ul>	Staff returning to work are not educated on policy changes Management unable to provide correct information to staff on COVID 19 issues	none	none	<ul style="list-style-type: none"> <li>Required access control signage's (COVID related) to be displayed at main entrance</li> <li>Management to rearrange facilities area to ensure social distancing</li> <li>Policies and procedures (COVID related) to be amended and approved before site can reopen. This is to be communicated to all staff</li> <li>An induction program (COVID 19) is to be prepared which is to be communicated to all staff when project commences</li> <li>Required sanitisers and disinfectants to be purchased and made available before project commences</li> <li>Contractor to ensure required staff information form pertaining to COVID 19 is available which is to be filled out by each staff</li> <li>Adequate hazardous waste bins to be made available on site</li> </ul>
9.3	Entering of construction work site	Staff fail to use required PPE	Staff may be infected with the virus	none		☑ All staff to follow the required social distancing when at main entrance

REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
	Entering construction work	<ul style="list-style-type: none"> <li>Congestion of staff at main entrance to site</li> <li>Failure of contractor to screen staff entering site</li> <li>Staff not maintaining social distancing</li> </ul>	<ul style="list-style-type: none"> <li>☒ Staff spreading of the virus to other staff</li> </ul>	none	none	<ul style="list-style-type: none"> <li>Due to lockdown, staff are to declare their movement, medical history during lockdown. These records are to be kept on site for record/tracing purposes</li> <li>All staff are to be tested as per contractor's protocol to enter the site. Taking of staff temperature and desensitising of entire staff. An infrared thermometer is to be used.</li> <li>Contractor to ensure all staff conducting the required testing is provided with the required PPE and is supervised by management.</li> <li>Staff are not permitted to enter the site with their work PPE. Work PPE is to be left on site when leaving site to prevent possible contamination of work PPE</li> <li>Any staff tested with a high temperature or signs of COVID is to follow the quarantine procedure until staff can be tested by the DOH for possible COVID 19 infection.</li> </ul>

9.4	Work tasks	<ul style="list-style-type: none"> <li>• Nil social distancing on site</li> <li>• Staff socialising on site</li> <li>• Staff not using their required PPE to prevent COVID infections</li> </ul>	<ul style="list-style-type: none"> <li>• Spreading of the virus to other staff</li> <li>• Possible infections</li> </ul>	none	Possible closure of site due to infection	<ul style="list-style-type: none"> <li>• Identified tasks are to be evaluated to encourage social distancing</li> <li>• All staff to have the required PPE when on site</li> <li>• Staff to decontaminate all tools and workspace prior to any activity</li> <li>• Monitoring to be done by management</li> <li>• Inductions to be done for all staff on social distancing whilst at work.</li> <li>• Failure of staff to comply with COVID control measures are to be removed off site.</li> </ul>
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REF NO	SUB ACTIVITY	SAFETY RISKS	HEALTH RISK	ENVIROMENTAL RISK	PUBLIC RISK	RECOMMENDED RISK CONTROL MEASURE
9.5	Use of facilities during break intervals	<ul style="list-style-type: none"> <li>• Nil social distancing</li> <li>• Nil hygiene been maintained at break intervals</li> <li>• Nil paper towel provided for staff at wash facilities</li> <li>• Lack of chairs for staff at facilities area</li> </ul>	<ul style="list-style-type: none"> <li>• Possible contamination of staff</li> <li>• Staff not practising adequate hygiene control measures</li> <li>• Possible spread of virus</li> <li>• Inadequate provision of hand wash /sanitisers for staff</li> </ul>	none	none	<ul style="list-style-type: none"> <li>• Breaks are to be staggered to allow social distancing of staff</li> <li>• All staff are to take their breaks at the identified facilities area</li> <li>• Layout of facilities area to be planned to encourage social distancing</li> <li>• Table and chairs to be disinfected before and after all break intervals</li> <li>• Toilets to be disinfected at frequent interval.</li> <li>• Adequate hand wash and sanitisers are to be provided for staff to frequently wash their hands</li> <li>• Paper towels to be provided for staff use</li> <li>• Labelled bins to be provided for all hazardous waste</li> <li>• Staff are not to share any meals or utensils</li> <li>• Staff are not to leave the site to purchase any meals</li> </ul>
9.6	Use of jackhammer	<ul style="list-style-type: none"> <li>• Injuries</li> <li>• Noise</li> <li>• Loss limb</li> </ul>	<ul style="list-style-type: none"> <li>• vibration</li> </ul>	none	none	<ul style="list-style-type: none"> <li>• Tools need to be inspected</li> <li>• Safety team supervisor</li> </ul>

9.10	Ground water	<ul style="list-style-type: none"> <li>Injuries</li> <li>Wet soil</li> <li>Soil erosion</li> </ul>	<ul style="list-style-type: none"> <li>Ground seepage</li> </ul>	Rock formations Water Wet soil	none	<ul style="list-style-type: none"> <li>Proper PPE required</li> <li>Close supervision</li> </ul>
9.11	Slope stability	<ul style="list-style-type: none"> <li>Multiple injuries</li> <li>Cracks caused by compacting</li> <li>fatality</li> </ul>	<ul style="list-style-type: none"> <li>Excavation collapsed</li> </ul>	Rock formation		<ul style="list-style-type: none"> <li>Racking back required</li> <li>Close supervision</li> <li>PPE required</li> </ul>
9.12	excavation	<ul style="list-style-type: none"> <li>Collapsed and cause multiple injury</li> <li>fatality</li> </ul>	<ul style="list-style-type: none"> <li>vibration</li> </ul>			<ul style="list-style-type: none"> <li>Competent person to check on excavation</li> <li>Close supervision on blasting</li> <li>Notification for blasting</li> <li></li> </ul>
9.13	Fixing steel together for	<ul style="list-style-type: none"> <li>Wire can poke employees on the eye</li> <li>Physical injuries</li> </ul>	<ul style="list-style-type: none"> <li>Steel poking</li> </ul>	none	none	<ul style="list-style-type: none"> <li>DSTI communicated every day before task ma commence.</li> <li>Supervisor to be present all times during the process</li> </ul>

9.14	Lining the inside of the gabion with bedim	<ul style="list-style-type: none"><li>Workers can be struck by the roll of bedim</li><li>Personal injury stanley knife</li></ul>	<ul style="list-style-type: none"><li>Rolling of bedim</li></ul>	none	none	<ul style="list-style-type: none"><li>Proper communication and awareness required between employees correct type of ppe.</li></ul>
9.15	Filling gabions with rocks by hand	<ul style="list-style-type: none"><li></li></ul>	<ul style="list-style-type: none"><li>Stone falling</li></ul>	none	none	<ul style="list-style-type: none"><li>Awareness whilst in work area</li></ul>

**PS.B SITE CLEARANCE****INDEX**

- PS.B.8.4 REMOVAL OF TREES OF GIRTH EXCEEDING 1,5m AND STUMPS  
 PS.B.8.5 REMOVAL OF 1.8m HIGH WIRE MESH FENCE WITH POSTS FOR RE-USE  
 PS.B.8.7 REMOVAL OF STREET/TRAFFIC SIGNS AND POSTS TO STORE ON SITE FOR RE-USE  
 PS.B.8.11 REMOVAL OF REINFORCED CONCRETE (INCLUDING CONCRETE V-DRAIN)  
 PS.B.8.19 REMOVAL OF DISUSED STORMWATER PIPES  
 PS.B.8.20 REMOVAL OF DISUSED STORMWATER MANHOLES TO SPOIL

**PS.B.8.4 REMOVAL OF TREES OF GIRTH EXCEEDING 1,5m AND STUMPS**

The unit of measurement shall be number (No.) 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 1,5m. The rate shall cover the cost of clearing and grubbing and the disposal of material and backfilling of cavities.

**PS.B.8.5 REMOVAL OF 1.8m HIGH WIRE MESH FENCE WITH POSTS FOR RE-USE**

The unit of measurement is linear meter (m) net in place before removal and the rate shall cover the cost of carefully dismantling the fence posts, carefully removing the concrete foundations from the posts, removing the posts, loading, transporting, off-loading and stacking all material on site for re-use.

**PS.B.7 REMOVAL OF STREET/TRAFFIC SIGNS AND POSTS TO STORE ON SITE FOR RE-USE**

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.8.11 REMOVAL OF REINFORCED CONCRETE (INCLUDING CONCRETE V-DRAIN)**

The unit of measurement for the removal of all concrete work shall be cubic metre (m<sup>3</sup>). The rate shall cover the breaking down, excavation, loading, transporting of concrete to the approved tip and dumping.

**PS.B.8.19 REMOVAL OF DISUSED STORMWATER PIPES**

The unit of measurement shall be meter (m). The rate shall cover excavation of earthworks, stormwater pipe, loading, transporting of concrete to the approved tip and dumping.

**PS.B.8.20 REMOVAL OF DISUSED STORMWATER MANHOLES TO SPOIL**

The unit of measurement shall be number (No.). The rate shall cover removal of the damaged stormwater manhole and lid, loading, transporting of concrete to the approved tip and dumping.

**PS. C CONCRETE WORKS****INDEX**

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PS.C.16	CONSTRUCTION OF A 4000MM WIDE x 150MM THICK CONCRETE ROAD

**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. This also has reference to Part G : Prestressing, specifically for the cement for grouting of prestressing ducts.

**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.

**PS.C.3 PLACING OF CONCRETE**

No concrete is to be placed in the excavations until this has been approved by the Engineer or his Representative.

The Contractor shall make allowance in his rates for hand placing of concrete and for fixing of tie bars as detailed in Drawing No. 48815.

The Contractors attention is drawn to the provisions of clause C.5.11, which states that concrete shall be placed within one hour from the time of discharge.

The Contractor shall note that texturing and curing of the concrete pavement will NOT be measured separately. The Contractor shall therefore allow for this in his rate for concrete surfacing.

**PS.C.4 CONSTRUCTION OF 100MM OPEN CHANNEL CONCRETE DRAIN**

The unit of measurement for the construction of a 100mm wide x 100mm deep concrete v-drain shall be cubic meter (m<sup>3</sup>). The rate should include all excavations, setting out, backfilling, supply

of 20/19Mpa concrete with wooden float finish, Ref 395 reinforcing mesh wire, shuttering and any jointing required with softboard between the panels.

#### **PS.C.5 SUPPLY AND LAY GEOLOCK 400 RETAINING WALL OR SIMILAR APPROVED**

This section covers the supply and erection of geolock 400 retaining wall or similar approved. The work shall include casting of concrete foundations, excavation, backfilling behind retaining walls.

##### **(a) Excavation and Backfill**

All backfill is to be compacted to 93% MOD. AASHTO density. The Contractor shall supply the Engineer with results of compaction tests and percentages of stabilisation tests on backfill. The retaining wall backfill material shall conform to the requirements of a Clean Coarse Sand Material as described in TRH 14.

##### **(b) Concrete (Structural)**

The Contractor is to supply and erect retaining walls of standard heights ranging from 1,00m up to 2,00m as directed by the Engineer. The Engineer is to approve founding conditions prior to casting of concrete. The bottom of the blocks shall be set in wet concrete. Base concrete to be 25MPA @ 28 days. The Contractor shall allow in his price for the supply of all materials required to fully construct, shuttering, handling, levelling, and vibrating, for the mass concrete in and between the top rows of blocks.

##### **(c) Weep-holes**

170x170x13,2mm stone weep-holes to be provided at 1,5m centres horizontally and vertically.

##### **(d) Supply of geofabric**

The rate shall cover for the provision and laying of a Kaymat U44 or approved geofabric behind the wall.

##### **(e) Measurement and Payment**

The rate shall cover the cost of excavation, spreading and backfilling, disposal of surplus material, labour, supply of materials, including reinforcement, compacting, curing, delivering the blocks to and stacking on the site, fixing blocks into position, lifting gear and supports necessary to keep units stable until the permanent support system is able to stabilize the blocks (including all details complete as per the detail drawings. No items are measured separately). No additional costs will be entertained to complete the walls as per the detail drawings.

The unit of measurement for erecting the retaining walls shall be square metre (m<sup>2</sup>).

#### **PS.C.6 GRADE 20/19 AND 25/19 CONCRETE**

The rate of payment for this work shall be cubic metre (m<sup>3</sup>) and the Contractor shall allow in his price for the supply of all materials required to fully construct, shuttering, handling, levelling, and vibrating, for the concrete to wall footings, if required and as directed by Engineer on Site as well as for the encasement to ducts as detailed on Drawing No.48815.

**PS.C.7 PREPARATION OF UNDERLYING LAYERS**

When the temperature of the subbase exceeds 20<sup>o</sup> C the subbase shall be wetted in advance of the placing of the concrete, keeping the surface continuously wet for a period of at least one hour before placing the concrete.

Immediately before placing of the concrete the excess water shall be broomed off the road so as to ensure that the subbase is still damp when the concrete is placed, but without puddles of water or pockets of mud.

The wetting is of particular importance during hot dry weather and no concrete shall be placed on a subbase which has not been wetted or which has dried out.

**PS.C.8 LONGITUDINAL/TRANSVERSE JOINT TYPES**

The Schedule of Quantities provides the Contractor with longitudinal and transverse joint types. The Contractor shall price these types of joints.

The longitudinal and transverse joints to be constructed shall be as detailed on Drawing No. 48815. Payment shall be under item C.4 as required.

The Contractor's rate shall include for all plant, labour and materials necessary for the construction of the specific joint but shall NOT include the supply and fixing of tie bars which shall be measured separately.

**PS.C.9 TIE BARS**

Tie bars shall consist of Y10 deformed bars complying with the requirements of SABS 920 as detailed on Drawing No. 48815.

Tie bars of the required dimensions and spacing shall be placed at right angles to joints. Tie bars shall be free of paint, grease or other coatings that may affect bond with the concrete.

At construction joints, the one half of the tie bar shall be supported on the subbase by means of suitable stools while the other half shall project into the adjacent pavement.

**PS.C.10 FINISHING**

The surface shall be roughened with a light pass of a stiff bristled broom applied transversely across the width of the road to create striations of about 1,5mm to 3,0mm in depth. In order to ensure straight brush marks, the brush shall be operated against a straight-edge laid at right angles to the pavement centre line.

**PS.C.11 SMOOTHNESS OF SURFACING**

The minimum number of surface irregularities permitted with a 3m rolling straight edge on each panel will be as follows:

10 mm – 2 No.

15 mm max – 1 No.

**PS.C.12 PROTECTION OF THE CONCRETE PAVEMENT**

The Contractor shall take precautions in the form of barricading and watchmen to keep pedestrians, cyclists, animals etc., off the freshly placed concrete, particularly outside normal working hours. No vehicular traffic having an axle loading greater than 20 kN shall be run on the finished surface of a concrete pavement within a period of fourteen days of its completion, unless the Engineer permits a reduction of this period when the pavement is constructed during generally warm weather conditions. Rubber-tyred vehicles having an axle loading less than 20 kN and traveling at speeds not exceeding 25 km/h may be permitted after a period of seven days from the completion of a concrete pavement. No vehicle with an axle load in excess of 80 kN shall be run on the completed surface at any stage of the contract.

**PS.C.13 CURING**

Curing shall be in accordance with the provisions of clause C.5.13. Methods (b) and (c), as included in C.5.13.2, shall NOT be permitted on the finished pavement surface.

**PS.C.14 TESTS ON CONCRETE**

The Roads Provision Department shall supervise the slump and air content testing and the making of the concrete cubes for compressive strength testing. The Contractor shall be responsible for the sampling, the provision of all equipment including concrete cube moulds, and for curing. The transporting of the cubes shall be the Contractor's responsibility. The testing of the cubes shall be done by the Pavement and Geotechnical Engineering Laboratory.

The procedure for sampling, manufacture of test cubes, storing, curing and testing shall be in accordance with the TMH1 Method D1. The following deviations from the above procedure shall apply:

When test cubes are prepared by rodding, six specimens shall be prepared per batch and the average of the three cube strengths shall be taken as one test result.

**PS.C.15 LIQUID SEALANT IN JOINTS BETWEEN CONCRETE AND ASPHALT PAVEMENT**

The liquid sealant used in joints between concrete and asphalt pavement shall be hot-poured type joint sealing compound placed in accordance with the manufacturer's specification. The Contractor is to submit sample specifications to the Engineer for approval prior to procuring of materials.

**PS.C.16 CONSTRUCTION OF A 4000MM WIDE x 150MM THICK CONCRETE ROAD**

The unit of measurement of a 4000mm wide x 150mm thick 25/19MPa concrete road shall be cubic meter (m<sup>3</sup>). The rate should include all excavations, setting out, backfilling, supply of 20/19Mpa concrete in 4m panel with wooden float finish, Ref 395 reinforcing mesh wire, shuttering and any jointing required with softboard between the panels, curing with rough stiff bristled broom finish applied transversely across the width of the road.

**PS. DA EARTHWORKS: BULK****INDEX**

PS.DA.1	INTERPRETATIONS
PS.DA.2	GEOTECHNICAL INFORMATION
PS.DA.3	EXCAVATION OF MATERIAL FROM SITE
PS.DA.4	EXCAVATE UNSUITABLE MATERIAL BELOW EMBANKMENTS OR FORMATION
PS.DA.5	IMPORT SUITABLE FILL MATERIAL
PS.DA.6	BACKFILLING AND COMPACTION OF FILL
PS.DA.7	FORMATION
PS.DA.8	TOLERANCES
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PS.DA.11	RESTRICTED EXCAVATION
PS.DA.12	MILL EXISTING ASPHALT AND STOCKPILE/SPOIL
PS.DA.13	TESTING AND CLASSIFICATION OF IN-SITU MATERIAL
PS.DA.14	PROTECTION, REMOVAL, RELOCATION AND INSTALLATION OF SERVICES

**PS.DA.1 INTERPRETATIONS**

The following shall be added to the list of definitions.

Top of earth works: 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**

There are no specific geotechnical or detail site information available. Geotechnical testing will be required at the top of subgrade level by a SANAS accredited Specialist Materials Laboratory. An item for this has been included in the Schedule of Quantities. The Tenderers urgent attention is drawn to the fact that the existing site conditions / in-situ material is possibly that of intermediate to hard material. The Tenderer is to price for this relevant excavation items accordingly.

**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 cubic metres (m<sup>3</sup>) in place before excavation between the original ground levels 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 Tenderers are to take note that the earthworks will be undertaken on the existing public road intersection utilised by vehicles and pedestrians. The Contractor will be required to work in restricted conditions while accommodating pedestrians and vehicles traffic throughout the contract duration. Restricted earthworks operations and all associated safety aspects must be considered. The contractor shall also allow for restricted access for the use of heavy construction machinery.

- c) The nature of the roadworks is such that the considerable amount of the excavations, backfilling and removal of rock shall be in restricted conditions. No additional payment shall be made for such excavations and the Tenderer shall therefore make-due allowance in the rates for Bulk Earthworks for any additional work or hand excavation.
- d) The Contractor's is drawn to the presence of Telkom Optic fibre cables & manholes and, watermains within the area/sites. The Contractor shall limit the size and type of construction plant used in these areas so as not to damage the existing services. No additional payment shall be made for compliance with this clause and Tenderers shall include in the relevant rates for extra labour, plant 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 the removal of unsuitable material to spoil and 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 for a suitable Material as described in TRH 14 with the following Amendments:-

- a) The material shall be free of weathered shale and will be subject to the approval of the Engineer.
- b) 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. The Contractor is to make allowance for bulking and shrinking in his rates.

#### **PS.DA.6 BACKFILLING AND COMPACTION OF FILL**

The second paragraph of Clause DA.8.5 is to be amended by substituting 'top of Earthwork's 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:

- (a) The design angle  $\pm 2$  degrees for the angle of the cut or fill slope;
- (b) 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
- (c) The layer thickness  $\pm 20$  mm for topsoil;
- (d) 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 OVERHAUL**

Notwithstanding the requirements of Clause DA.8.10 no additional payment shall be made for overhaul.

**PS.DA.10 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.11 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.12 MILL EXISTING ASPHALT AND STOCKPILE/SPOIL**

The Contractor is required to mill the specified thickness of existing asphalt and either:

- a) stockpile for recycling. The rate of payment is the cubic meter (m3). The unit rate shall cover milling, stockpiling, prevention of asphalt from contamination and recycling of the milled asphalt.
- b) Mill to spoil. The rate of payment is the cubic meter (m3). The unit rate shall cover milling and spoiling the asphalt at an approved tip site. The rate shall cover all haulage and royalties.

**PS.DA.13 TESTING AND CLASSIFICATION OF IN-SITU MATERIAL**

The Contractor is required to sample, test and classify the in-situ material as instructed by the Engineer in accordance to TRH14. The sampling, testing and classification should be done by a SANAS accredited lab and the classification results should be submitted to the Engineer. The unit of payment shall be a Sum, and it shall cover all sampling and testing and analysis required to classify the ins-situ material in accordance to TRH14.

## PS.14 PROTECTION, REMOVAL, RELOCATION AND INSTALLATION OF SERVICES

Where indicated, the Contractor will be required to relocate existing services under the supervision of the service provider of the services stated below. The unit of measurement shall be sum. the unit rate shall include for the excavation for services; relocation of services including haulage, placing of services at the new allocated area and backfilling of the service trenches. It shall also include for the installation of new services where required. The relocation of services MUST occur concurrently with the Bulk Earthworks. The concurrent occurrence of service relocations and Bulk Earthworks must be shown on the Tenderer's preliminary programme.

All reference to services in this clause shall also mean utility services as well as traffic monitoring devices such as Comprehensive Traffic Observation (CTO), Speed Measuring Device (SMD) and Weigh-in-Motion (WIM) stations."

In the final paragraph, replace "clause 15" in the second line with "clause 5.6"

In the second paragraph, delete the word "utility" at the end of the second line.

In the final paragraph delete the second and third sentences starting with 'Should' and replace with the following:

"The Existing Services Drawing(s) indicates all known services on the site. Before any work can commence the contractor shall verify the actual position of each service and bring to the attention of the engineer any service that is not recorded. As the contractor is not authorised to remove or replace these facilities he shall:

1. Give preliminary notice, in writing to the relevant service provider, that the services on the site will require removal or protection prior to works being carried out in the vicinity of each station. The contractor shall advise the service provider of
  - The number of services, their locations and station ID numbers and
  - The proposed dates when work will commence in the vicinity of each service.
2. In addition to the above preliminary notice, give the service provider 8 weeks written notice of the intention to commence work in the vicinity of each facility.
3. Upon completion of the work in the vicinity of each facility, the contractor shall notify the service provider, in writing, that work is complete and the service may be reinstated.

Any delay resulting from the removal/replacement of a service shall not be the subject of a potential claim, unless the contractor can demonstrate that every effort has been made to timeously request and/or apply for the removal/replacement of the said service. In addition, the contractor shall be deemed to have employed the services of the service provider as a subcontractor for purposes of removing and/or replacing the relevant service.

Any cost of repairs, replacement and/or installation of the stations and equipment resulting from the contractor's negligence or unauthorised action shall be to the contractor's account

**(a) Telkom**

The removal, protection, replacement and installation of services where required, to be undertaken by the sub-contractor

**(b) Electricity**

The removal, protection, replacement and installation of services where required, to be undertaken by the sub-contractor

**(c) Water**

The removal, protection, replacement and installation of services where required, to be undertaken by the sub-contractor

**(d) Sewer**

The removal, protection, replacement and installation of services where required, to be undertaken by the sub-contractor

**(e) Dark Fibre Africa**

The removal, protection, replacement and installation of services where required, to be undertaken by the sub-contractor

**(f) Traffic Control Signals**

The removal, protection, replacement and installation of services where required, to be undertaken by the sub-contractor

**(g) Link Africa**

The removal, protection, replacement and installation of services where required, to be undertaken by the sub-contractor

**(h) Liquid Telecom**

The removal, protection, replacement and installation of services where required, to be undertaken by the sub-contractor

**(i) Street Light Poles**

The removal, protection, replacement and installation of services where required, to be undertaken by the sub-contractor

## PS.DB EARTHWORKS FOR PIPE TRENCHES

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PS.DB.12	WATERMAINS

### **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 Engineer.
- 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.

#### **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 as "Rock" in terms of Part DB of the Departmental Technical Specification, and that blasting methods will be employed to facilitate excavation. 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 drill, blast, 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. Adequate sized walings 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 Engineer 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. (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.

#### **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 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.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**

- i. 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 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 required for Class 'C' bedding.
- ii. 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.

The unit of measurement shall be the linear metre (m). The rate shall include for its supply, laying, joining, cutting and waste, plant and labour.

**PS. EB GRADED CRUSHED STONE****INDEX**

- PS.EB.1 SUPPLY AND LAY GRADED CRUSHED STONE
- PS.EB.1.1 SUPPLY AND LAY G4 MATERIAL, IMPORTED FROM COMMERCIAL SOURCES
- PS.EB.1.2 SUPPLY AND LAY G6 MATERIAL, IMPORTED FROM COMMERCIAL SOURCES
- PS.EB.1.3 SUPPLY AND LAY G7 MATERIAL, IMPORTED FROM COMMERCIAL SOURCES
- PS.EB.2 PRIMING

**PS.EB.8.1 SUPPLY AND LAY GRADED CRUSHED STONE****PS.EB.1.1 SUPPLY AND LAY (G4) BASE MATERIAL, IMPORTED FROM COMMERCIAL SOURCES**

The completed 125mm thick G4 layer shall be measured in cubic metres (m<sup>3</sup>) compacted to 98% MOD AASTHO. The rate shall cover the supply, loading, transporting, dumping, spreading, and all processing of the layer. Furthermore, the fill material shall conform to the requirements for a G4 material as described in TRH 14 with the following Amendments:-

- (a) The material shall be free of weathered shale and will be subject to the approval of the Engineer.
- (b) Details of the source of the supply of the base material are required by the Engineer before road layerworks commence. A Certificate of Acceptance for this layer will only be issued by the Engineer when levels and densities are correct
- (c) 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.1.2 SUPPLY AND LAY (G6) BASE MATERIAL, IMPORTED FROM COMMERCIAL SOURCES**

The completed 125mm thick G6 layer shall be measured in cubic metres (m<sup>3</sup>) compacted to 95% MOD AASTHO. The rate shall cover the supply, loading, transporting, dumping, spreading, and all processing of the layer. Furthermore, the fill material shall conform to the requirements for a G6 material as described in TRH 14 with the following Amendments:-

- (a) The material shall be free of weathered shale and will be subject to the approval of the Engineer.
- (b) Details of the source of the supply of the base material are required by the Engineer before road layerworks commence. A Certificate of Acceptance for this layer will only be issued by the Engineer when levels and densities are correct
- (c) 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.1.3 SUPPLY AND LAY (G7) NATURAL GRAVEL SUBGRADE MATERIAL, IMPORTED FROM COMMERCIAL SOURCES**

The completed 150mm thick G7 layer shall be measured in cubic metres (m<sup>3</sup>) compacted to 95% MOD AASTHO. The rate shall cover the supply, loading, transporting, dumping, spreading, and all processing of the layer. Furthermore, the fill material shall conform to the requirements for a G7 material as described in TRH 14 with the following Amendments:-

- (a) The material shall be free of weathered shale and will be subject to the approval of the Engineer.
- (b) Details of the source of the supply of the sub-grade material are required by the Engineer before road layerworks commence. A Certificate of Acceptance for this layer will only be issued by the Engineer when levels and densities are correct.
- (c) 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**

The unit of measurement shall be square metres (m<sup>2</sup>) and the rate shall include for supply, labour and spreading of material.

After the Engineer has approved the base layer as referred to in EB.5.2, the base layer 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>.

**PS.ED ROAD ASPHALT****INDEX**

PS.ED.1	SMOOTHNESS APPLICABLE TO WEARING COURSE
PS.ED.2	RESTRICTION ON PLACING OF ASPHALT
PS.ED.3	PATCHING OF EXISTING SURFACE
PS.ED.3.1	MATERIALS
PS.ED.3.2	MEASUREMENT AND PAYMENT
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PS.ED.5	ASPHALT PRODUCTION
PS.ED.6	LAYING OF ASPHALT
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PS.ED.8	PLANING / MILLING OF EXISTING ASPHALT ROAD SURFACE
PS.ED.9	TESTING

**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) under the heading "Category B Roads".

**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. The asphalt wearing course shall not be laid until the entire base course has been laid and the trees and street lighting to the centre median have been placed.

**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 Engineer.

**PS.ED.3.1 MATERIALS**

The asphalt base course shall comply with the requirements of Part ED : Road Asphalt.

**PS.ED.3.2 MEASUREMENT AND PAYMENT**

The unit of measurement shall be the tonne (t) 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 HOT/WARM MIX ASPHALT MIXES AND DESIGN****PS.ED.4.1 ASPHALT MIX REQUIREMENTS**

There are a total of 9 mixes :-

- 9 sand skeleton mixes (i.e. continuously graded mixes)

The required asphalt mixes are depicted in Table 5. However, traffic condition risk profiles require additional higher levels of design for particular mixes (Table 6).

<b>Sand Skeleton Mixes (Sa)</b>		Nominal Maximum Particle Size		
Traffic Condition Category		10.0	14.0	20.0
S	Standard Conditions	Sa-S10	Sa-S14	
H	Heavy Conditions	Sa-H10	Sa-H14	Sa-H20
V	Very Heavy Conditions		Sa-V14	Sa-V20
E	Extreme Conditions		Sa-E14	Sa-E20
Design Level	Mix Types			
Level I	Sa-S10, Sa-S14			
Level II	Sa-H10, Sa-H14, Sa-H20, Sa-V14, Sa-V20			
Level III	Sa-E14, Sa-E20			

**Table 5 Asphalt Mix Requirements**

Traffic Volume (million E80's)	Traffic Condition Category		
	Traffic Speed (km/h)		
	< 20	20 - 70	> 70
< 3	H	S	S
3 to 10	V	H	H
10 to 30	E	V	V
> 30	E	E	E

**Table 6 Traffic Condition Risk Profiles**

The typical use of various mix types and mix NMPS is portrayed in Table 7.

Asphalt Mix Use			Mix Type
Mix Nominal Maximum Particle Size (NMPS)			
10.0	14.0	20.0	
Patching/ Handwork	X	X	Sa
Wearing Course (Paved)	X	X	Sa, SMA
X	Base Course (Paved)		Sa, EME

**Table 7 Typical Mix Use**

**PS.ED.4.2 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

**Table 9 Mix Parameters for the Job Mix Formula**

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.

**PS.ED.4.2.1 SAND SKELETON MIXES**

Designs of sand skeleton asphalt mixes are to be conducted in accordance with the guidelines set out in Sabita Manual 35 "Design and use of asphalt in road pavements". Designs are to be conducted in accordance with the appropriate level (i.e. I, II and III) as indicated in Table 5.

**PS.ED.4.2.1.1 LEVEL I DESIGN**

The Level I design is aimed primarily at verification of the mix volumetrics. However, a Level I design is a pre-requisite for the Level II and III designs.

Asphalt mixes shall achieve the volumetric criteria noted in Table 11 at the compaction effort noted in Table 10 (or Tables 14 or 17 as applicable) with a design air void content of 4%.

Traffic Condition Category	Marshall	Gyratory
	SANS 3001 AS1	AASHTO T 312
	No. Blows	N <sub>design</sub>
Standard (S)	75+45	75

**Table 10 Volumetric Compaction Requirements (Level I)**

	NMPS		
	10	14	20
VMA (min.)	15	14	13
VFB	65 - 75	65 - 75	65 - 75

**Table 11 Mix Design Requirements (Level I)**

Asphalt mixes designed at Level I shall meet the requirements for the empirical performance tests noted in Table 12.

Test	Requirement	Test Method
Modified Lottman (TSR)	0.8 min.	ASTM D 4867 M
Indirect tensile strength (@ 25°C)	900 kPa - 1 650 kPa	ASTM D 6931-07
Dynamic creep (@ 40°C)	10 MPa min.	CSIR RMT 004
Water permeability	0.1mm/s - 4 mm/s	EN 12697-19
Air Permeability (@ 7% Voids) (x 10 <sup>-8</sup> cm <sup>2</sup> )	1.0 max.	TRH 8 App C
Marshall Stability, Flow and Quotient	Report	SANS 3001-AS2

**Table 12 Empirical Performance Tests (Level I)**

**PS.ED.4.2.1.1.1 PARTICULAR MIX REQUIREMENTS – MIX SA-S10**

Mix Sa-S10 is to be utilized for lightly trafficked residential streets and patching (handwork). Due attention should be paid to the recommendations of Sabita Manual 27 “Guidelines for thin hot mix asphalt wearing courses on residential streets “ in the design of mix “Sa-S10”. The additional mix characteristics noted in Table 13 are also required.

	NMPS
	10
Filler/Binder Ratio (Max.)	1.3
Binder Film Thickness (Min.)	7.5

**Table 13 Mix Design Requirements****PS.ED.4.2.1.2 LEVEL II DESIGN**

The compaction requirements for the Level I design as a precursor to the Level II performance design shall be as noted in Table 14. The design air void content shall be 4%.

Traffic Condition Category	Marshall	Gyratory
	SANS 3001 AS1	AASHTO T 312
	No. Blows	N <sub>design</sub>
Heavy (H) & Very Heavy (V)	-	100

**Table 14 Volumetrics Compaction Requirements (Level II)**

In addition to meeting the mix requirements outlined in the Level I design, the mix design at Level II shall meet the performance characteristics noted in Tables 15 and 16.

Property	Test conditions	Specification	Test method
Workability	Superpave gyratory compactor - air voids after 25 gyrations (max.)	7%	ASTM D 6925
Durability	Modified Lottman test conditions (min.)	0.8	ASTM D 4867M
Stiffness/ (dynamic modulus)	Dynamic modulus @ 20°C Loading frequencies of 0.1, 0.5, 1, 5, 10, 25 Hz	Report	AASHTO TP 79
Permanent deformation	HWTT at relevant number of passes	See Table 16	AASHTO T 324
Fatigue	Four-point beam fatigue test @ 10°C, 10Hz to 50% stiffness reduction Strain levels 200, 400, 600µε	Report	AASHTO T 321

**Table 15 Performance Tests (Level II)**

Temperature Zone	6mm Rut	Stripping Point
	No. of Passes (Min.)	
PG 58 Zone	16 000	10 000
PG 64 Zone	20 000	10 000

**Table 16 Hamburg Wheel Tracking  
Test Specifications**

#### PS.ED.4.2.1.3 LEVEL III DESIGN

The compaction requirements for the Level I design as a precursor to the Level III performance design shall be as noted in Table 17. The design air void content shall be 4%.

Traffic Condition Category	Marshall	Gyratory
	SANS 3001 AS1	AASHTO T 312
	No. Blows	N <sub>design</sub>
Extreme (E)	-	125

**Table 17 Volumetrics Compaction Requirements  
(Level III)**

In addition to meeting the mix requirements outlined in the Level I design, the mix design at Level III shall meet the performance characteristics noted in Tables 15 and 16 with the additional test temperatures for Stiffness and Fatigue as indicated in Table 18.

Property	Test conditions	Specification	Test method
Stiffness (dynamic modulus)	Dynamic modulus @ -5, 5, 20, 40, 55°C Loading frequencies of 0.1, 0.5, 1, 5, 10, 25 Hz	Report	AASHTO TP 79
Fatigue	Four-point beam fatigue test @ 5, 10 and 20°C, 10Hz to 50% stiffness reduction Strain levels 200, 400, 600µε	Report	AASHTO T 321

**Table 18 Additional Temperatures for Stiffness and Fatigue Tests (Level III)**

#### PS.ED.4.2.2 WARM MIX ASPHALT

Should a Warm Mix Asphalt be used in the mix, the mix design shall incorporate the use of such a technology/additive in the mix design process. Any consequential deviations from the guidelines set out in Sabita Manual 35 “Design and use of asphalt in road pavements – Appendix B”, Sabita Manual 33 “Interim design procedure for high modulus asphalt” or standard industry practice shall be brought to the attention of the Roads Provision Department and shall be documented in the mix design report.

**PS.ED.4.2.3 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.

**PS.ED.4.2.3.1 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.

**PS.ED.4.2.4 MIX DESIGN REVIEW**

Every mix design is to be reviewed at least annually. 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 (@  $N_{design}$ ) 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 designs 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

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.

## **PS.ED.5 ASPHALT PRODUCTION**

### **PS.ED.5.1 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

### **PS.ED.5.2 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.

#### **PS.ED.5.2.1 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 Asphalt Plant in uMhlathuzana Road. All samples shall be adequately and uniquely labeled so that the location of any related mix is readily traceable.

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.

The plant laboratory should be SANAS accredited for the tests undertaken. However, should the laboratory not be SANAS accredited, the Roads Provision Department will need to approve the laboratory for any test result to be considered valid.

In line with these processes, the QMS should include as a minimum per mix design, the material characterisation tests included in Table 21.

Quality Control Tests		Minimum Test Frequency	
Binder	Penetration		Every batch delivered
	Softening Point		Every batch delivered
	SA PG Binder Classification		1 per 6 months
Aggregate	Coarse Aggregate	Aggregate Grading	Every batch delivered
		Flakiness Index (Max.)	1 per month
		Aggregates BRD, ARD and Water Absorption	1 per month
		ACV, 10%FACT	1 per month
		Polished Stone Value (Coarse Aggregates)	1 every year per stone type and source
	Fine Aggregate	Aggregate Grading	Every batch delivered
		Aggregates BRD, ARD and Water Absorption	1 per month
		Sand Equivalent (Fine Aggregates)	Every batch delivered
Methylene Blue Adsorption Value		1 per month	
Asphalt Mix	Temperature of Mix	In the truck at the exit weighbridge	Every load
		In the truck at the point of delivery	Every load
	Bitumen Content		1 test per 200 tons of output or part thereof per day
	Extracted Mix Aggregate Grading Analysis		1 test per 200 tons of output or part thereof per day
	Voids Analysis (Bulk Relative Density and Maximum Theoretical Relative Density)		1 test per 200 tons of output or part thereof per day

**Table 21 Test Frequencies**

**PS.ED.5.2.2 PROCESS CONTROL**

The mix temperature of the mix taken in the truck at the exit to the plant shall not exceed the value stated in the mix design. Furthermore, the temperature of the mix taken in the truck on delivery shall not be less than the value stated in the mix design.

Quality checks on mix production will be based on the Job Mix Formula (JMF) for the approved mix design. Tolerances on variation from the JMF are given in Table 22.

		Permissible Deviation from JMF (%)		
		Individual Results	Average of 3 Consecutive Results	
Aggregate Fraction - Grading	Sieve Size (mm)	28	± 5.0	± 3.0
		20	± 5.0	± 3.0
		14	± 5.0	± 3.0
		10	± 5.0	± 3.0
		7.1	± 5.0	± 3.0
		5	± 4.0	± 2.5
		2	± 4.0	± 2.5
		1	± 4.0	± 2.5
		0.6	± 4.0	± 2.5
		0.3	± 3.0	± 2.0
		0.15	± 2.0	± 1.5
		0.075	± 1.0	± 1.0
Voids in the Mix (@ design compaction)		± 1.5	± 1.0	
Binder Content		± 0.3	± 0.2	

**Table 22 Mix Production Property Limits**

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.

**PS.ED.5.2.3 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.

**PS.ED.5.2.4 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.6 LAYING OF ASPHALT**

- (a) The Contractor shall supply the Employer's Agent 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 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). A final density of at least 93% Maximum Theoretical Relative Density (MTRD/Rice S.G) of the mix is required.

An acceptance certificate for this layer will be issued by the Employer's Agent'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 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 Engineer.

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.8 PLANING / MILLING OF EXISTING ASPHALT ROAD SURFACE**

Only approved milling plant may be used. The machine shall be capable of making a neat vertical cut at the outer edges when milling the layer and to leave the floor of the cut level and with a uniform texture. The milling machine shall be equipped with a self-loading conveyor belt which can be easily removed and installed and adjusted for slope and direction.

Before milling may commence, the pavement surface shall be clean and free from soil or other deleterious material.

The floor of the milled excavation shall be cleaned of all loose material by brooming. The exposed floor of the excavation shall be lightly sprayed with water to identify cracks. The Employer' Agent shall be given the opportunity to inspect the milled surface for cracks and loose patches and any cracks or loose patches shall be repaired as instructed by the Employer' Agent. Finally the cut should be blown using a blower or compressor such that no dust or loose stone are visible. The Employer' Agent shall inspect and approve the cut such that the subsequent operation can follow.

The material originating from the milling of the existing asphalt layers shall become the property of the Employer and the transport thereof to a designated stockpile or spoil site shall be the responsibility of the Contractor. The cost for stockpiling of the milled material, inclusive of loading and haulage to the Council's Asphalt Plant, located in Umhlatuzana Road/Seaward Road, shall be deemed to be included in the tendered rates for the milling of the asphalt layers.

The rate shall include for all plant, labour and materials necessary for the removal of the existing asphalt surface to the required depth. The rate shall include for the establishment of the milling plant on site, planing, sweeping, blowing, all haulage, stockpiling of the planed material at the Council's Asphalt Plant and traffic accommodation. The rate shall also include for restricted working in intersections and all additional traffic accommodation required.

**PS.ED.9 TESTING (Clause ED.7)**

Remove "The density of the layer shall satisfy .....standard deviation" and replace with

"The density of the layer shall satisfy the following:

$X \geq 93\% \text{ MTRD (Rice S.G.)} + 0,5 S$  where  $X$  – arithmetic means of densities

$S$  – standard deviation and the maximum density at any point shall not be greater than 97% MTRD.

In the event that there is a dispute between the Contractor and the Council's test results the layer shall be tested in accordance with Clause 6.5 of SANS 3001-AS10:2011, irrespective of the % voids, to determine its density."

**PS.EH.1 STEEL GUARD RAILS****INDEX**

## PS.EH.1 STEEL GUARD RAILS

Where required by the Engineer, steel guard rails shall be installed in accordance with the details on standard drawing No. 38580.

The unit of measurement shall be number linear meter, and the rate shall include for the excavation for the post base, the disposal of surplus material to tip, setting in concrete, backfilling.

**PS EF KERBS AND HAUNCHES****INDEX**

## PS.EF.1 PRECAST KERB AND CAST IN-SITU CONCRETE CHANNEL

The unit of measurement shall be the metre (m). The rate shall cover the supply of all precast items, including transporting, loading, laying and jointing (including all expansion joints and sealer), excavation for all requirements, cast-in-situ concrete foundation, including mixing, laying, float finishing, setting out kerb and channel, all supervision, plant, testing, labour, equipment, materials, protection and incidentals necessary to complete the work as specified.

**PS.EL DUMPROCK SUBGRADE IMPROVEMENT****INDEX**

## PS.EL.1 DUMPROCK SUBGRADE IMPROVEMENT

Clause EL.3 shall be amended to read as follows:

The dumprock shall consist of fresh to slightly weathered ungraded waste rock from mining activities, blasting or rock excavation. Shales, slates or other laminated mud-rocks shall not be accepted.

Dumprock shall have a maximum size not more than two-thirds of the compacted thickness of the layer. The rock shall otherwise be ungraded but shall contain less than 10% passing the 37,5 mm sieve when spread on site.

Dumprock shall have a minimum 10% FACT value of 100 KN when dry and 40 KN when tested drained after 24 hours soaking.

## PS.F PROTECTION WORKS

### INDEX

PS.F.1	TOPSOILING
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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 Engineer.

A sample of the topsoil shall be submitted to a SANAS accredited laboratory for testing as prescribed by the Engineer. Test results are to be forwarded to the Engineer for approval 4 weeks before the topsoiling 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.1.3 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.2 RE-ERECTING 1,8M WIRE MESH FENCING**

The unit of measurement shall be linear metre (m) and the rate shall include for the re-erection of the wire mesh fence previously stored on site, excavation, backfilling with concrete, compacting materials, labour and plant. Foundation for the concrete to be 600mm deep x 300mm wide of Grade 20/19MPa concrete. The rate shall also allow for disposal to tip of all excavated material and leaving the area in a tidy and clean condition.

### **PS.F.3 GRASSING**

Grass planting / sodding shall be Cynodon Dactylon "creeping" variety. The area to be planted / sod shall be fertilised by the Contractor. The grass stolons shall be planted in moist soil at a maximum spacing of 150 mm in both directions. The full responsibility of maintaining the grassed

areas shall rest with the Contractor. A satisfactory cover of grass is defined as a cover of living grass in which no bare patches exist larger than 0,1 m<sup>2</sup>.

Maintenance shall include watering, re-fertilisation when necessary, re-grassing of unsatisfactory areas, weeding and any other work for the establishment of a satisfactory stand of grass as directed by Engineer on Site. Maintenance shall also include the repair of erosion damage to the grassed areas.

The work in grass planting / sodding shall be measured in square metres (m<sup>2</sup>) of area effectively covered with a satisfactory cover of living grass.

The rate shall cover the supply of grass and fertilizer, preparation, application of the fertilizer, planting and for the maintenance of the planted area.

**PS. PG NON-PRESSURE PIPELINES AND PRECAST CONCRETE CULVERTS****INDEX**

PS.PG.1	PIPELAYING
PS.PG.2	SUBSOIL PIPES
PS.PG.3	STONE FOR SUBSOIL DRAIN FILTER
PS.PG.4	GEOFABRIC BLANKET
PS.PG.5	CLEAN COURSE SAND BACKFILL FOR SUBSOIL DRAIN FILTER

**PS.PG.1 PIPELAYING**

The unit of measurement shall be linear metres (m). The unit rate for pipelaying shall include for:

- the supply of all pipes complete with couplings and join/ting materials, their inspection, transport and handing;
- the laying, including curved alignment where specified, jointing, building pipes into manholes, catchpits and through rigid structures, all cutting and wastage of materials; and
- testing and cleaning of pipelines. A separate item will be provided for water testing of stormwater lines if required.

**PS.PG.2 SUBSOIL PIPES**

The following clause shall replace Clause PG.3.5.

"These shall be "Netlon" 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.3 STONE FOR SUBSOIL DRAIN FILTER**

The following clause shall replace Clause PG.3.10.

"The stone aggregate used for the subsoil drain filter shall consist of 9,5 mm crushed stone conforming to the following grading :

Sieve size mm	132	95	67	475	236
% Passing	100	85 - 100	0 - 55	0 - 25	0 - 5

**PS.PG.4 GEOFABRIC BLANKET**

The geofabric shall comply with Clause PG.3.8 and the rate tendered shall include for wrapping the geofabric around the subsoil pipe, subsoil drain or stone bedding.

**PS.PG.5 CLEAN COURSE 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.PH MANHOLES AND APPURTENANT DRAINAGE WORKS****INDEX**

PS.PH.1	MANHOLES AND INLETS
PS.PH.2	MANHOLES AND APPURTENANT WORKS: REVISED DRAWING NUMBERS
PS.PH.3	BRICKS
PS.PH.4	MANHOLES WITH TYPE S1, S2 AND D3 INLET COVERS
PS.PH.5	INLET AND OUTLET HEADWALLS
PS.PH.6	CONSTRUCTION OF MANHOLE / INLET OVER EXISTING STORMWATER PIPE

**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.

Polymer concrete manhole covers and frames shall be used in place of cast irons covers and frames in the stormwater system.

**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.

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

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accordance with the Standard Drawings and Specification, and inlet type cover as is specified in the contract drawings.

**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 CONSTRUCTION OF MANHOLE / INLET OVER EXISTING 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 :

- (a) Breaking into the existing pipe and make good.
- (b) Cutting and reinstating the ends of the existing pipe.
- (c) The restricted working around the existing pipe.
- (d) Disposal of any spoil etc., to the tip.

**PS.TA ROAD SIGNS****INDEX**

PS.TA.1	GENERAL
PS.TA.2	ROAD SIGN BOARDS
PS.TA.3	RE-ERECT ROAD SIGNS
PS.TA.4	TEMPORARY ROAD SIGNS
PS.TA.4.1	MATERIALS
PS.TA.4.2	ERECTION
PS.TA.5	TIMBER POSTS
PS.TA.6	DRUMS
PS.TA.7	PROTECTION AND MAINTENANCE

**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.).

**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 retroflective 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. 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.TB ROAD MARKING****INDEX**

PS.TB.1	PLASTIC ROAD MARKING MATERIAL
PS.TB.2	LETTERING, SYMBOLS AND TRAFFIC ISLAND MARKING
PS.TB.3	SANDBLASTING

**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 dependant 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 SPRAY PLASTIC shall be not less than 70.

(e) Flow resistance

The percentage decrease in the height of the cone of SPRAY PLASTIC 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

SPRAY PLASTIC 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 SPRAY PLASTIC 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 SAND BLASTING**

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.

### **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 web address:

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

- C3.4.1 Part AH - OHS Act 1993 Safety Specification  
(26 Pages)
- C3.4.2 Standard Environmental Management Plan for Civil Engineering Construction Works  
(24 Pages)
- C3.4.3 Site Specific Health and Safety Specification in terms of 2014 Construction Regulations,  
referenced HSS 179/08/23
- C3.4.4 Baseline Risk Assessment in terms of Construction Regulation referenced, BRA 179/08/2023

**C3.4: PARTICULAR SPECIFICATIONS**

In addition to the Standardized and Project Specifications the following Particular Specifications / Policies shall apply to this contract:

C3.4.1 Part AH - OSHA 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**

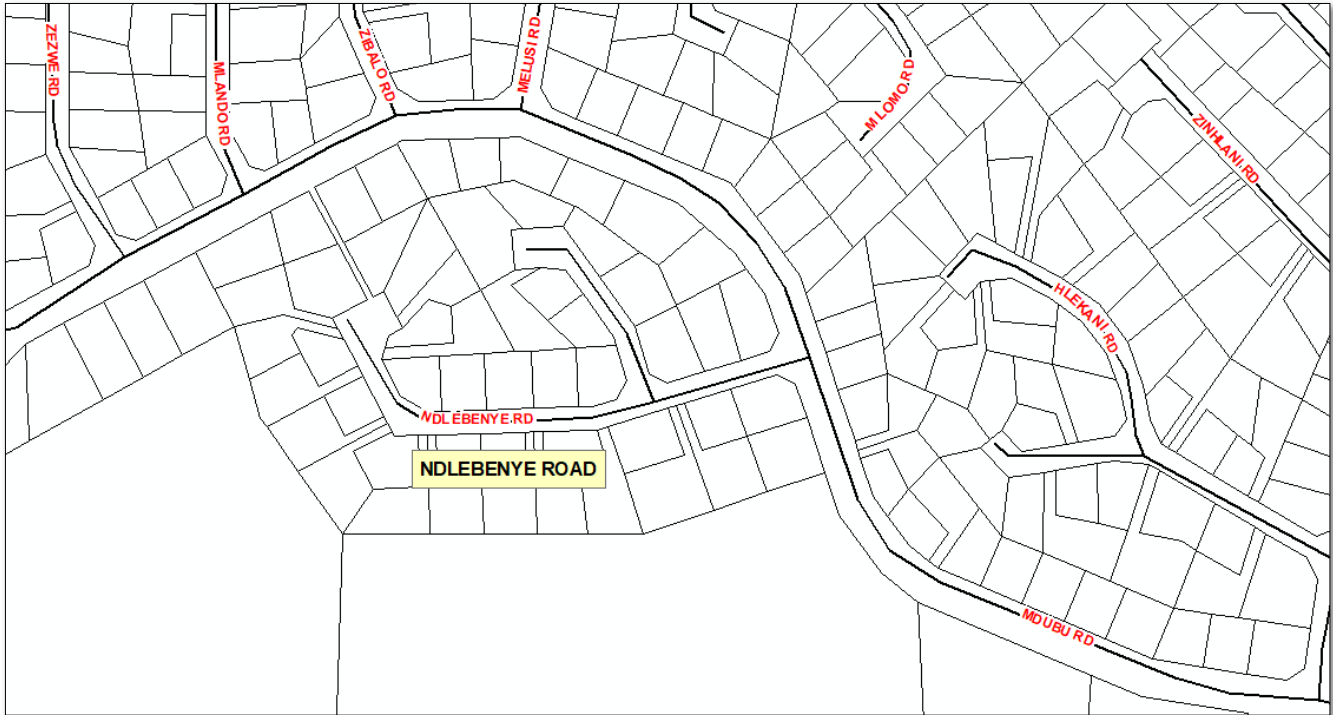
Drawing .No	Description
49293	Upgrade of Ndlebenye Road – Dimensions, setting out and proposed services plan

**C3.5.2 STANDARD DRAWINGS**

The Standard Drawings to which these Standard Engineering Specifications refer are listed below.

Dwg No	Description	Date of Issue	
		Month	Year
38572	Stormwater Inlet 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



**PART C4: SITE INFORMATION****C4.1 LOCALITY PLAN****LOCALITY PLAN: NDLEBENYE ROAD****C4.2 CONDITIONS ON SITE**

There is no specific geotechnical information or other site information.

**C4.3 TEST RESULTS**

There are no specific test results.