



CONTRACT No. SCM 46 OF 22/23:

**THE APPOINTMENT OF A CONTRACTOR FOR THE
REHABILITATION OF DAMBUZA MAIN ROAD (WARD 21)**

Tenderer's Name:
Postal Address:
Telephone No:
Fax No:
Cellular No:
E-Mail Address:
Contact Person:

Tenders contained in sealed envelopes and marked with “**CONTRACT No. SCM 46 OF 22/23**” and the Contract Description must be placed in the Tender Box located in the Foyer, Ground Floor, City Hall, 169 Chief Albert Luthuli Street (formerly known as Commercial Road), Pietermaritzburg, 3201, not later than **12h00, on Thursday, 02 February 2023**, when they will be opened in public. Only Tenders placed in the Tender Box before the closing time above will be accepted.

THE MSUNDUZI MUNICIPALITY

**CONTRACT NO. SCM 46 OF 22/23:
THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA MAIN ROAD
(WARD 21**

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C4.4 Conditions on Site: Materials Information	Green
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DOCUMENT CHECKLIST

This document checklist is provided to assist the Tenderer.

	ITEMS	CHECKED
1	Returnable Schedules in Section T2.2	☐
2	Correct Tender Offer carried forward to C1.1 Form of Offer and Acceptance and the Form of Offer duly completed and signed.....	☐
3	Bill of Quantities:	
	i) Completed in legible INK only.....	☐
	ii) Corrections crossed out and initialled	☐
4	Contract specific data provided by the Contractor	☐

PART T1: TENDERING PROCEDURES

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T1.1 TENDER NOTICE AND INVITATION TO TENDER

THE MSUNDUZI MUNICIPALITY

CONTRACT NO. SCM 46 OF 22/23

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA MAIN ROAD
(WARD 21)

TENDER NOTICE

The Msunduzi Municipality hereby invites tenders from suitably qualified and experienced contractor for the Rehabilitation of Dambuza Main Road (Ward 21). Only tenderers with minimum **CIDB grading of 6CE or higher** will be considered for the appointment.

Tender documents will be made available to tenderers from **14h00 on Monday, 12 December 2022**.

Printed copies of the tender documents shall also be available from the Supply Chain Management Unit Offices, 5th Floor, A S Chetty Centre, 333 Church Street, Pietermaritzburg, as from the abovementioned date and time, at a non-refundable tender deposit fee of **R1,120.27 (including VAT)** for each document drawn. Only cash or EFT payments will be accepted. **A copy of the Tender Deposit Receipt must be attached to the tender document (if purchased at the Municipality).**

For technical enquiries regarding the scope of works, please contact **Nkosikhona Mabizela** on either **Tel 033-392 2452** or e-mail: nkosikhona.mabizela@msunduzi.gov.za. For Supply Chain Management related information, please contact **Phiwe Mthlane** on either **Tel. No. 033 - 392 2486** or e-mail: phiwe.mthlane@msunduzi.gov.za.

A compulsory briefing will be held at Msunduzi Municipality, 333 Church Street, A. S Chetty Building, 4th Floor Boardroom, on **Thursday, 19 January 2023** commencing promptly at **9h00**. Thereafter a physical Site Briefing Meeting will be held at the site in Dambuza Road. Project location: 29° 39' 16.11" S 30° 18' 32.33" E

Tenderers arriving at the meeting after the stipulated starting time above will not be allowed and disqualified. Furthermore, all Tenderers attending the meeting must be in possession of a tender document and ensure their tender documents are stamped and signed by the Msunduzi Official present before the briefing is complete. Unstamped documents will be disqualified. A maximum of two (2) representatives per Contracting Company will be allowed to attend the above meeting. Any additional personnel will be asked to remain behind.

Tenders must be submitted both in hard copy and on CD/USB flash Drive contained in sealed envelopes and marked with "Contract No. SCM 46 of 22/23" with the Contract Description and Company Title, must be placed in the Tender Box located in the Foyer, Ground Floor, City Hall, 169 Chief Albert Luthuli Street (Commercial Road), Pietermaritzburg, not later than **12h00, on Thursday, 02 February 2023** when they will be publicly opened. Only tenders placed in the Tender Box shall be accepted.

Tender Validity Period: Four (4) months commencing from the closing date of tender.

Tender Adjudication/Evaluation Criteria: The tender shall be evaluated on a Two Stage Evaluation System – Stage One: Functionality and Stage Two: 80/20 Preference Point System in accordance with the Preferential Procurement Regulations 2017, issued in terms of section 5 of the

Preferential Procurement Policy Framework Act, Act No. 5 of 2000. The Functionality for Stage One shall be evaluated on the following criteria:-

Description of Functionality Criteria		Maximum Possible Score
1	Number of roads & associated storm water with kerb and channel projects completed by the bidder	25
2	Construction Manager/Site Agent	25
3	Construction Supervisor/Foreman	25
4	Labour Intensive Construction Certificate for Construction Manager or Construction Supervisor	10
Total Functionality Points		85 Points
Threshold to Qualify for Stage Two		55 Points (65%)

The Msunduzi Municipality does not bind itself to accept the lowest or any tender and reserves the right to accept the whole or any part of a tender. Each tenderer will be informed of the tender result.

The Msunduzi Municipality expects businesses within the Pietermaritzburg and Midlands Region to support its contract and BEE/SMME initiatives.

MR LH MAPHOLOBA (CITY MANAGER)

T1.2 TENDER DATA

The conditions of tender are the standard conditions of tender contained in Annex C of the Construction Industry Development Board Standard for Uniformity in Engineering and Construction Works Contracts, published in Government Gazette No. 42622 dated 8 August 2019.

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 the tender data and the standard conditions of tender.

Each item of data given below is cross-referenced to the clause in the standard conditions of tender to which it mainly applies.

Clause Number	Data
C.1.2	The Tender Documents consist of the following: (a) This Project Document, which contains the following: PART T1: TENDERING PROCEDURES T1.1 Tender Notice and Invitation to Tender T1.2 Tender Data PART T2: RETURNABLE DOCUMENTS T2.1 List of Returnable Documents T2.2 Returnable Schedules PART C1: AGREEMENTS AND CONTRACT DATA C1.1 Form of Offer and Acceptance C1.2 Contract Data C1.3 Performance Guarantee C1.4 Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993 C1.5 Retention Money Guarantee C1.6 Transfer of Rights PART C2: PRICING DATA C2.1 Pricing Assumptions C2.2 Bill of Quantities PART C3: SCOPE OF WORK C3.1 Standard Specifications C3.2 Project Specifications C3.3 Particular Specifications PART C4: SITE INFORMATION C4.1 Locality Plan C4.2 Example of Contract Signboard Details C4.3 Existing Services Report (delete if not required) C4.4 Conditions on Site: Materials Information (delete if not required) C4.5 Traffic Information (delete if not required) (b) Drawings (issued separately by the Employer). (c) 'General Conditions of Contract for Construction Works, Third Edition (2015)' issued by the South African Institution of Civil Engineering (abbreviated title 'General

Clause Number	Data
	Conditions of Contract 2015' – 'GCC 2015'). This document is obtainable separately and Tenderers shall obtain their own copy. (d) 'COLTO Standard Specifications for Road and Bridge Works for State Road Authorities, 1998 edition'. This document is obtainable separately and Tenderers shall obtain their own copy. (e) 'Occupational Health and Safety Act No. 85 of 1993', 'Occupational Health and Safety Amendment Act No. 181 of 1993', and the 'Construction Regulations, 2014' (Government Notice No. R. 489 published in Government Gazette No. 40883 of 2 June 2017,). These documents are obtainable separately and Tenderers shall obtain their own copies. (f) 'Construction Industry Development Board Act No. 38 of 2000' as amended and the 'Regulations in terms of the Construction Industry Development Board Act No. 38 of 2000' (Government Notice No. R. 692 published in Government Gazette No. 26427 of 9 June 2004, as amended). In addition, Tenderers are advised, in their own interest, to obtain their own copies of the relevant Acts, Regulations and Standards referred to in this document as they are essential for the Tenderer to become acquainted with the basics of construction management, the implementation of preferential construction procurement policies, and participation of targeted enterprises and labour.
C.1.4	The Employer's Agent is: Name of the firm: TLS Engineers and Project Managers Contact person: Mr P. Mchunu Telephone: 033 343 2069 Fax: E-mail: phiwam@tlsengineers.co.za
C.2.1	Only those tenderers who satisfy the following criteria are eligible to submit tenders. (a) CIDB registration Only those tenderers who are registered with the CIDB, at close of tender, 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) of the Construction Industry Development Regulations, for a 6CE or higher class of construction work, are eligible to have their tenders evaluated. Only contractors whose CIDB status is "Active" at the time of evaluation will be considered for further evaluation. Contractors whose status is "Suspended" or "Expired" will not be considered for evaluation and will be disqualified from the bidding process. Joint ventures are eligible to submit tenders provided that: (i) every member of the joint venture is registered with the CIDB; (ii) the lead partner has a contractor grading designation in the 5CE or higher class of construction work; or not lower than one level below the required grading designation in the class of construction work under consideration and possesses the required recognition status; and (iii) the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 6CE or

Clause Number	Data
	higher class of construction work, or a value determined in accordance with Regulation 25(1B) of the Construction Industry Development Regulations. (b) Central Supplier Database Tenderers, or in the event of a joint venture, each member of the joint venture, must be registered on the Central Supplier Database at the closing date for tender submissions. Tenders received from such tenderers who do not comply with this requirement, will be considered non-responsive. Prospective suppliers should self-register on the CSD website www.csd.gov.za. (c) Local production and content of goods (Returnable Schedule D - MBD 6.2) Only locally produced goods or locally manufactured goods for construction meeting the minimum threshold for local production and content as stipulated in Returnable Schedule D - MBD 6.2 will be considered.
C.2.7	The arrangements and venue for the compulsory Clarification Meeting are: Venue: Msunduzi Municipality, 333 Church Street, A. S Chetty Building, 4th Floor Boardroom. Date: Thursday, 19 January 2023 commencing promptly at 09h00 Contact person: Mr. N Mabizela Telephone: 033 392 2452 Fax: E-mail: Nkosikhona.Mabizela@msunduzi.gov.za
C.2.10	All Tenderers that are registered for Value Added Tax (VAT) with the South African Revenue Service (SARS) must include VAT in their tender offer.
C.2.11	The tenderer shall not retype the tender document. <u>Any tender submitted using a document that has been retyped shall be considered non-responsive and rejected in terms of clause C.3.8 of the Conditions of Tender.</u>
C.2.12	The requirements are as described in clause 1212 'ALTERNATIVE DESIGNS AND OFFERS' of the 'COLTO Standard Specifications for Road and Bridge Works for State Road Authorities, 1998 edition'.

Clause Number	Data
C.2.13	C.2.13.3 Tender offers shall be submitted as an original only. Under no circumstances whatsoever may the tender forms be retyped or redrafted. Photocopies of the original tender documentation may be used, but an original signature must appear on such photocopies. C.2.13.5 The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are: Location of Tender Box: Tender Box located in the Foyer, Ground Floor, City Hall Physical Address: 169 Chief Albert Luthuli Street (Commercial Road), Pietermaritzburg Identification Details: Tenders must be submitted both in hard copy and on CD/USB flash Drive contained in sealed envelopes and marked with "Contract No. SCM 46 of 22/23" C.2.13.6 A two-envelope system <u>will not be followed</u>.
C.2.15	The closing time for submission of Tender Offers is: 12h00, on Thursday, 02 February 2023 Telegraphic, telephonic, telex, facsimile, electronic, e-mail and late tenders will not be accepted.
C.2.16	The tender offer validity period is Four (4) months commencing from the closing date of tender.
C.2.18	The tenderer must submit to the Employer the names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirement (refer to Returnable Schedule H).
C.2.19	Access shall be provided for inspections and testing by personnel acting on behalf of the Employer.
C.2.23	The certificates as required in the Returnable Schedules and Forms must be provided with the tender for each party to a consortium / joint venture.
C.3.4	The time and location for opening of the tender submissions are: Time: 12:00 Date: 02 February 2023 Location / Venue: Ground Floor, City Hall, 169 Chief Albert Luthuli Street (Commercial Road), Pietermaritzburg
C.3.5	A two-envelope system will not be followed.
C3.11.1	The tender shall be evaluated on a Two Stage Evaluation System – Stage One: Functionality and Stage Two: 80/20 Preference Point System in accordance with the Preferential Procurement Regulations 2017, issued in terms of section 5 of the Preferential Procurement Policy Framework Act, Act No. 5 of 2000.. (a) The Functionality for Stage One shall be evaluated on the following criteria: Only those tenderers who achieve a minimum 55 points (or 65%) will be evaluated on (b) Price and Preference. Tenderers failing to achieve the minimum score will be considered non-responsive.

Clause Number	Data			
	STAGE 1: FUNCTIONALITY			Refer page
	1	Number of roads & associated storm water with kerb and channel projects completed by the bidder	Points Earned = 25	
		Number of projects completed by the bidding company		
		> 10 projects	25 points	
		> 5 but ≤ 10 projects	15 points	
		≥ 2 but ≤ 5 projects	10 points	
		Less than 2 projects	0 points	
	2	Construction Manager/Site Agent	Points Earned = 25	
		Experience in asphalt / concrete surfaced roads construction projects		
		> 5 years	15 points	
		≥ 3 but ≤ 5 years	10 points	
		≥ 1 but < 3 years	5 points	
		Less than 1	0 points	
		Engineering or Technical Qualifications		
		BSc , B-Tech or higher	10 points	
		Diploma	7 points	
		National Certificate / SAQA recognized roads related training certificates	3 points	
		professional registration with ECSA	5 points	
	3	Construction Supervisor/Foreman	Points Earned = 25	
		Experience in asphalt/concrete roads construction projects.		
		> 5 years	15 points	
		≥ 3 but ≤ 5 years	10 points	
		≥ 1 but < 3 years	5 points	
		Less than 1	0 points	
		Technical Qualifications		
		BSc or B-Tech or Higher	10 points	
		Diploma	7 points	
		National Certificate / recognized roads related training certificates	3 points	
		professional registration with ECSA	5 points	
	4	Labour Intensive Construction Certificate for Construction Manager or Construction Supervisor	Points Earned = 10	
		(Certified copies to be submitted)		
		NQF level 7	10 points	
		NQF level 4 & 5	5 points	
		NQF level 3	3 points	
		Less than level 3	0 points	
	TOTAL POINTS		85 points	

Clause Number	Data
	Note: All personnel to be in employ of the bidding enterprise or letter of intent for personnel outside the employ of the bidding enterprise to be included with CV. Bidding with multiple enterprises will not be allowed. The Municipality will disregard all experience of duplicated personnel. The Municipality reserve the right to assess the functionality ongoing to ensure compliance. The Municipality must be apprised immediately if there is any change to the personnel identified in the tender document. Failure to comply with this requirement shall lead to contract termination. Any replacement must have equal or higher experience (b) Price and preference Tenders will be evaluated on price and preference in accordance with the Preferential Procurement Regulations, 2017. Preference points must be claimed using Returnable Schedule D - MDB 6.1 in accordance with the tenderer's B-BBEE status level of contributor. The tenderer's B-BBEE Status Level Verification Certificate must comply with the requirements of Returnable Schedule E and be submitted as an attachment to the returnable schedule. <u>Total Score for Price and Preference</u> The points scored for a Tenderer in respect of Price will be added to the points scored in respect of Preference. Only the tender with the highest number of points may be selected, except in those instances permissible by legislation, practice notes or relevant policies.

Clause Number	Data
C.3.13	(e) The legal requirements for acceptance of the tender offer are: (i) Tender Defaulters Register - the Tenderer or any of its principals is <u>not</u> 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. (ii) Abuse of the SCM System - the Tenderer has <u>not</u> abused the Employer's Supply Chain Management System and has <u>not</u> been given a written notice to the effect that he has failed to perform on any previous contract. (iii) Declaration - the Tenderer has indicated and declared whether a spouse, child or parent of the Tenderer is in the service of the State. (iv) Fraud and Corruption - the Employer is satisfied that the Tenderer or any of his principals have <u>not influenced</u> the tender offer and acceptance by the following criteria: • having offered, promised or given a bribe or other gift or remuneration to any person in connection with the obtaining of this Contract; • having acted in a fraudulent or corrupt manner in obtaining this Contract; • having approached an officer or employee of the Employer or the Employer's Agent with the object of influencing the award of a Contract in the Tenderer's favour; • having entered into any agreement or arrangement, whether legally binding or not, with any other person, firm or company to refrain from Tendering for this Contract or as to the amount of the Tender to be submitted by either party; or • having disclosed to any other person, firm or company other than the Employer, the exact or approximate amount of his proposed Tender. The Employer may, in addition to using any other legal remedies, repudiate the Tender offer and acceptance and declare the Contract invalid should it have been concluded already.
C.3.17	The number of paper copies of the signed contract to be provided by the Employer is one (1) .

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

The following schedules and forms are contained in this document and are to be properly completed as required:

- (a) Returnable Schedules in T2.2.
- (b) C1.1 Form of Offer and Acceptance, C1.1.1: Offer, on page C3.
- (c) Contract Specific Data Provided by the Contractor in C1.2.3.
- (d) Pricing Data in C2.2: Bill of Quantities.

T2.2 RETURNABLE SCHEDULES

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G	CONSTRUCTION EXPERIENCE	T49
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I	CONSTRUCTION EQUIPMENT	T52
J	PROPOSED SUBCONTRACTORS.....	T53
K	PARTICIPATION IN JOB CREATION USING LOCAL LABOUR	T54
L	HEALTH AND SAFETY DECLARATION.....	T56
M	DEVIATIONS AND QUALIFICATIONS.....	T58
N	SCHEDULE OF ALTERNATIVE TENDERS.....	T59
O	TECHNICAL PROPOSAL	T60

NOTE: The Tenderer is required to complete each schedule and form listed above to the best of his ability as the evaluation of tenders and the eventual contract will be based on the information provided by the Tenderer. Failure of a Tenderer to complete the schedules and forms to the satisfaction of the Employer may lead to rejection on the grounds that the tender is non-responsive.

A. AUTHORITY FOR SIGNATORY

The Tenderer must indicate the enterprise status by ticking the appropriate box hereunder.

(I) COOPERATIVE	(II) SOLE PROPRIETOR	(III) CLOSE CORPORATION	(IV) PARTNERSHIP	(V) COMPANY	(VI) JOINT VENTURE / CONSORTIUM	
					Incorporated	
					Unincorporated	

I/We, the undersigned, being the Member(s) (Cooperative), Sole Owner (Sole Proprietor), Member(s) (Close Corporation), Partners (Partnership), Representative (Company) or Lead Partner (Joint Venture / Consortium), in the enterprise trading as:

.....

hereby authorise Mr/Mrs/Ms

acting in the capacity of

whose signature is

to sign all documents in connection with this bid and any contract resulting therefrom on behalf of the enterprise.

NAME	ADDRESS	SIGNATURE	DATE

Note:

The following document must be attached to this form according to the status of the enterprise, in the form of a resolution authorising the signatory to sign all documents in connection with this bid and any contract resulting therefrom on behalf of the enterprise, and **such resolution shall include a specimen signature of the signatory.**

Cooperative:	'Resolution of the Members'
Close Corporation:	'Resolution of the Members'
Company:	'Resolution of the Board' signed by the chairperson
Joint Venture / Consortium:	'Resolution/agreement passed/reached' signed by the authorised representatives of the enterprises

B. DECLARATION OF MUNICIPAL FEES

I/We do hereby declare that the Municipal Fees of _____

Is/are, as at the date of the tender closing, fully paid up, or arrangements have been concluded with the Municipality to pay the said Fees:-

<u>Description</u>	<u>Account No.</u>
Electricity	_____
Water	_____
Rates	_____

I/We acknowledge that should it be found that the Municipal Fees are not up to date, the Council may take such remedial action as it required, including termination of contract, and any income due to the Contractor shall be utilised to offset any monies due to the Council.

Full Name of Signatory.....

Capacity of Signatory.....

I.D. Number.....

Duly Authorised to sign on behalf of.....

Physical Address.....

.....

.....

Signature Date

(Of person authorised to sign on behalf of the Tenderer)

Failure to complete, sign and date this form shall result in the tender being considered non-responsive and rejected in terms of clause C.3.8 of the Conditions of Tender.

C. COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise:

--

Section 2: VAT registration number, if any:

--

Section 3: CIDB registration number, if any:

--

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

* Complete only if sole proprietor or partnership and attach separate page if more than 6 partners

Section 5: Particulars of companies and close corporations

Company registration number	
Close corporation number	
Tax reference number	

Section 6: Record of service of the state

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

☐ a member of any municipal council	☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
☐ a member of any provincial legislature	☐ a member of an accounting authority of any national or provincial public entity
☐ a member of the National Assembly or the National Council of Province	☐ an employee of Parliament or a provincial legislature
☐ a member of the board of directors of any municipal entity	
☐ an official of any municipality or municipal entity	

If any of the above boxes are marked, disclose the following:

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

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

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

☐ a member of any municipal council	☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)		
☐ a member of any provincial legislature	☐ a member of an accounting authority of any national or provincial public entity		
☐ a member of the National Assembly or the National Council of Province	☐ an employee of Parliament or a provincial legislature		
☐ a member of the board of directors of any municipal entity			
☐ an official of any municipality or municipal entity			
Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months
*insert separate page if necessary			

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

- i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;
- ii) confirms that 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.

Signed _____ Date _____
 Name _____ Position _____

Tenderer _____

Failure to complete, sign and date this form shall result in the tender being considered non-responsive and rejected in terms of clause C.3.8 of the Conditions of Tender.

D. MUNICIPAL BIDDING DOCUMENTS**MBD2**

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

1. In order to meet this requirement bidders are required to complete in full the attached Form TCC-001 "Application for a Tax Clearance Certificate" and submit it to any SARS branch office nationally. The Tax Clearance Certificate Requirements are also applicable to foreign bidders / individuals who wish to submit bids.
2. SARS will then furnish the bidder with a PIN for Tax Status Compliance Verification.
3. The PIN for Tax Status Compliance Verification must be submitted together with the bid. Failure to submit the PIN will result in the invalidation of the bid.
4. In bids where Consortia / Joint Ventures / Sub-contractors are involved; each party must submit a separate PIN.
5. Copies of the TCC-001 "Application for a Tax Clearance Certificate" form are available from any SARS branch office nationally or on the website www.sars.gov.za.
6. Applications for the Tax Clearance Certificates may also be made via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website www.sars.gov.za

Attach a valid Tax Clearance Certificate or Tax Compliance Status PIN, issued by the TCS System of the South African Revenue Service, to the inside back cover of this procurement document.

Signed _____ Date _____

Name _____ Position _____

Tenderer

Failure to complete, sign and date this form shall result in the tender being considered non-responsive and rejected in terms of clause C.3.8 of the Conditions of Tender.

MBD 4

DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state¹.
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.
3. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

3.1 Full Name of bidder or his or her representative:

3.2 Identity Number:

3.3 Position occupied in the Company (director, trustee shareholder²):

.....

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, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.

3.8 Are you presently in the service of the state?

YES / NO

3.8.1 If yes, furnish particulars.

.....

¹MSCM Regulations: "in the service of the state" means to be –

- (a) a member of –
 - (i) any municipal council;
 - (ii) any provincial legislature; or
 - (iii) the national Assembly or the national Council of provinces;
- (b) a member of the board of directors of any municipal entity;
- (c) an official of any municipality or municipal entity;
- (d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);
- (e) a member of the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or a provincial legislature.

"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.

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

YES / NO

3.9.1 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

3.10.1 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

3.11.1 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

3.12.1 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

3.13.1 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

3.14.1 If yes, furnish particulars:

.....

.....

4. Full details of Directors / Trustees / Members / Shareholders.

Full Name	Identity Number	State Employee Number

MBD 5**DECLARATION FOR PROCUREMENT ABOVE R10 MILLION**

For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire:

Tenderers are to
circle applicable

1. Are you by law required to prepare annual financial statements for auditing? **YES** **NO**
- 1.1 If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.
2. Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days? **YES** **NO**
- 2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.
- 2.2 If yes, provide particulars.
.....
3. Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract? **YES** **NO**
- 3.1 If yes, furnish particulars
.....
- Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic? **YES** **NO**
- 4.1 If yes, furnish particulars
.....
....

I, the undersigned, certify that the information furnished on this declaration form is correct. I accept that the state may act against me should this declaration prove to be false.

Signed Date

Name Position

Tenderer

MBD 6.1

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

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

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

1. GENERAL CONDITIONS

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

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included)

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

1.3 Points for this bid shall be awarded for:

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

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

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

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

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

2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) **“bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of goods or services, through price tenders, advertised competitive bidding processes or proposals;
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- (e) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents;
- (g) **“prices”** includes all applicable taxes less all unconditional discounts;
- (h) **“proof of B-BBEE status level of contributor”** means:
 - 1) B-BBEE Status level certificate issued by an authorized body or person;
 - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
 - 3) Any other requirement prescribed in terms of the B-BBEE Act;
- (i) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

3. POINTS AWARDED FOR PRICE

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

A maximum of 80 points is allocated for price on the following basis:
80/20

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

- P_s = Points scored for price of bid under consideration
- P_t = Price of bid under consideration
- $P_{\min}$ = Price of lowest acceptable bid

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

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

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

4.2. EME'S AND QSE'S MUST COMPLETE THE FOLLOWING APPLICABLE AFFIDAVIT FORM TO CLAIM PREFERENCE POINTS

SWORN AFFIDAVIT – B-BBEE EXEMPTED MICRO ENTERPRISE

I, the undersigned,

Full name & Surname	
Identity number	

Hereby declare under oath as follows:

1. The contents of this statement are to the best of my knowledge a true reflection of the facts.
2. I am a member / director / owner of the following enterprise and am duly authorised to act on its behalf:

Enterprise Name	
Trading Name (If Applicable):	
Registration Number	
Enterprise Physical Address:	
Type of Entity (CC, (Pty) Ltd, Sole Prop etc.):	
Nature of Business:	
Definition of "Black People"	As per the Broad-Based Black Economic Empowerment Act 53 of 2003 as Amended by Act No 46 of 2013 "Black People" is a generic term which means Africans, Coloureds and Indians – (a) who are citizens of the Republic of South Africa by birth or descent; or (b) who became citizens of the Republic of South Africa by naturalisation- I. before 27 April 1994; or II. on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalization prior to that date;"
Definition of "Black Designated Groups"	"Black Designated Groups means: (a) unemployed black people not attending and not required by law to attend an educational institution and not awaiting admission to an educational institution; (b) Black people who are youth as defined in the National Youth Commission Act of 1996; (c) Black people who are persons with disabilities as defined in the Code of Good Practice on employment of people with disabilities issued under the Employment Equity Act; (d) Black people living in rural and under developed areas; (e) Black military veterans who qualifies to be called a military veteran in terms of the Military Veterans Act 18 of 2011;"

3. I hereby declare under Oath that:

- The Enterprise is _____% Black Owned as per Amended Code Series 100 of the amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as amended by Act No 46 of 2013,
- The Enterprise is _____% Black Female Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is _____% Black Designated Group Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- Black Designated Group Owned % Breakdown as per the definition stated above:
 - Black Youth % = _____%
 - Black Disabled % = _____%
 - Black Unemployed % = _____%
 - Black People living in Rural areas % = _____%
 - Black Military Veterans % = _____%
- Based on the Financial Statements/Management Accounts and other information available on the latest financial year-end of _____, the annual Total Revenue was R10,000,000.00 (Ten Million Rands) or less
- Please Confirm on the below table the B-BBEE Level Contributor, **by ticking the applicable box.**

100% Black Owned	Level One (135% B-BBEE procurement recognition level)	
At least 51% Black Owned	Level Two (125% B-BBEE procurement recognition level)	
Less than 51% Black Owned	Level Four (100% B-BBEE procurement recognition level)	

4. I know and understand the contents of this affidavit and I have no objection to take the prescribed oath and consider the oath binding on my conscience and on the Owners of the Enterprise, which I represent in this matter.
5. The sworn affidavit will be valid for a period of 12 months from the date signed by commissioner.

Deponent Signature: _____

Date: ____/____/____

Stamp

Signature of Commissioner of Oaths

SWORN AFFIDAVIT – B-BBEE QUALIFYING SMALL ENTERPRISE

I, the undersigned,

Full name & Surname	
Identity number	

Hereby declare under oath as follows:

1. The contents of this statement are to the best of my knowledge a true reflection of the facts.
2. I am a member / director / owner of the following enterprise and am duly authorised to act on its behalf:

Enterprise Name	
Trading Name (If Applicable):	
Registration Number	
Enterprise Physical Address:	
Type of Entity (CC, (Pty) Ltd, Sole Prop etc.):	
Nature of Business:	
Definition of "Black People"	As per the Broad-Based Black Economic Empowerment Act 53 of 2003 as Amended by Act No 46 of 2013 "Black People" is a generic term which means Africans, Coloureds and Indians – (c) who are citizens of the Republic of South Africa by birth or descent; or (d) who became citizens of the Republic of South Africa by naturalisation- III. before 27 April 1994; or IV. on or after 27 April 1994 and who would have been entitled to acquire citizenship by naturalization prior to that date;"
Definition of "Black Designated Groups"	"Black Designated Groups means: (f) unemployed black people not attending and not required by law to attend an educational institution and not awaiting admission to an educational institution; (g) Black people who are youth as defined in the National Youth Commission Act of 1996; (h) Black people who are persons with disabilities as defined in the Code of Good Practice on employment of people with disabilities issued under the Employment Equity Act; (i) Black people living in rural and under developed areas; (j) Black military veterans who qualifies to be called a military veteran in terms of the Military Veterans Act 18 of 2011;"

3. I hereby declare under Oath that:

- The Enterprise is _____% Black Owned as per Amended Code Series 100 of the amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as amended by Act No 46 of 2013,
- The Enterprise is _____% Black Female Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- The Enterprise is _____% Black Designated Group Owned as per Amended Code Series 100 of the Amended Codes of Good Practice issued under section 9 (1) of B-BBEE Act No 53 of 2003 as Amended by Act No 46 of 2013,
- Black Designated Group Owned % Breakdown as per the definition stated above:
 - Black Youth % = _____%
 - Black Disabled % = _____%
 - Black Unemployed % = _____%
 - Black People living in Rural areas % = _____%
 - Black Military Veterans % = _____%
- Based on the Financial Statements/Management Accounts and other information available on the latest financial year-end of _____, the annual Total Revenue was between R10,000,000.00 (Ten Million Rands) and R50,000,000.00 (Fifty Million Rands),
- Please Confirm on the below table the B-BBEE Level Contributor, **by ticking the applicable box.**

100% Black Owned	Level One (135% B-BBEE procurement recognition level)	
At Least 51% black owned	Level Two (125% B-BBEE procurement recognition level)	

4. I know and understand the contents of this affidavit and I have no objection to take the prescribed oath and consider the oath binding on my conscience and on the Owners of the Enterprise, which I represent in this matter.
5. The sworn affidavit will be valid for a period of 12 months from the date signed by commissioner.

Deponent Signature: _____

Date: ____/____/____

Stamp

Signature of Commissioner of Oaths

5. BID DECLARATION

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

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

- 6.1 B-BBEE Status Level of Contributor: =(maximum of 20 points)

Points claimed in respect of paragraph 6.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

7. SUB-CONTRACTING

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

(Tick applicable box)

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

- 7.1.1 If yes, indicate:

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

(Tick applicable box)

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

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

Designated Group: An EME or QSE which is at least 51% owned by:

Black people
 Black people who are youth
 Black people who are women
 Black people with disabilities
 Black people living in rural or underdeveloped areas or townships
 Cooperative owned by black people
 Black people who are military veterans

OR

Any EME
 Any QSE

EME √	QSE √

8. DECLARATION WITH REGARD TO COMPANY/FIRM

- 8.1 Name of company/firm:

- 8.2 VAT registration number:

- 8.3 Company registration number:

- 8.4 TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

8.6 COMPANY CLASSIFICATION

- ☐ Manufacturer
☐ Supplier
☐ Professional service provider
☐ Other service providers, e.g. transporter, etc.
 [TICK APPLICABLE BOX]

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

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

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

WITNESSES

1.
 2.

.....
 SIGNATURE(S) OF BIDDER(S)

DATE:

ADDRESS

.....

MBD 6.2**DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

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

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

- 1.1. Preferential Procurement Regulations, 2017 (Regulation 8) make provision for the promotion of local production and content.
- 1.2. Regulation 8.(2) prescribes that in the case of designated sectors, organs of state must advertise such tenders with the specific bidding condition that only locally produced or manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Where necessary, for tenders referred to in paragraph 1.2 above, a two-stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

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

Where

x is the imported content in Rand

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

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) on the date of advertisement of the bid as indicated in paragraph 3.1 below.

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

- 1.6. A bid may be disqualified if this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.

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

<u>Description of services, works or goods</u>	<u>BOQ Reference</u>	<u>Stipulated minimum threshold</u>
Fabricated Structural Steel (reinforcement steel)	C3.2.10.2 & C3.2.10.3	100%
Textile, Clothing and Footwear (PPE Clothing & EPWP signage)		100%
Guardrails	C11.4.1.1 a), C11.4.1.2 a), C11.4.6.1	100%
Road Signs	C11.6.1.3 b) & C11.6.1.3 c)	100%

3. Does any portion of the goods or services offered have any imported content?

(Tick applicable box)

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

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

The relevant rates of exchange information are accessible on www.resbank.co.za

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

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

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

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

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

IN RESPECT OF BID NO.

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

.....

NB

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on http://www.thedti.gov.za/industrial_development/ip.jsp. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, (full names),

do hereby declare, in my capacity as

of(name of bidder entity), the

following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
 - (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
- (c) The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

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

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

The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

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

SIGNATURE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

Annexures of MBD 6.2 Local Production and Content

Annexure C

[illegible]

Failure to complete, sign and date this form shall result in the tender being considered non-responsive and rejected in terms of clause C.3.8 of the Conditions of Tender.

Annexure D

SATs 1286.2011

Annex D

Imported Content Declaration - Supporting Schedule to Annex C

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

Note: VAT to be excluded from all calculations

EU R 9.00

GBP R 12.00

A. Exempted imported content

Calculation of imported content

Tender item no's	Description of imported content	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Exchange Rate	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D14)	(D15)	(D16)

(D19) Total exempt imported value

Summary

Tender Qty	Exempted imported value
(D17)	(D18)

This total must correspond with Annex C- C 21

B. Imported directly by the Tenderer

Calculation of imported content

Tender item no's	Description of imported content	Unit of measure	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)

(D32) Total imported value by tenderer

Summary

Tender Qty	Total imported value
(D30)	(D31)

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

Calculation of imported content

Description of imported content	Unit of measure	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT
(D33)	(D34)	(D35)	(D36)	(D37)	(D38)	(D39)	(D40)	(D41)	(D42)

(D45) Total imported value by 3rd party

Summary

Quantity imported	Total imported value
(D43)	(D44)

D. Other foreign currency payments

Calculation of foreign currency payments

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

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

Summary of payments

Local value of payments
(D51)

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

This total must correspond with Annex C - C 23

Signature of tenderer from Annex B

Date: _____

This form must be completed, signed and dated by the contractor and kept for a period of 5 years for audit purposes. Annexure D is not a returnable document.

Annexure E

Annex E				
SATS 1286.2011				
Local Content Declaration - Supporting Schedule to Annex C				
(E1)	Tender No.		Note: VAT to be excluded from all calculations	
(E2)	Tender description:			
(E3)	Designated products:			
(E4)	Tender Authority:			
(E5)	Tendering Entity name:			
	Local Products (Goods, Services and Works)	Description of Items purchased	Local suppliers	Value
		(E6)	(E7)	(E8)
			(E9) Total local products (Goods, Services and Works)	
(E10)	Manpower costs	(Tenderer's manpower cost)		
(E11)	Factory overheads	(Rental, depreciation & amortisation, utility costs, consumables etc.)		
(E12)	Administration overheads and mark-up	(Marketing, insurance, financing, interest etc.)		
			(E13) Total local content	
			This total must correspond with Annex C - C24	
Signature of tenderer from Annex B				
Date: _____				

rm must be completed, signed and dated by the contractor and kept for a period of 5 years for audit purposes. Annexure D is not a returnable document.

MBD 7.2

CONTRACT FORM - RENDERING OF SERVICES

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

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

1. I hereby undertake to render services described in the attached bidding documents to (name of the institution) **THE MSUNDUZI MUNICIPALITY** in accordance with the requirements and task directives / proposals specifications stipulated in Bid Number **SCM 46 OF 22/23** at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the Purchaser during the validity period indicated and calculated from the closing date of the bid.
2. The following documents shall be deemed to form and be read and construed as part of this agreement:
 - (i) Bidding documents, viz
 - Invitation to bid;
 - Tax clearance certificate;
 - Pricing schedule(s);
 - Filled in task directive/proposal;
 - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011;
 - Declaration of interest;
 - Declaration of bidder's past SCM practices;
 - Certificate of Independent Bid Determination;
 - Special Conditions of Contract;
 - (ii) General Conditions of Contract; and
 - (iii) Other (specify)
3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the services specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.
4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment of this contract.
5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.
6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT)

CAPACITY

SIGNATURE

NAME OF FIRM

DATE

WITNESSES

1

2

DATE:

MBD 7.2

CONTRACT FORM - RENDERING OF SERVICES

PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I..... in my capacity as..... accept your bid under reference number **SCM 46 OF 22/23** dated.....for the rendering of services indicated hereunder and/or further specified in the annexure(s).
2. An official order indicating service delivery instructions is forthcoming.
3. I undertake to make payment for the services rendered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice.

DESCRIPTION OF SERVICE	PRICE (ALL APPLICABLE TAXES INCLUDED)	COMPLETION DATE	B-BBEE STATUS LEVEL OF CONTRIBUTION	MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)

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

SIGNED AT ON

NAME (PRINT)

SIGNATURE

OFFICIAL STAMP

--

WITNESSES

1

2

DATE:

MBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1 This Municipal Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be disregarded if that bidder, or any of its directors have-
 - a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
 - b. been convicted for fraud or corruption during the past five years;
 - c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
 - d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

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

4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		

I, the undersigned certify that the information furnished on this declaration form is true and correct. I accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.

CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *per se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. take all reasonable steps to prevent such abuse;
 - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract. 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.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

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

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

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Municipality / Municipal Entity)

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

I certify, on behalf of: _____ that:

(Name of Bidder)

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

MBD 9

6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However communication between partners in a joint venture or consortium³ will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices;
 - (b) geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit, a bid;
 - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
 - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

Js914w 2

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

E. B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE

Notes to tenderer:

1. The tenderer shall submit proof of B-BBEE Status Level of Contributor by submitting a copy of a valid B-BBEE Verification Certificate issued in accordance with the Amended Construction Sector Code published in Notice 931 of 2017 of Government Gazette No. 41287 of 1 December 2017.
2. The certificate shall:
 - (i) have been issued by a verification agency accredited by the South African National Accreditation System (SANAS); or
 - (ii) in the case of an Exempted Micro Enterprise (EME) with a total annual revenue of R10 million and less, be in the form of a sworn affidavit or a certificate issued by the Companies and Intellectual Property Commission (CIPC), in respect of their ownership and annual turnover, for the year ending not earlier than 12 (twelve) months prior to the tender closing date;
 - (iii) in the case of a Qualifying Small Enterprise (QSE) with a total annual revenue of more than R10 million but less than 50 million, be in the form of a sworn affidavit or a certificate issued by the Companies and Intellectual Property Commission (CIPC), in respect of their ownership and annual turnover, for the year ending not earlier than 12 (twelve) months prior to the tender closing date; and
 - (iv) have a date of issue not earlier than 12 (twelve) months prior to the tender closing date.
3. A consortium or joint venture (including unincorporated consortia and joint ventures) must submit a consolidated B-BBEE Status Level Verification Certificate. In addition, the consolidated B-BBEE Status Level Verification Certificate for unincorporated joint ventures shall only be applicable to this project (Tender No. to be indicated on the certificate).
4. An enterprise will qualify as an Exempted Micro Enterprise (EME) if it has a total annual revenue of R10 million or less, and is deemed to have the following B-BBEE Status in accordance with their black ownership levels:
 - (i) if less than 30% Black Owned then **“Level Five Contributor”**;
 - (ii) if at least 30% Black Owned but less than 51% Black Owned then **“Level Four Contributor”**;
 - (iii) if at least 51% Black Owned but less than 100% Black Owned, then **“Level Two Contributor”**; and
 - (iv) if 100% Black Owned then **“Level One Contributor”**.
5. Tenderers are advised that any misrepresentation in the affidavits is a criminal offence.

F. CERTIFICATE OF ATTENDANCE TO COMPULSORY CLARIFICATION MEETING**NOTICE OF COMPULSORY SITE INSPECTION**

A compulsory site inspection was held on Thursday, 19 January 2023

The meeting for the site inspection took place at the offices of the Msunduzi Municipality, Roads and Transportation, 333 Church Street, A. S Chetty Building, 4th Floor Boardroom

Compulsory Site Inspection Certificate

It is hereby certified that I have attended the Compulsory Site Inspection and have satisfied myself of the conditions and circumstances which may influence the Works and the cost thereof.

NAME OF REPRESENTATIVE:

POSITION:

ON BEHALF OF TENDERER:

ADDRESS:

.....

TELEPHONE NUMBER:

SIGNATURE (FOR TENDERER):

.....

EMPLOYER'S OFFICIAL:

SIGNATURE:.....

DATE:

STAMP

The following is a statement of work of similar nature recently successfully executed by myself / ourselves:

[illegible]

SIGNATURE:

(Of person authorised to sign on behalf of the Tenderer)

H. KEY PERSONNEL

The Tenderer must insert in the spaces provided below a list of the key personnel to be employed in the management of the construction of the Works, together with a resume of their experience with particular reference to the construction of similar Works.

CONTRACTS MANAGER		NAME:	
• Attach a detailed CV and Proof of Qualification and Proof of Professional Registration			
CLIENT & NATURE OF WORK	POSITION HELD	VALUE OF WORK	PROJECT DURATION
CONSTRUCTION MANAGER		NAME:	
• Minimum Qualification shall be National Diploma in Civil Engineering • Attach a detailed CV and Proof of Qualification and Proof of Professional Registration			
CLIENT & NATURE OF WORK	POSITION HELD	VALUE OF WORK	PROJECT DURATION
CONSTRUCTION SUPERVISOR (FOREMAN)		NAME:	
• Attach a detailed CV • The experience must be of same caliber as proposed during pre-qualification to panel of contractors of better			
CLIENT & NATURE OF WORK	POSITION HELD	VALUE OF WORK	PROJECT DURATION

H2. KEY PERSONNEL – LABOUR INTENSIVE ACTIVITIES

Contractors shall employ in labour-intensive works only those supervisory and management staff that have completed the required Skills Programme in terms of Appendix C of the “Guidelines for the implementation of labour-intensive infrastructure projects under the Expanded Public Works Programme (EPWP) Third Edition 2015”:

- Foremen / Supervisors at NQF level 4 “National Certificate: Supervision of Civil Engineering Construction Processes”;
- Site Agent / Construction Manager at NQF level 5 “Manage Labour-Intensive Construction Processes” or equivalent Quality Council for Trades and Occupations (QCTO) qualifications at NQF level 5 or 7.

Tenderers’ attention is drawn to the required minimum supervisor to worker ratio for this project stated in clause F2.3 of Part F of the Particular Specifications.

The Tenderer must insert in the spaces provided below the relevant details of the personnel to be employed in the construction of the Works possessing the required qualifications in the supervision or management of LIC projects. A copy of the relevant qualification certificate for each such person shall be attached to the next page below.

DESIGNATION	NAME	NAME OF TRAINING INSTITUTION	QUALIFICATION OBTAINED IN THE SUPERVISION OR MANAGEMENT OF LIC PROJECTS	YEAR QUALIFICATION OBTAINED

Attach additional pages if more space is required

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

I. CONSTRUCTION EQUIPMENT

The following are lists of major construction equipment that I / we presently own or will acquire for this contract if my / our tender is accepted.

(a) Details of major construction equipment owned by me / us:

DESCRIPTION (<i>type, size and capacity</i>)	QUANTITY	YEAR OF MANUFACTURE

Attach additional pages if more space is required

(b) Details of major construction equipment that will be acquired:

DESCRIPTION (<i>type, size and capacity</i>)	QUANTITY	HOW ACQUIRED	
		HIRE / BUY	SOURCE

Attach additional pages if more space is required

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

J. PROPOSED SUBCONTRACTORS

I/We hereby notify you that it is my/our intention to employ the following subcontractors for work under this contract. If I/we am/are awarded a contract I/we agree that this notification does not change the requirement for me/us to submit the names of proposed subcontractors in accordance with the requirements of the contract for such appointments.

Acceptance of this tender shall not be construed as approval of any or all of the listed subcontractors. Should any or all of the subcontractors not be approved subsequent to the acceptance of the tender, it shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding, even in the event of a subcontractor not listed below being approved by the Employer.

NAME OF SUBCONTRACTOR	CSD NUMBER	DESIGNATED GROUP AND OWNERSHIP %	B-BBEE LEVEL	NATURE OF WORK	PERCENTAGE TO BE SUBCONTRACTED

Attach additional pages if more space is required.

NB: The subcontractors listed above will not contribute to the achievements of the objectives specified in Section C3.3 Part G of this tender document.

Signed _____ Date

Name _____ Position

Tenderer

K. PARTICIPATION IN JOB CREATION USING LOCAL LABOUR

The Tenderer shall be required to participate in job creation (employment of local labour) by executing various portions of the Works using local labour (unskilled or semi-skilled), recruited from the local community, who are South African Citizens or foreigners in possession of a work visa issued by the Department of Home Affairs (only one such foreigner may be employed on any project). Proof of citizenship or work visa may be audited during the contract period.

The creation of one job shall mean the employment, for any period of time, of one such unskilled or semi-skilled labourer from the local community.

The Tenderer shall note the requirements for Job Creation Reporting for EPWP as set out in Part F: Expanded Public Works Programme (EPWP) of the project specifications.

The number of jobs to be created using such local labour is inclusive of the local labour employed to execute various portions of the Works by both the main Contractor and any subcontractors, including the small development subcontractors in terms of Part G: Small Contractor Development of the project specifications.

The number of jobs to be created using such local labour shall include for a minimum percentage allocation to the following individual targeted groups:

- 60% Women;
- 55% Youth; and
- 2% Disabled.

The minimum required content of such local labour for this project shall be calculated as follows:

Minimum required content of such local labour (%)

$$= \frac{(100 \times \text{amount spent on wages for such local labour (excluding VAT)})}{(\text{Subtotal 1* (excluding contingencies, contract price adjustment and VAT)})}$$

**Subtotal 1 is obtained from the Tender Summary under C2.2 Bill of Quantities*

The minimum required content of such local labour for this project shall be 7.46%.

For purposes of completing the table on the next page containing the Tenderer's declaration with respect to participation in job creation using local labour, the value of Subtotal 1* (excluding contingencies, contract price adjustment and VAT) which is obtained from the Tender Summary under C2.2 Bill of Quantities, shall be used.

TENDERER'S DECLARATION WITH RESPECT TO PARTICIPATION IN JOB CREATION USING LOCAL LABOUR:

The Tenderer shall complete the table below reflecting the anticipated local labour force to be employed on this contract, including such local labour employed by subcontractors.

I/We hereby tender to participate in job creation through the employment of local labour by creating the following number of jobs using unskilled or semi-skilled labourers, recruited from the local community, who are South African Citizens or foreigners in possession of a work visa issued by the Department of Home Affairs (only one such foreigner may be employed on any project), including for a minimum allocation of 60% Women, 55% Youth and 2% Disabled:

Local labour comprising unskilled or semi-skilled labourers recruited from the local community	Anticipated number of jobs to be created	Total number of person-days anticipated	Wage rate per person-day (excluding VAT) (Rand)	Total wage cost (excluding VAT) (Rand)
Contractor's local labour content				
Subcontractors' local labour content				
Total anticipated wage cost of local labour content (excluding VAT)				R
Subtotal 1* (excluding contingencies, contract price adjustment and VAT)				R
Hence anticipated local labour content expressed as a percentage of Subtotal 1* (excluding contingencies, contract price adjustment and VAT))				%
Specified minimum local labour content				7.46%

A penalty shall be applied to any shortfall in the local labour content achieved when measured against the specified minimum local labour content, as set out in Part F: Expanded Public Works Programme (EPWP) of the project specifications. The penalty shall not apply to shortfalls in the allocations to the individual target groups (i.e., Women/Youth/Disabled), only to shortfalls in the total local labour content achieved.

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the Tenderer, confirms that he/she understands the conditions for such participation and confirms that the tender satisfies the conditions for participation in job creation through the employment of local labour.

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

Failure to complete, sign and date this form shall result in the tender being considered non-responsive and rejected in terms of clause C.3.8 of the Conditions of Tender.

L. HEALTH AND SAFETY DECLARATION

In terms of Regulation 5(1)(h) of the OHSA 1993 Construction Regulations 2014 (referred to as 'the Regulations' hereafter), a Contractor may only be appointed to perform construction work if the Employer is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993, as amended 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 Specification.
3. I propose to achieve compliance with the Regulations by one of the following:
 - (a) From my own competent resources as detailed in 4(a) hereafter: ***Yes / No**
 - (b) From my own resources or still to be appointed, and trained until competency is achieved, as detailed in 4(b) hereafter: ***Yes / No**
 - (c) From outside sources by appointment of competent specialist subcontractors as detailed in 4(c) hereafter: ***Yes / No**

(* = delete whatever is not applicable)

4. Details of resources I propose:

Note: Competent resources shall include safety personnel such as the construction manager, construction health and safety officer and construction supervisor as defined in Regulation 8, and competent persons as defined in the OHSA 1993 Construction Regulations 2014, as applicable to this contract.

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

NAME OF COMPETENT PERSONS	POSITION TO BE FILLED BY COMPETENT PERSONS

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

(i) By whom will training be provided?

(ii) When will training be undertaken?

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

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

Name of proposed subcontractor:

Qualifications or details of competency of the subcontractor:

.....

.....

5. I hereby undertake, if my tender is accepted, to provide, before commencement of the works under the contract, a suitable, sufficiently documented and coherent site-specific Health and Safety Plan in accordance with Regulation 7(1)(a) of the Construction Regulations, which plan shall be subject to approval by the Employer.
6. I confirm that copies of my company's approved Health and Safety Plan, the Employer's Health and Safety Specification as well as the OHSA 1993 Construction Regulations 2014 will be provided on site and will at all times be available for inspection by the Contractor's personnel, the Employer's personnel, the Employer's Agent, Construction Health and Safety Agent, visitors, and officials and inspectors of the Department of Labour.
7. I hereby confirm that adequate provision has been made in my tendered rates and prices in the schedule 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 in terms of the said Regulations (Regulation 33) as a result of contravening or failing to comply with the provisions of the Act and the Regulations.
8. I agree that my failure to complete and execute this declaration to the satisfaction of the Employer will mean that I am unable to comply with the requirements of the OHSA 1993 Construction Regulations 2014, and accept that my tender will be prejudiced and may be rejected at the discretion of the Employer.

Signed Date

Name Position

Tenderer

M. DEVIATIONS AND QUALIFICATIONS

Should the Tenderer wish to make any deviation from or any qualification to the Special Conditions of Contract, Specifications, Bill of Quantities, or Drawings, or should he wish to qualify the tender in any way, he shall indicate the proposals clearly hereunder or alternatively on photocopies of the original tender documentation which shall be attached to this page.

Please note: The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permissible in terms of the Conditions of Tender. Please also refer to Returnable Schedule N.

SECTION	PAGE	DEVIATION OR QUALIFICATION, INCLUDING REFERENCE CLAUSE OR ITEM NUMBER

Attach additional pages if more space is required

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

N. SCHEDULE OF ALTERNATIVE TENDERS

The attention of tenderers is specifically drawn to clause C.2.12 Alternative tender offers of Annex C Standard Conditions of Tender and to clause C.2.12 of section T1.2 TENDER DATA in this project document.

An alternative tender offer or design shall be considered only if the main tender offer has also been submitted in accordance with the requirements of clauses C.2.12.1 and C.2.12.2 of Annex C and such main tender offer is the winning tender as stated in clause C.2.12.3 of Annex C.

Such alternative offers shall be described, measured and priced in sufficient detail to enable the Employer to evaluate the alternative. The Tenderer shall set out the proposal clearly hereunder or alternatively on photocopies of the original tender documentation which shall be attached to this page.

SECTION	PAGE	ALTERNATIVE OFFER, INCLUDING REFERENCE CLAUSE OR ITEM NUMBER

Signed _____ Date _____

Name _____ Position _____

Tenderer _____

O. TECHNICAL PROPOSAL

The tenderer is required to submit a technical proposal which covers the following criteria.

O1. Experience of key personnel

The experience of assigned staff member in relation to the scope of work will be evaluated from three different points of view:

- 1) General experience (total duration of professional activity), level of education and training and positions held of each discipline specific team leader.
- 2) The education, training, skills and experience of the Assigned Staff in the specific sector, field, subject, etc which is directly linked to the scope of work.
- 3) The key staff members' / experts' knowledge of issues which the tenderer considers pertinent to the project e.g. local conditions, affected communities, legislation, techniques etc.

A CV of the contract manager, construction manager and foreman of not more than 3 pages each should be attached to this schedule:

Each CV should be structured under the following headings:

- 1 Personal particulars
 - name
 - date and place of birth
 - place (s) of tertiary education and dates associated therewith
 - professional awards
- 2 Qualifications (degrees, diplomas, grades of membership of professional societies and professional registrations)
- 3 Skills
- 4 Name of current employer and position in enterprise
- 5 Overview of post graduate / diploma experience (year, organization and position)
- 6 Outline of recent assignments / experience that has a bearing on the scope of work

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Signed

Date

Name

Position

O2. Relevant experience

List number of Road Rehabilitation Projects completed.

The evaluation will consider the nature of the reference projects, scope of services provided, and Employer/Client completion certificate.

Appointment letter including completion certificate not older than 15 years per project to be provided with contact details of references.

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise, confirms that the contents of this schedule are within my personal knowledge and are to the best of my belief both true and correct.

Signed

Date

Name

Position

CONTRACT

PART C1: AGREEMENTS AND CONTRACT DATA

PART C2: PRICING DATA

PART C3: SCOPE OF WORK

PART C4: SITE INFORMATION

CONTRACT

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PART C1: AGREEMENTS 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. SCM 46 OF 22/23: THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA MAIN ROAD (WARD 21)

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:

Amount in Words.....

.....

.....

R..... (in figures).

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

Signature: (of person authorised to sign the tender)

Name: (of signatory in capitals)

Capacity: (of signatory)

Name of Tenderer: (organisation)

Address:

.....

Telephone number: **E-mail:**

Witness:

Signature:

Name: (in capitals)

Date:

[Failure of a Tenderer to sign this form will invalidate the tender]

This form is to be completed by the Employer only**C1.1.2: ACCEPTANCE**

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

The terms of the contract are contained in

- Part C1 Agreements and Contract Data (which includes this Agreement)
- Part C2 Pricing Data
- 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 fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed 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:

Name: *(in capitals)*

Capacity:

Name of Employer: *(organisation)*

Address:

.....

Witness: Signature: **Name:** *(in capitals)*

Date:

This form is to be completed by the Employer and the successful tenderer only, upon acceptance of the successful tenderer's offer

C1.1.3: SCHEDULE OF DEVIATIONS

The extent of deviations from the tender documents issued by the Employer prior to the tender closing date is limited to those permitted in terms of the Tender Data and the Conditions of Tender.

A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of agreement reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.

Any change or addition to the tender documents arising from the above agreement and recorded here shall also be incorporated into the final draft of the Contract.

- 1 Subject:**
Details:
.....
- 2 Subject:**
Details:
.....
- 3 Subject:**
Details:
.....
- 4 Subject:**
Details:
.....
- 5 Subject:**
Details:
.....

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.

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

FOR THE TENDERER:

Signature:

Name:

Capacity:

Tenderer: *(Name and address of organisation)*

.....

Witness:

Signature:

Name:

Date:

FOR THE EMPLOYER:

Signature:

Name:

Capacity:

Employer: *(Name and address of organisation)*

.....

Witness:

Signature:

Name:

Date:

C1.2: CONTRACT DATA

C1.2.1: CONDITIONS OF CONTRACT

C1.2.1.1 GENERAL CONDITIONS OF CONTRACT

This Contract will be based on the 'General Conditions of Contract for Construction Works, Third Edition (2015)', issued by the South African Institution of Civil Engineering (abbreviated title: 'GCC 2015').

It is agreed that the only variations from the GCC 2015 are those set out hereafter under "C1.2.1.2 SPECIAL CONDITIONS OF CONTRACT".

C1.2.1.2 SPECIAL CONDITIONS OF CONTRACT

C1.2.1.2.1 GENERAL

These Special Conditions of Contract (SCC) form an integral part of the Contract. The Special Conditions of Contract shall amplify, modify or supersede, as the case may be, the GCC 2015 to the extent specified below, and shall take precedence and shall govern.

The clauses of the Special Conditions of Contract hereafter are numbered "SCC" followed in each case by the number of the applicable clause or subclause in the GCC 2015, and the applicable heading, or (where a new special condition that has no relation to the existing clauses is introduced) by a number that follows after the last clause number in the GCC 2015, and an appropriate heading.

C1.2.1.2.2 AMENDMENTS TO THE GCC 2015

SCC 4.1.1 Extent of Contractor's obligations

Add the following new paragraphs to the end of Clause 4.1.1:

"If the Contractor fails to achieve the monetary value of the contract participation goal stated in the Contract Data for local labour content in terms of Part F: Expanded Public Works Programme of section C3.3 Particular Specifications in Part C3: Scope of Work, the Contractor shall be liable to the Employer for a sum calculated in accordance with the Contract Data and the aforementioned Scope of Work as a penalty for such underachievement."

SCC 4.10.1 Engagement of employees

Add the following to Clause 4.10.1:

"The contractor shall pay rates and wages, and observe conditions of labour, which are not lower than those established for the trade or industry where the work is carried out, as stated in the Contract Data."

SCC 5.3.1 Commencement of the Works

Delete the first sentence of Clause 5.3.1 and substitute the following:

"The Employer's Agent shall give the Contractor not less than 7 days' notice of the date of commencement of the Works on which date the Contractor is instructed to commence carrying out the Works, save as may be otherwise provided in the Contract, or be legally or physically impossible. The date of commencement of the Works shall be within the period after the Commencement Date stated in the Contract Data."

SCC 5.3.3 Time to instruct commencement of the Works

Delete Clause 5.3.3.

SCC 5.14.4 Certification of Completion

Insert the following in the first sentence after the words "has been duly completed,":

"and the Contractor has submitted the information stated in the Contract Data,".

SCC 5.14.6 Occupation by the Employer

Add the following to Clause 5.14.6:

"The use of any completed roadway or parts of the Works, whether for unhindered use by the public or for accommodation of traffic, while other parts are being constructed, shall not constitute occupation of the Works by the Employer."

SCC 6.2.1 Delivery of security

In the last two lines of Clause 6.2.1, delete the words "the type of security for the due performance of the Contract, as selected in the Contract Data" and replace them with the words "a fixed performance guarantee as security for the due performance of the Contract in accordance with the Contract Data Part A: Data Provided by the Employer".

Delete the entirety of Clause 6.2.2 and replace it with the following:

"SCC 6.2.2 Contractor failing to provide security

If the Contractor fails to provide the required fixed performance guarantee within the time period stated in the Contract Data, or if the performance guarantee shall differ substantially from the pro forma, it shall legally be deemed that the Contractor has selected a security of ten per cent retention of the value of the Works without limiting the Employer's right to terminate the Contract in terms of Clause 9.2."

SCC 6.2.3 Validity of performance guarantee

Delete the entirety of the first sentence of Clause 6.2.3 and replace it with the following:

"The Contractor shall ensure that the performance guarantee remains valid and enforceable until the Certificate of Completion is issued."

SCC 6.10.4 Delivery, dissatisfaction with and payment of payment certificate

Delete "within 28 days" in the third sentence and substitute "within 30 days".

SCC 6.10.8 Contractor's completion statement

Delete "within 28 days" in the third sentence and substitute "within 30 days".

SCC 6.10.9 Final Payment Certificate

Delete "within 28 days" in the second sentence and substitute "within 30 days".

SCC 10.1.5 Employer's Agent's ruling on Contractor's Claim

Delete "within 28 days" in the first sentence and in Clause 10.1.5.1, and substitute "within 56 days".

C1.2.2: DATA PROVIDED BY THE EMPLOYER

The following contract specific data are applicable to this contract.

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
1.	GENERAL
1.1.1.13	The Defects Liability Period is 12 months.
1.1.1.14	The time for achieving Practical Completion is <u>10 months</u> from the date of commencement of the Works, including non-working days and special non-working days.
1.1.1.26	Pricing Strategy: The Contract is to be a Re-measurement Contract.
1.1.1.15	Name of Employer: THE MSUNDUZI MUNICIPALITY
1.2.1.2	Address of Employer: Physical: Postal: 333 Church Street Private Bag X205 Pietermaritzburg Pietermaritzburg 3201 3200 E-mail: Nkosikhona.Mabizela@msunduzi.gov.za Telephone No: Fax No:
1.1.1.16	Name of Employer's Agent: TLS ENGINEERS AND PROJECT MANAGERS
1.2.1.2	Address of Employer's Agent: Physical: Postal: 14 Surrey Road, Scottsville P.O. Box 100128 Pietermaritzburg Scottsville 3201 3209 E-mail: phiwam@tlsengineers.co.za Telephone No: 033 343 2069 Fax No: 033 343 2079
3.	EMPLOYER'S AGENT
3.2.3	The Employer's Agent is required to obtain the specific approval of the Employer before executing any of his functions or duties according to the following Clauses: SCC 5.3.1: Give the Contractor notice of the commencement date of the Works. 6.3.1: Order any work as a Variation Order. 6.3.1: Order any work which requires the utilisation of the provision for contingencies in the Contract Sum. 6.3.1: Order any work which requires the Contract Price to exceed the Contract Sum. 10.1.5: Ruling on a Contractor's claim.

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
4.	CONTRACTOR'S GENERAL OBLIGATIONS
SCC 4.1.1	The contract participation goal for local labour content is <u>7.32%</u> .
	The penalty for failing to achieve the monetary value of the above target set by the Employer for local labour content in terms of Part F: Expanded Public Works Programme of section C3.3 Particular Specifications in Part C3: Scope of Work, is 5% of the monetary value by which the achieved monetary value falls short of the target monetary value.
SCC 4.10.1	The Contractor and his subcontractors shall be registered with the Bargaining Council for the Civil Engineering Industry, and comply with the wage rates and conditions of labour agreed by the Bargaining Council for the Civil Engineering Industry, except where a specific industry publishes its own wage rates and conditions of labour.
	The wage rates and conditions of labour employed under the Expanded Public Works Programme, shall comply with the Ministerial Determination 4, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. R347 of 4 May 2012.
5.	TIME AND RELATED MATTERS
SCC 5.3.1 and 5.3.2	The date of commencement of the Works shall be within 28 days, or 56 days if a construction work permit is required, after the Commencement Date.
	The following documentation shall be submitted within <u>14 days</u> of the Commencement Date by the Contractor before commencing to carry out the Works:
	(i) Health and Safety Plan (refer to Clause 4.3); (ii) Form C1.4 'Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993' to be signed by the Contractor and the Employer (refer to Clause 4.3); (iii) Proof of registration and good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993) (refer to Clause 4.3); (iv) Initial Programme (refer to Clause 5.6); (v) Security (refer to Clause 6.2); (vi) Insurance (refer to Clause 8.6); and (vii) Details of Proposed Construction Manager, including; Curriculum Vitae detailing relevant experience, Copies of Qualification Certificates, Copies of Professional Registration Certificate (refer to Clause 4.12.2) (viii) The balanced rates, prices and amounts accepted and agreed by the Contractor and Employer (refer to Clause 6.8.1)
	and if the Employer is required to apply for a construction work permit to perform construction work in terms of regulation 3(1) of the Construction Regulations 2014, the following documentation shall <u>also</u> be submitted:
	(ix) Temporary works designer's appointment duties in terms of Regulation 6(2) as have been agreed upon plus proof of registration with ECSA [CR 3(5)(b)(iii) read with CR 5(1)(e) and CR 6(2)]; (x) Evidence that the Principal contractor has made adequate provision for the cost of Health and Safety, i.e., bill of quantities [CR 3(5)(b)(iii) read with CR 5(1)(g)]; and (xi) Evidence that the Principal contractor has the necessary competencies to carry out construction work safely, namely, schedule of activities, relevant appointments and proofs of competency [CR 5(1)(h)].

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
5.8.1	The non-working days are Sundays. The special non-working days are: (i) the statutory public holidays in terms of the Public Holidays Act; (ii) the foreseeable election days declared as a statutory public holiday; and (iii) the annual year-end shutdown period as recommended by the Bargaining Council for the Civil Engineering Industry.
5.13.1	The penalty for failing to complete the Works is 0,05% of the Contract Sum per day, up to a maximum limit of twenty-five thousand rand per day (R25 000,00 per day).
5.14.1	The requirements for achieving Practical Completion are as stated in clause 1210 of the 'COLTO Standard Specifications for Road and Bridge Works for State Road Authorities, 1998 Edition', as amended in clause B1210 in Part B of C3.2 Project Specification.
SCC 5.14.4	The Contractor shall submit the following: (i) evidence that the local labour has been paid, and that the Targeted Enterprise subcontractors have received all amounts due in terms of their respective subcontract agreements; and (ii) the survey and materials information which the Employer's Agent requires to complete the as-built drawings and records.
5.16.3	The latent defects period is 10 years.
6.	PAYMENT AND RELATED MATTERS
SCC 6.2.1	The security to be provided by the Contractor shall be: Fixed Performance Guarantee of 10% of the Contract Sum.
6.5.1.2.3	The percentage allowance to cover overhead charges is 15%.
6.8.2	The value of payment certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following data. The values of the coefficients for calculating the Contract Price Adjustment Factor are: Road works – Rehabilitation/Resurfacing works (Schedules A, D, F and G): a = 0,2 b = 0,35 c = 0,35 d = 0,1 "L", "P", "M" and "F" are defined as follows: "L" is the "Labour Index" and shall be the Consumer Price Index for "Geographic Indices > CPI per province > KwaZulu-Natal" as published in Table A of the Statistical Release P0141 of Statistics South Africa. "P" is the "Construction Equipment Index" and shall be the Construction Materials Price Index for "Plant and equipment" as published in Table 4 of the Statistical Release P0151.1 of Statistics South Africa. "M" is the "Materials Index" and shall be the Construction Materials Price Index as published in Table 6 of the Statistical Release P0151.1 of Statistics South Africa for:

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
6.8.3 6.10.1.5 6.10.3	Road works (Schedules A, D, F and G): “Civil engineering material – roads, general (excluding bitumen)” “F” is the “Fuel Index” and shall be the Producer Price Index for “Coke, petroleum, chemical, rubber and plastic products > Coal and petroleum products > Diesel” as published in Table 1 of the Statistical Release P0142.1 of Statistics South Africa. The base month is the month preceding the month of tender closure. Any index calculated by means of a linking factor between an old and new index, shall be rounded to one decimal place. Price adjustments for variations in the cost of bitumen as a special material are allowed. Only the net bitumen content of asphalt and bituminous products shall be subject to variations in cost, and no account shall be taken of transport, emulsifiers, diluents or modifiers that may be supplied ex refinery or added later. The percentage advance on Plant and materials not yet built into the Permanent Works is 80%. The percentage retention on the amounts due to the Contractor is 10%. The limit of retention money is 5% of the Contract Sum excluding contingencies, contract price adjustment, and VAT. A retention guarantee in lieu of a cash retention is permitted.
8. 8.6.1.1.2 8.6.1.1.3 8.6.1.2 8.6.1.3	RISKS AND RELATED MATTERS The value of Plant and materials supplied by the Employer to be included in the insurance sum is <u>nil</u>. The amount to cover professional fees for repairing or reinstatement of damage to the Works to be included in the insurance sum is <u>nil</u>. Special Risks Insurance issued by SASRIA is required. The limit of indemnity for liability insurance is <u>R10 000 000,00 (ten million Rand only)</u> for any single liability claim. Liability insurance shall include spread of fire risk.
10. 10.5.2 10.7.1	CLAIMS AND DISPUTES Disputes shall be referred to ad-hoc adjudication. Unresolved disputes shall be referred to litigation.

C1.2.3: DATA PROVIDED BY THE CONTRACTOR

The following contract specific data are applicable to this contract.

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE CONTRACTOR												
1.	GENERAL												
1.1.1.9	Name of Contractor:												
1.2.1.2	Address of Contractor:												
	Physical: Postal: 												
	Email:												
6.	PAYMENT AND RELATED MATTERS												
6.8.3	The tenderer shall complete the table below with respect to each of the special materials listed. This information shall be used to calculate the variation in cost of the special materials. The rates and prices for the special materials for the base month which is the month preceding the month of tender closure, shall exclude VAT but shall include all other obligatory taxes and levies. The tenderer shall append to this page a letter from the supplier confirming the supply price for the net bitumen content of asphalt and bituminous products. <table border="1" style="width: 100%;"> <thead> <tr> <th>SPECIAL MATERIALS</th><th>UNIT</th><th>RATE OR PRICE FOR THE BASE MONTH</th></tr> </thead> <tbody> <tr> <td>50/70 penetration grade bitumen</td><td>ton</td><td>.....</td></tr> <tr> <td>70/100 penetration grade bitumen</td><td>ton</td><td>.....</td></tr> <tr> <td>150/200 penetration grade bitumen</td><td>ton</td><td>.....</td></tr> </tbody> </table> Signed on behalf of Tenderer:	SPECIAL MATERIALS	UNIT	RATE OR PRICE FOR THE BASE MONTH	50/70 penetration grade bitumen	ton		70/100 penetration grade bitumen	ton		150/200 penetration grade bitumen	ton	
SPECIAL MATERIALS	UNIT	RATE OR PRICE FOR THE BASE MONTH											
50/70 penetration grade bitumen	ton												
70/100 penetration grade bitumen	ton												
150/200 penetration grade bitumen	ton												

C1.3: PERFORMANCE GUARANTEE

PRO FORMA

PERFORMANCE GUARANTEE

For use with the General Conditions of Contract for Construction Works, Third Edition (2015).

1. GUARANTOR DETAILS AND DEFINITIONS

“Guarantor” means:

Physical address:

“Employer” means:

“Contractor” means:

“Employer’s Agent” means:

“Works” means:

“Site” means:

“Contract” means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

“Contract Sum” means: The accepted amount inclusive of tax of R

Amount in words:

“Guaranteed Sum” means: The maximum aggregate amount of R

Amount in words:

“Expiry Date” means: or any other later date set by the Contractor and/or Employer provided such instruction is received prior to the Expiry Date as indicated here.

2. CONTRACT DETAILS

Employer’s Agent issues: Interim Payment Certificates, Final Payment Certificate and the Certificate of Completion of the Works as defined in the Contract.

3. GUARANTOR’S LIABILITY

3.1 The Guarantor’s liability shall be limited to the amount of the Guaranteed Sum.

3.2 The Guarantor’s period of liability shall be from and including the date on which the Performance Guarantee is signed, up to and including the Expiry Date, or the date of issue by the Employer’s Agent of the Certificate of Completion of the Works, or the date of payment in full of the Guaranteed Sum, whichever occurs first.

3.3 The Employer’s Agent and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

4. CONDITIONS APPLICABLE TO THIS PERFORMANCE GUARANTEE

4.1 The Guarantor hereby acknowledges that:

4.1.1 Any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship.

4.1.2 Its obligation under this Performance Guarantee is restricted to the payment of money.

4.2 Subject to the Guarantor's maximum liability referred to in 3.1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.2.1 to 4.2.3:

4.2.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2.2;

4.2.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.2.1 and the sum certified has still not been paid;

4.2.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.2.

4.3 Subject to the Guarantor's maximum liability referred to in 3.1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:

4.3.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 4.3; or

4.3.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 4.3; and

4.3.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.

4.4 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4.2 and 4.3 shall not exceed the Guarantor's maximum liability in terms of 3.1.

4.5 Where the Guarantor has made payment in terms of 4.3, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.

4.6 Payment by the Guarantor in terms of 4.2 or 4.3 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

4.7 Payment by the Guarantor in terms of 4.3 will only be made against the return of the original Performance Guarantee by the Employer.

4.8 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may consider fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

- 4.9 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 4.10 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 3.2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
- 4.11 This Performance Guarantee, with the required demand notices in terms of 4.2 or 4.3, shall be regarded as a liquid document for the purposes of obtaining a court order.
- 4.12 Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrates' Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

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

THIS AGREEMENT is made between The Province of KwaZulu-Natal represented by Head of Department: Department of Transport (hereinafter called the EMPLOYER) of the one part, herein represented by:

.....

in his capacity as:

AND:

(hereinafter called the CONTRACTOR) of the other part, herein represented by:.....

.....

in his capacity as:

duly authorised to sign on behalf of the Contractor.

WHEREAS the CONTRACTOR is the Mandatary of the EMPLOYER in consequence of an agreement between the CONTRACTOR and the EMPLOYER in respect of:

CONTRACT NO. SCM 46 OF 22/23: THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA MAIN ROAD (WARD 21)

for the construction, completion and maintenance of the works;

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

NOW THEREFORE the parties agree as follows:

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

5. The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

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

on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

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

on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

C1.5: RETENTION MONEY GUARANTEE**PRO FORMA****RETENTION MONEY GUARANTEE**

THE MUNICIPAL MANAGER
THE MSUNDUZI MUNICIPALITY
PRIVATE BAG X205
PIETERMARITZBURG
3200

CONTRACT NO. _____ FOR _____

ISSUED TO: THE **MSUNDUZI MUNICIPALITY**, represented by **THE MUNICIPAL MANAGER** (hereinafter referred to as "the Employer")

ON BEHALF OF: (hereinafter referred to as "the Contractor")

In connection with

CONTRACT NO. SCM (hereinafter referred to as "the Contract")

WHEREAS the Employer and the Contractor have agreed that the Contractor may provide a guarantee in lieu of the whole or portion of the retention monies provided for under the Contract;

NOW THEREFORE we, the undersigned, undertake, in accordance with the following provisions, to pay the Employer such amounts as the Employer may, from time to time, demand from us.

1. Each demand by the Employer shall be in writing signed by the Employer and delivered to us at

.....
or such other address as we shall in writing notify to the Employer and shall be accompanied by a certificate complying with Clause 2, signed by the Employer's Agent as such in terms of the Contract.

2. The Employer's Agent's certificate referred to in Clause 1 shall certify

- (a) that he is the Employer's Agent in terms of the Contract,
- (b) that the Contractor is in breach of his obligations under the Contract, and
- (c) that the amount demanded, which amount the certificate shall specify,

- (i) does not exceed the amount of retention monies which, but for this guarantee, would have been retained by the Employer in terms of the Contract at the date of the certificate, less the aggregate of the amounts of retention money actually retained by the Employer and the amounts previously paid by us to the Employer in terms hereof, and
- (ii) does not exceed a genuine estimate of the cost to the Employer of having the breach referred to in paragraph (b) remedied less the aggregate of any amounts withheld by the Employer from payments due the Contractor in terms of the Contract by reason of the breach referred to, and any amount in retention money actually held by the Employer save to the extent that the same had been deducted from any previous demand in terms hereof.

3. We shall within 28 days after our receipt of a demand complying with the provisions of Clauses 1 and 2 make payment to the Employer of the amount demanded at 172 Burger Street, Pietermaritzburg or at such other address as the Employer shall in writing notify us.
4. Subject to compliance with the provisions thereof, our liability to make the payments herein referred to shall be unconditional and shall not be affected nor diminished by any disputes, claims or counterclaims

between the Employer and the Contractor.

5. Our aggregate liability under this guarantee is limited to R
6. This guarantee shall expire on the date on which the last of the retention monies, which but for this guarantee would have been retained by the Employer, becomes payable to the Contractor.
7. This guarantee is not transferable and must be produced for endorsement if any part payment is made and must be returned to us against final payment of our aggregate liability or on the date of the expiry of the guarantee in terms of Clause 6, whichever is the earlier.

Signed in the presence of the witnesses named hereunder:

At for and on behalf of

on this day of

Signature:

Capacity:

Address:

As Witnesses:

1. Name in Block Letters ...
2. Name in Block Letters

C1.6: TRANSFER OF RIGHTS

TRANSFER OF RIGHTS AND INDEMNITY

(To be completed during construction by successful Tenderer only)

Claim for Plant and materials on site, Payment Certificate No. Date:

Contract No: For (contract title)

I, the undersigned (name of signatory) in my capacity as

..... of (name of Contractor)

duly authorised hereto on behalf of the Contractor hereby transfer, cede and assign all the Contractor's rights, title and interest in and to the Plant and materials, for which evidence of bona fide ownership is attached hereto, unto and in favour of (name of Employer)

Insofar as the Contractor retains actual control of the materials and goods, the right of ownership thereof passes to the Employer by *constitutum possessorium*.

I herewith indemnify the Employer against any claim to and in respect of the said Plant and materials by reason of the Contractor's sequestration or liquidation or of any defect in the Contractor's title to the materials and agree that no payment for materials on site will be made by the Employer until such time as I have submitted documentary proof of bona fide ownership of the said Plant and materials.

This transfer shall become effective upon conclusion of the Contractor receiving payment from the Employer or from any other person on behalf of the Employer for the Plant and materials as Plant and materials on Site, payment of retention money thereon excluded.

I further confirm that I am fully responsible for all Plant and materials listed under this Transfer of Rights and that they have been insured adequately against all risks and will remain insured until they are built into or used in the permanent works and taken over by the Employer.

This certificate of Transfer of Rights applies only to the Plant and materials as listed in the following table.

DESCRIPTION OF ITEM	UNIT	QUANTITY	RATE	AMOUNT	SUPPLIER
TOTAL VALUE OF PLANT AND MATERIALS					

Signed by: **Date:**
for and on behalf of the Contractor.

Witnessed by:

NOTE: This form, together with the documentary proof of ownership or proof of payment by the Contractor to the supplier, shall accompany the Contractor's claim for payment for Plant and materials on site in terms of Clause 6.10.1.5 of the General Conditions of Contract 2015.

PART C2: PRICING DATA

C2.1 PRICING ASSUMPTIONS

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, which include the Conditions of Tender, Conditions of Contract, the Specifications (including the Project Specifications) and the Drawings.

2. DESCRIPTION OF ITEMS IN THE SCHEDULE

The Bill of Quantities has been drawn up generally in accordance with the relevant provisions of the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition) as prepared by the South African Committee of Land Transport Officials (COLTO).

The short descriptions of the items in the Bill of Quantities are for identification purposes only and the measurement and payment clause of the COLTO Standard Specifications (1998 edition) and the Particular Specifications, read together with the relevant clauses of the amendments and additions contained in the Project Specifications and directives on the drawings, set out what ancillary or associated work and activities are included in the rates for the operations specified.

The item numbers appearing in the Bill of Quantities refer to the corresponding item numbers in the COLTO Standard Specifications (1998 edition). Item numbers prefixed by the letter B refer to items of payment described in Part B Amendments to the Standard Specifications.

For the purposes of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit: The unit of measurement for each item of work as defined in the specifications.

Quantity: The number of units of work for each item.

Rate: The payment per unit of measurement at which the Tenderer tenders to do the work.

Amount: The product of the quantity and the rate tendered for an item.

Lump Sum: An amount tendered for an item, the extent of which is described in the Bill of Quantities, the specifications or elsewhere, but the quantity of work of which is not measured in any units.

3. QUANTITIES REFLECTED IN THE BILL OF QUANTITIES

The quantities given in the Bill of Quantities are estimates only, and are subject to re-measure during the execution of the work. The quantities finally accepted and certified for payment, and not the quantities given in the Bill of Quantities, shall be used to determine payments to the Contractor. 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 quantities of material or work stated in the Bill of Quantities shall not be regarded as authorisation for the Contractor to order material or to execute work.

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 COLTO Standard Specifications subclause 1209(a), the 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.

4. PROVISIONAL SUMS

Where Provisional sums or Prime Cost sums 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 2015. 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 by the Employer in the "Amount" column of the Bill of Quantities and in the Summary of the Bill of Quantities unless so ordered or authorised in writing by the Employer before closure of tenders. Any unauthorised changes made by the Tenderer to provisional items in the Bill of Quantities, or to the provisional percentages and sums in the Summary of the Bill of Quantities, at the Employer's discretion, may invalidate the Tenderer's offer or may be treated as arithmetical errors and the provisional items and percentages corrected without change to the Contract Sum.

5. 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. The rates and lump sums shall be comprehensive in accordance with subclause 1209(b) of the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition).

Each item shall be priced and extended to the "Amount" column by the Tenderer, with the exception of the items for which only rates are required, or items which already have Prime Cost or Provisional Sums affixed thereto. If the Tenderer 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.

Should the Tenderer group a number of items together and tender one lump sum for such group of items, this single lump sum shall apply to that group of items and not to each individual item.

The tendered lump sums and rates shall be valid irrespective of any change in the quantities during the execution of the contract.

The Tenderer shall fill in rates for all items where the words "rate only" appear in the "Amount" column. The provisions of subclause 1209(f) of the COLTO Standard Specifications shall apply to rate only items. "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 imbalanced.

Reasonable compensation will be received where no pay item appears in respect of work required in terms of the Contract which is not covered in any other pay item.

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. Note that fractions of a cent in all rates shall be omitted.

6. CORRECTION OF ENTRIES

Incorrect entries shall not be erased or obliterated with correction fluid but must be crossed out neatly. The correct figures must be entered above or adjacent to the deleted entry, and the alteration must be initialled by the Tenderer.

7. INTERIM PAYMENTS

Unless otherwise specified, progress payments in Interim Certificates, referred to in Clause 6.10 of the General Conditions of Contract 2015, 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 executed by the Contractor.

Notwithstanding any custom to the contrary, the work as executed will be measured for payment in accordance with the methods described in the contract documents under the various items of payment.

Attention is directed to the provisions of Clause 1220 of the COLTO Standard Specifications regarding the measurement of quantities for payment. Except where specified otherwise than in Clause 1220, the nett measurements or mass of the finished work in place shall be taken for payment, but any quantity of work in excess of that prescribed shall be excluded.

8. ITEMS SCHEDULED FOR CONSTRUCTION USING LABOUR-INTENSIVE METHODS

Those parts of the Works to be constructed using labour-intensive methods are marked in the Bill of Quantities with the letters LI, either in a separate column or as a prefix or suffix against every item so designated. The Works or parts of the Works so designated are to be constructed using labour-intensive methods only, unless otherwise specified in the Scope of Work.

The items marked with the letters LI include:

- (a) Items in the COLTO Standard Specifications that would normally be carried out using labour-intensive construction methods.
- (b) Items in the COLTO Standard Specifications that would normally be carried out using equipment but which have been modified specifically so as to require the use of labour-intensive construction methods instead of equipment for some or all of the work components of the item.
- (c) New items that have been written for this contract specifically requiring the use of labour-intensive construction methods rather than equipment for some or all of the work components of the item.

The items marked with the letters LI are not necessarily an exhaustive list of all the activities which could be carried out using labour-intensive methods. Where a minimum percentage for local labour content is specified, additional activities may need to be identified to be carried out using labour-intensive methods rather than equipment in order to meet such target.

9. UNITS OF MEASUREMENT

The units of measurement described in the Bill of Quantities are metric units. The following abbreviations are used in the Bill of Quantities:

mm	= millimetre	m ³ .km	= cubic metre kilometre	Prov sum	= provisional sum
m	= metre	l	= litre	kPa	= kilopascal
km	= kilometre	kl	= kilolitre	MPa	= megapascal
km.pass	= kilometre pass	kg	= kilogram	MN	= meganewton
m ²	= square metre	t	= ton (1 000 kg)	t.km	= ton kilometre
m ² .pass	= square metre pass	No	= number	h	= hour
ha	= hectare	%	= percent	dia	= diameter
m ³	= cubic metre	PC sum	= prime cost sum	Sum	= lump sum
kW	= kilowatt	MN.m	= meganewton metre		

10. CONSISTENCY OF RATES

In order to ensure that payments certified by the Employer's Agent are reasonably consistent with the market value of the work done, and that variations in quantities do not distort the contract valuation, the rates, prices and amounts tendered in the Bill of Quantities are required to be in balance.

A tender will be considered out of balance if:

- (i) the combined, extended total tendered for the item:

B13.01 The contractor's general obligations:

- (a) Fixed obligations
- (b) Value-related obligations
- (c) Time-related obligations

exceeds a maximum of 15% of the Contract Sum (excluding contingencies, contract price adjustment and VAT).

- (ii) the rate, price or amount tendered for any other item differs by more than 20 (twenty) percent from the average of the rates, prices or amounts for the same item as tendered by those tenderers who submitted the lowest five responsive tender offers (or as tendered by all the responsive tenderers if there are less than five responsive tenderers).

Any such out of balance tender may be rejected if, after three (3) working days of having been given written notice by the Employer to adjust those rates or lump sums which are unreasonable or out of balance, the Tenderer fails to make the necessary satisfactory adjustments. These adjustments in rectification will be such that increases are balanced by decreases, leaving the tender offer unchanged.

C2.2 BILL OF QUANTITIES

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THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 1200

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
1200	GENERAL REQUIREMENTS AND PROVISIONS						
B12.01	Services:						
	(c) Provisional sum for existing services to be relocated and/or protected during construction	Prov Sum		200 000	1	200,000	00
	(b) Handling costs and profit in respect of subitem B12.01(a) above	%		200 000			
B12.02	The setting-out of work and protection of beacons:						
	(a) Provisional sum for existing beacons to be relocated and/or protected during construction	Prov Sum		25 000	1	25 000	00
	(b) Handling costs and profit in respect of subitem B12.02(a) above	%		25 000			
B12.03	Provision of Community Liaison Officer						
	(a) Wages, salary allowances, etc.	Prov Sum		144 000	1	144 000	00
	(b) Handling cost and profit in respect of subitem B12.02(a)	%		144 000			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 1300

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
1300	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS						
B13.01	Contractor's general obligations:						
	(a) Fixed obligations.	Lump Sum		1			
	(c) Time-related obligations.	Month		10			
B13.02	Health and Safety:						
	(a) Fixed obligation for the preparation of risk assessments, safe work procedures, the project H&S file, the H&S plan and any other H&S matters that the contractor deems necessary.	Lump Sum		1			
	(b) Fixed obligations for completing and checking the Project H&S file and handing it over to the Client on completion of the works.	Lump Sum		1			
	(c) Time-related obligations for updating and amending the risk assessments, the safe work procedures, the project H&S file, the H&S plan and for full compliance with all H&S matters during construction of the works under the contract.	Month		7			
	<i>Note: The combined total tender for B13.01 and B13.02 shall not exceed 15% of the tender sum excluding VAT, CPA and Contingencies.</i>						
B13.03	Supply and transport to site and erection of the contract sign board.	No		2			
B13.04	Monitoring of the Environmental Management Plan (EMP) by the Environmental Control Officer (ECO)						
	(a) Monitoring of the EMP by the ECO	Prov Sum		150 000	1	150 000	00
	(b) Handling costs and profit in respect of subitem B13.04(a) above	%		150 000			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 1400

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
1400	HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL						
B14.01	Office and laboratory accommodation:						
	(a) Offices (interior floorspace only)	m ²		90			
	(e) Ablution units	m ²		10			
	(g) Kitchen	m ²		15			
14.08	Services						
	(a) The provision of water, electricity, sewerage, septic tanks and rubbish removal, cleaning services, maintenance and repairs						
	(i) Fixed costs	L/Sum		1			
	(ii) Running costs	month		10			
Total Carried Forward							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 1500

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
1500	ACCOMMODATION OF TRAFFIC						
B15.01	Accommodating traffic and maintaining temporary deviations.	km		1.0			
B15.03	Temporary traffic-control facilities:						
	(a) Flagmen.	man-day	LI	1080.0			
	(b) Portable STOP and GO-RY signs.	No		4.0			
Total Carried Forward							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 1600

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
1600	OVERHAUL						
B16.02	Overhaul on material hauled in excess of 1,0 km (ordinary overhaul)	m ³ -km		34500.0			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 1700

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
1700	CLEARING AND GRUBBING						
B17.01	Clearing and grubbing	ha		1			
17.02	Removal and grubbing of large trees and tree stumps:						
	(a) Girth exceeding 1m up to and including 2m.	No		8			
	(b) Girth exceeding 2m up to and including 3m.	No		8			
B17.07	Extra over item B17.01 for clearing by hand	ha		0,2			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 2100

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
2100	DRAINS						
21.01	Excavation for open drains:						
	(a) Excavating soft material situated within the following depth ranges below the surface level:						
	(1) 0 m up to 1,5 m	m ³		1000			
	(2) Exceeding 1,5 m and up to 3,0 m	m ³		120			
21.03	Excavation for subsoil drainage systems:						
	(a) Excavating soft material situated within the following depth ranges below the surface level:						
	(1) 0 m up to 1,5 m	m ³		792			
	(2) Exceeding 1,5 m and up to 3,0 m	m ³		237.6			
	(b) Extra over subitem 21.03(a) for excavation in hard material irrespective of depth	m ³		340			
21.04	Impermeable backfilling to subsoil drainage systems	m ³		528			
21.06	Natural permeable material in subsoil drainage systems (crushed stone):						
	(a) Crushed stone obtained from commercial sources						
	(1) Coarse Grade 19mm	m ³		528			
21.07	Natural permeable material in subsoil drainage systems (sand):						
	(a) Sand obtained from approved sources on the site	m ³		96			
	(b) Sand from commercial sources						
	(1) Coarse Grade 4,75mm nominal particle size	m ³		120			
Total Carried Forward							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 2100

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
Total Brought Forward							
21.08	Pipes in subsoil drainage systems: (b) Unplasticised PVC pipes and fittings, normal duty complete with couplings (1) 100 mm internal dia. perforated or slotted (2) 100 mm internal dia. unperforated	m		1100			
21.1	Synthetic-fibre filter fabric (a) Type U24, Grade 3 or similar	m²		35			
21.12	Concrete outlet structures, manhole boxes, junction boxes and cleaning eyes for subsoil drainage systems: (a) Outlet structures (d) Cleaning eyes	No		8			
21.13	Concrete caps for subsoil drain pipes	No		16			
21.15	Overhaul for material hauled in excess of 1,0 km free-haul (normal overhaul)	m³km		1,654			
21.17	Test flushing of pipe subsoil drains	No		3			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 2200

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
2200	PREFABRICATED CULVERTS						
22.01	Excavation:						
	(a) Excavating soft material situated within the following depth ranges below the surface level:						
	(i) 0 m up to 1.5 m	m ³		300			
	(ii) Exceeding 1.5 m and up to 3.0 m	m ³		80			
	(iii) Exceeding 3.0 m and up to 4.5 m	m ³		60			
	(b) Extra over subitem 22.01(a) for excavation in hard material, irrespective of depth	m ³		88			
22.02	Backfilling:						
	(a) Using the excavated material	m ³		120			
	(b) Using imported selected material	m ³		250			
	(c) Extra over subitems 22.02(a) and (b) for soil cement backfilling (with 3% cement)	m ³		150			
22.03	Concrete pipe culverts:						
	(c) On Class C bedding with interlocking joints						
	(ii) 450 mm diameter, Type 100D	m		60			
	(iii) 600 mm diameter, Type 100D	m		34			
22.05	Portal and rectangular culverts Without prefabricated floor slabs						
	(2) 3000mm x 1200mm	m		15			
Total Carried Forward							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 2200

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
Total Brought Forward							
22.07	Cast in situ concrete and formwork: (c) In inlet and outlet structures, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including Class U2 surface finish, Class 25/19 concrete (d) Formwork of concrete under subitem 22.07(c) above (i) Vertical formwork for F2 surface finish	m³		120			
B22.09	Inlet and outlet structures to culverts as shown on Standard Detail Drawings SD 0405/A, SD 0406 and SD 0407 as follows: (a) Inlets and outlets as per SD 0406 and SD 0407 for: (ii) 1 x 450 mm diameter (iii) 1 x 600 mm diameter	No		16			
		No		2			
22.10	Steel reinforcement: (a) Mild-tensile steel bars (b) High-tensile steel bars (c) Welded steel fabric	t		20			
		t		20			
		kg		500			
22.12	Removing existing concrete: (a) Plain concrete (b) Reinforced concrete	m³		30			
		m³		10			
22.25	Overhaul on excavated material carted to spoil, backfill material (but excluding Portland cement in the case of soil cement), existing structures demolished and removed to spoil, and removing and relaying, and removing and stacking existing prefabricated culverts, for haul in excess of the free-haul distance	m³-km		5500			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 2300

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
2300	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS						
23.01	Concrete kerbing with class 15/19 concrete.						
	(a) Precast kerb to SABS 927 (as per Dwg No SD 0701/A) with class 15/19 concrete.	m		1200			
23.07	Trimming of excavations for concrete-lined drains						
	(a) In soft material	m2		2178			
B23.08	Concrete lining for open drains						
	(a) Cast in-situ concrete lining (class 20/19 concrete)						
	(i) V-drains(as shown on drawing no.SD0601/C)	m³		154			
	(b) Class U2 surface finish to cast in situ concrete v-drains	m2		2750			
23.09	Formwork to cast in-situ concrete lining for open drains (class F2 surface finish)						
	(b) To sides with formwork on both internal and external faces	m2		330			
	c) To ends of slabs	m2		150			
23.10	Sealed joints in concrete linings of open drains(sealed with a closed cell expanded polythylene joint filter over full panel depth, as note 3 on drawing no. SD0601/C)	m		417			
23.12	Steel reinforcement for concrete lined open drains						
	c) Welded steel fabric						
	(i) Reference 193	kg		7237.5			
23.13	Polyethylene sheeting(0.15mm thick) for concrete lined open drains	m2		3750			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 3100

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
3100	BORROW MATERIALS						
31.01	Excess overburden.	m ³		500.0			
31.03	Finishing-off borrow areas in:						
	(a) Hard material.	m ³		250			
	(c) Soft material.	m ³		250			
31.03	Finishing-off borrow areas in:						
	(a) Hard excavation	ha		0.1			
	(b) Soft or intermediate material	ha		0.1			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 3300

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
3300	MASS EARTHWORKS						
B33.01	Cut and borrow to fill, including free-haul up to 1 km						
	(a) Gravel material in compacted layer thickness of 200 mm and less:						
	(i) Compacted to 90% of modified AASHTO density	m ³		1237			
	(c) Rock fill (as specified in subclause 3209(c))	m ³		850			
B33.03	Extra over item B33.01(a) for excavating and breaking down material in:						
	(b) Hard excavation	m ³		371			
	(d) Boulder excavation Class B	m ³		124			
B33.04	Cut to spoil including free-haul up to 1.0 km. Material obtained from:						
	(a) Soft or intermediate excavation	m ³		371			
	(c) Hard excavation	m ³		200			
33.05	Overbreak in hard and boulder Class A excavation	m ²		62			
B33.07	Removal of unsuitable material (including free-haul up to 1.0 km):						
	(a) In layer thicknesses of 200 mm and less:						
	(i) Stable material	m ³		150			
	(b) In layer thicknesses exceeding 200 mm:						
	(i) Stable material	m ³		100			
B33.10	Roadbed preparation and the compaction of material where the height of fill is less than 2 m:						
	(a) Compaction to 90% of modified AASHTO density	m ³		140			
33/16.02	Overhaul on material hauled in excess of 1.0 km (ordinary overhaul)	m ³ -km		3711			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 3400

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
3400	PAVEMENT LAYERS OF GRAVEL MATERIAL						
34.01	Pavement layers constructed from gravel taken from cut or borrow, including free haul up to 1,0 km						
	(a) Gravel selected layer compacted to:						
	(ii) 95% of modified AASHTO density (150mm thick G7 under sidewalk)	m ³		165			
34.02	Extra over item 34.01 for excavation of material in:						
	(a) Intermediate material.	m ³		225			
	(b) Hard material.	m ³		75			
B34.14	Pavement layers constructed from commercial sources						
	(a) Gravel selected layer compacted to:						
	(i) 93% of modified AASHTO density (150mm G9-Lower selected subgrade)	m ³		1350			
	(i) 95% of modified AASHTO density (150mm G7-Upper selected subgrade)	m ³		1350			
	(b) Gravel subbase (chemically stabilized material) compacted to:						
	(i) 97% of modified AASHTO density 150mm thick (minimum G4 quality natural material) stabilised to C3 strength.	m ³		1350			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 3500

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
3500	STABILIZATION						
B35.01	Chemical stabilization extra over unstabilized compacted layers consisting of:						
	(a) Chemically stabilised subbase 150mm thick (minimum G4 quality natural material) stabilised to C3 strength.	m ³		1350			
B35.02	Chemical Stabilization agent :						
	(a) Ordinary Portland Cement						
	(i) CEM III-A Grade 32.5 N.	t		250			
35.04	Provision and application of water for curing.	kℓ		550			
35.05	Curing by covering with the subsequent layer.	m ²		7150			
35.13	Extra over item 35.01 for trial section.	m ³		300.0			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 3600

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
3600	CRUSHED STONE BASE						
B36.01	Crushed-stone base: (c) Constructed from type G2 material obtained from commercial sources and compacted to 102% of modified AASHTO density (125mm thickness) 37,5 mm nominal maximum size stone	m ³		893.75			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 4100

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
4100	PRIME COAT						
41.01	Prime coat:						
	(c) MC-30 cut-back bitumen	litre		1132			
	(e) Invert bitumen emulsion	litre		1132			
41.02	Aggregate for blinding	m²		1013			
41.03	Extra over item 41.01 for applying the prime coat in areas accessible only to hand held equipment	litre		100			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 4200

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
4200	ASPHALT BASE AND SURFACING						
42.02	Asphalt surfacing (40mm thickness using 35/50 pen bitumen)						
	(a) Continuously graded (Medium Grade)	m ²		8250			
42.04	Tack coat of 30% stable-grade emulsion	l		19500			
42.05	Binder variations: 35/50 pen	t		5			
B42.07	Trial sections (40mm thickness using 35/50 pen bitumen)	m ²		130			
B42.08	100 mm cores in asphalt paving	No		15			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 5200

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
5200	GABIONS						
52.01	Foundation trench excavation and backfilling:						
	(b) In all other classes of material	m ³		10			
52.02	Surface preparation for bedding the gabions:	m ²		25			
52.03	(a) Galvanised gabion boxes:						
	(i) 2.0 m long by 0,5m wide by 0,5m deep with 2,7mm diameter wire Mesh Type 60 at 1,0m diaphragm spacings	m ³		6			
	(c) Galvanised gabion mattresses:						
	(i) 2,0m long by 1,0m wide by 0,3m deep with 2,2mm diameter wire Mesh Type 60 at 1,0m diaphragms spacings	m ³		4			
52.04	Filter fabric (non-woven, Grade 3)	m ²		10			
B52.05	Concrete Class 15/19 in grouted gabion mattress	m ³		2			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 5200

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
5400	GUARDRAILS						
54.01	Guardrails on timber posts:						
	(a) Galvanised	m		80			
54.03	Extra over items 54.01, 54.02 and 54.11 for horizontally curved guardrails factory bent to a radius of less than 45 m	m		15			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 5200

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
5600	ROAD SIGNS						
B56.01	Road sign boards with painted coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class I retro-reflective material, where the signboard is constructed from: (c) Prepainted galvanised steel plate (chromadek or approved equivalent): (i) Area not exceeding 2 m ²	m ²		10.0			
56.02	Extra over item for B56.01 for using: (a) Background of retro-reflective material: (i) Class I (engineering grade)	m ²		10.0			
	(b) Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material (i) Class II (engineering grade)	m ²		10.0			
56.03	Road sign supports (overhead road sign structures excluded): (b) Timber (i) 110 mm diameter creosoted (ii) 125 mm diameter creosoted	m		35			
		m		35			
56.05	Excavation and backfilling for road sign supports	m ³		1			
56.06	Extra over item 56.05 for cement treated soil	m ³		1			
B56.10	Danger plates at culverts / structures: (a) W401 (800 mm x 200 mm)	No		15			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 5700

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
5700	ROAD MARKINGS						
B57.02	Retro-reflective road-marking paint:						
	(a) White lines (broken or unbroken):						
	(i) 100 mm wide	km		2			
	(iii) 300 mm wide	km		1			
57.04	Variations in rate of application:						
	(a) White paint	litre		rate only			
	(b) Yellow paint	litre		rate only			
	(d) Retro-reflective beads	kg		rate only			
B57.06	Setting out and premarking the lines (excluding traffic islands, lettering and symbols)	km		18			
57.07	Re-establishing the painting unit at the end of the maintenance period	lump sum		1			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 5200

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
5800	LANDSCAPING AND PLANTING PLANTS						
58.01	Trimming:						
	(a) Machine trimming	m ²		1800			
	(b) Hand trimming	m ²		500			
B58.03	Preparing the areas for grassing:						
	(b) Scarifying for loosening topsoil	ha		0.2			
	(c) Topsoiling within the road reserve where the following materials are used:						
	(i) Topsoil obtained from within the road reserve or borrow areas (free haul 1.0 km)	m ³		1800			
	(e) Providing and applying chemical fertilisers and/or soil-improvement material						
	(ii) Superphosphate	ton		0.5			
	(f) Stockpiling topsoil (free haul 1.0 km)	m ³		1800			
58.04	Grassing:						
	(b) Sodding by using the following types of sods:						
	(i) Nursery sods (buffalo grass)	m ²		1800			
	(c) Hydroseeding:						
	(iii) Hydroseeding	ha		0.2			
58.05	Watering the grass when established by topsoiling only	kl		400			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 5900

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS						
59.01	Finishing the road and road reserve:						
	(b) Single carriageway road	km		1.1			
59.02	Treatment of old roads and temporary deviations	km		1.1			
Total Carried Forward To Summary							

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE A: ROADWORKS

SECTION 8100

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
8100	TESTING MATERIALS AND WORKMANSHIP						
B81.02	Other special tests requested by the engineer.						
	(a) Cost of testing	Prov Sum		50 000	1	50 000	
	(b) Handling costs and profit in respect of B81.02(a) above	%		50 000			
Total Carried Forward To Summary							

THE MSUNDUZI MUNICIPALITY

**CONTRACT NO. SCM 46 OF 22/23:
THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA MAIN ROAD
(WARD 21)**

SCHEDULE A: ROADWORKS**SUMMARY OF SECTIONS**

SECTION	DESCRIPTION	AMOUNT
1200	GENERAL REQUIREMENTS AND PROVISIONS	R
1300	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS	R
1400	HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL	R
1500	ACCOMMODATION OF TRAFFIC	R
1700	CLEARING AND GRUBBING	R
2100	DRAINS	R
2200	PREFABRICATED CULVERTS	R
2300	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS	R
3100	BORROW MATERIALS	R
3300	MASS EARTHWORKS	R
3400	PAVEMENT LAYERS OF GRAVEL MATERIAL	
3500	STABILIZATION	R
3600	CRUSHED STONE BASE	R
4100	PRIME COAT	R
4200	ASPHALT BASE AND SURFACING	R
5200	GABIONS	R
5400	GUARDRAIL	R
5600	ROAD SIGNS	R
5700	ROAD MARKINGS	R
5800	LANDSCAPING AND PLANTING PLANTS	R
5900	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS	R
8100	TESTING MATERIAL AND WORKMANSHIP	R
	TOTAL CARRIED FORWARD TO TENDER SUMMARY	R

THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA
 MAIN ROAD (WARD 21)
 SCHEDULE D: DAYWORKS

SECTION D1000

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
D1000	DAYWORKS						
D10.01	Personnel during normal working hours:						
	(a) Unskilled labour	hr		24			
	(b) Semi-skilled labour	hr		24			
	(c) Skilled labour	hr		24			
	(d) Ganger	hr		24			
	(e) Flagmen	hr		24			
D10.02	Personnel outside normal working hours:						
	(a) Outside normal working hours and Saturdays						
	(i) Unskilled labour	hr		16			
	(ii) Semi-skilled labour	hr		16			
	(iii) Skilled labour	hr		16			
	(iv) Ganger	hr		16			
	(v) Flagmen	hr		16			
	(b) Sundays and public holidays						
	(i) Unskilled labour	hr		8			
	(ii) Semi-skilled labour	hr		8			
	(iii) Skilled labour	hr		8			
	(iv) Ganger	hr		8			
	(v) Flagmen	hr		8			
Total Carried Forward							

THE REHABILITATION OF MAIN ROAD 237 FROM KM 16+000 TO KM 18+000

SCHEDULE D: DAYWORKS

SECTION D1000

ITEM	DESCRIPTION	UNIT	LI	QTY	RATE	AMOUNT	
						R	c
Total Brought Forward							
D10.03	Plant:						
	(a) Tipper Trucks:						
	(ii) 10 m³ capacity	hr		24			
	(b) Tractor loader backhoe 4 x 4 (55 kW)	hr		24			
	(c) Front end loader (60 kW)	hr		24			
	(d) Motor grader (112 kW)	hr		24			
	(e) Water truck 7000 litre	hr		24			
	(f) Vibratory roller Bomag 212 or similar	hr		24			
	(g) Excavator (125 kW)	hr		24			
	(h) Bulldozer (125 kW)	hr		24			
	(i) Pedestrian roller (700 kg)	hr		24			
	(j) Compressor (450 cfm with hoses and tools)	hr		24			
	(k) Water pump (75 mm diameter with 50 m hose)	hr		24			
	(l) Concrete Mixer (250l) Springbok	hr		24			
D10.04	Materials:						
	(a) Purchasing of Materials & Supply to Site	Prov Sum		20 000	1	20 000	
	(b) Contractor's handling costs, profit and all other charges in respect of sub- item D10.04(a)	%		20 000			
Total Carried Forward To Summary							

PROVINCE OF KWAZULU-NATAL
DEPARTMENT OF TRANSPORT

CONTRACT NO. SCM 46 OF 22/23:
THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA MAIN ROAD
(WARD 21

SCHEDULE D : DAYWORK: D1000

SUMMARY OF SECTIONS

SECTION	DESCRIPTION	AMOUNT
D1000	TOTAL CARRIED FORWARD TO TENDER SUMMARY (C58)	R

THE MSUNDUZI MUNICIPALITY

**CONTRACT NO. SCM 46 OF 22/23:
THE APPOINTMENT OF A CONTRACTOR FOR THE REHABILITATION OF DAMBUZA MAIN ROAD
(WARD 21)**

DESCRIPTION	AMOUNT
Totals of Schedule of Quantities brought forward:	
Schedule A: Roadworks (b/f from page C53)	R
Schedule D: Daywork (b/f from page C55)	R
SUBTOTAL 1	R
<u>Add:</u> Contingencies (10% of SUBTOTAL 1)	R
SUBTOTAL 2	R
<u>Add:</u> Contract Price Adjustment (8% of SUBTOTAL 2)	R
SUBTOTAL 3	R
<u>Add:</u> VAT (15% of SUBTOTAL 3)	R
TOTAL CARRIED FORWARD TO FORM OF OFFER	R

Signed on behalf of the Tenderer: (Signature)

Date:

Tenderer's Name: (Company Name)

DISCLAIMER

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

PART C3: SCOPE OF WORK

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C3.1: STANDARD SPECIFICATIONS

The Standard Specifications on which this contract is based are the '**COLTO Standard Specifications for Road and Bridge Works for State Road Authorities, 1998 Edition**'.

C3.2: PROJECT SPECIFICATIONS

The Project Specifications, consisting of two parts, form an integral part of the Contract and supplement the Standard Specifications.

Part A contains a general description of the Works, the Site and the requirements to be met.

Part B contains variations, amendments and additions to the Standard Specifications and, if applicable, the Particular Specifications.

In the event of any discrepancy between a part or parts of the Standard or Particular Specifications and the Project Specifications, the Project Specifications 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.

The Standard Specifications, which form part of this contract, have been written to cover all phases of work normally required for road contracts, and they may therefore cover items not applicable to this particular contract.

C3.2: PROJECT SPECIFICATIONS**PART A: GENERAL****1. DESCRIPTION OF THE WORKS****1.1 Employer's objectives**

This Project forms part of the Province of KwaZulu-Natal Department of Transport's Maintenance Programme.

The contract is located in a region of KwaZulu-Natal that has been historically impoverished by a lack of infrastructure access. It is therefore mandatory that the Contractor shall interact with the community via proactive project liaison with and project participation by its leaders and constituted organisations and forums, as well as through the employment of its people, and these activities shall constitute essential facets of the project.

The Employer's objectives in delivering public infrastructure and services for this project include the provision of temporary work opportunities to the local community through the application of labour-intensive methods to the maximum extent feasible, in accordance with the Expanded Public Works Programme Guidelines.

The requirements of the Expanded Public Works Programme (EPWP) are contained in Part F of section C3.3 Particular Specifications. These EPWP requirements also include provisions for the National Youth Service programme where applicable. The requirements in terms of Government's initiatives for broad-based black economic empowerment with respect to small contractor development are contained in Part G of section C3.3 Particular Specifications.

1.2 Location of the Works

The portion of Dambuza Road to be rehabilitated is located in Dambuza, Edendale, within the Msunduzi Local Municipality (KZN 275) under the jurisdiction of the Umgungundlovu District Municipality (DC 27). The project boundary is located approximately 12km north of Pietermaritzburg CBD Town. The section of road under consideration in this project is approximately 1.0km in length (see C4: Site Information)

1.3 Overview of the Works

The project entails the rehabilitating of Dambuza Road (1.0 km) through the construction of a new cement stabilised (C3) subbase, as well as the addition of a new gravel crushed-stone base (G2) over the full extent of the road section under consideration. A 50mm Asphalt surface will be constructed above the gravel base to form the wearing course. Furthermore, the existing surfaced width will be rehabilitated and/or widened to a 8,5m wide surfaced travelling carriageway. Intersections, major accesses and selected minor accesses will also receive the proposed rehabilitation actions and widening

In terms of drainage work, the existing system initially requires the extensive daylighting and removal of silt and vegetation. Improvements will be undertaken with the re-shaping and concrete lining of existing side-drains, the re-construction of inlet or outlet structures, formation of new meadow drains, etc.

The Contractor covers a number of drainage related maintenance activities which include:

- Accommodation of traffic.
- Clearing and Grubbing.
- Cleaning of blocked drains.
- Construction of side drains.
- Construction of subsoil drains.
- Construction of cut-off drains.
- Construction catchpits and pipe crossings to facilitate stormwater drainage.
- Mass earthworks; Pavement layers of gravel material; Stabilization; Crushed-stone base
- Patching and Repairing Edge Breaks.
- Asphalt pavement.
- Stone Pitching; Construction of gabion protection works.

- Road marking and Road signs
- Manufacture and supply of asphalt to Departmental forces engaged in blacktop patching operations
- Manufacture, supply, paving and compaction of asphalt on new or existing pavements.
- Milling and removal of defective asphalt.

1.4 Extent of the Works

The Works to be carried out include the following main activities:

- (a) Establishment on site and clearing and grubbing.
 - (b) Cleaning of roadway and edge build up and vegetation prior to any surfacing operations taking place
 - (c) Provision of traffic accommodation facilities.
 - (d) Removal or breaking existing road studs.
 - (e) The installation of temporary road studs if required
 - (f) The application of the required bitumen and stone as per the approved surfacing design.
 - (g) Ensure that the bitumen distributor has the necessary certification as to the correct spraying functions.
 - (h) Brooming the completed seal to ensure even stone distribution and to eliminate excess stone from the surface.
 - (i) Survey requirements.
 - (j) Construction of all layerworks to the top of the designed base, including wearing course.
 - (k) Edge cleaning; Trial section; Continuously graded asphalt for pot hole patching;
 - (l) Delivery of Asphalt; Asphalt surfacing; Rolled in chippings; Modified Asphalt; Geo textiles; Overhaul of milled material and Sweeping of milled areas
 - (m) Road prism drainage.
 - (n) Construction of erosion protection measures (gabions, stone pitching, etc.)
 - (o) Installation of guardrails.
 - (p) Finishing and cleaning up of the road and road reserve.
 - (q) Continuous quality control over materials and workmanship, and compliance with the Particular Specifications with regard to environmental management and occupational health and safety, during all the above construction activities.
 - (r) Road markings and road signs
 - (s) Finishing off, removal of all site establishment facilities, clearing of stockpile sites, removal of all waste such as cut off paper, bitumen spills, and constructional plant on completion of the Works.
 - (t) Making good of any defects during the 12 months Defects Liability Period.
-
- (a) The Contractor's establishment on site and the provision of facilities for the Employer's Agent, including a materials testing laboratory facility;
 - (b) The accommodation of traffic including the erection of temporary road advance warning / information signs, traffic light control points, STOP/GO signals and other traffic control devices.

1.5 Detailed description of the Works

The following description is a broad outline of the works and does not limit the work to be executed by the Contractor in terms of the contract. The quantities of some of the major items indicated in this section are indicative, not absolute, and are provided to define in general terms the overall scope of the project.

Approximate quantities of each type of work to be carried out in accordance with the contract documents are listed in the Bill of Quantities in Section C2.2.

The site shall not only comprise the proclaimed road reserve but shall be extended in the broader sense to take account of all areas occupied by the Contractor, be it deliberate or unintentional, in the execution of the contract. The site includes all the land within the proclaimed limits of the road reserve along the extent of the works, borrow pits and quarry sites, stockpile areas, locations set aside for construction and supervision accommodation and any other location required for the execution of the Works.

Incidental intrusion into private or tribal property outside the road reserve shall not be permitted without the owner's written authority. Any such agreement reached with a private or tribal landowner (occupier) shall include the proviso that any material or equipment on that site shall remain the exclusive property of the

Employer in terms of the contract.

The Department requires the contractors to establish the necessary machines and personnel to carry out surfacing, reseals or fog sprays depending on the need for a specific road to the approved seal design and specification. The works will be to prepare the surface to be sealed by washing, brooming, cleaning the roadway and to clear the road edge of any build-up of material or vegetation. The existing road studs if present will be removed or destroyed in the case of Armorlites.

The stone if required must be tested before being brought to site as well as in stockpile on site in order for the contractor to ensure that the stone being applied is to the specification as per surfacing design.

The stone in stockpile must be pre-coated with a suitable pre-coating product.

The contractor is responsible for all traffic control and safety in the area of the works. One lane must be available to the travelling public at all times and the maximum length of roadway to be under construction at any one time is 2 kilometres. At night all obstructions must be removed and the necessary signs such as no lines, loose stones, speed limits, etc must be left on the site to ensure that the travelling public are safe. Some of these signs will need to be left on the road until such time that the road marking has been completed. Further, temporary road studs may be required to be placed to make the site at night safe.

After surfacing with the necessary attention to the joints and edges, the roadway must be broomed to assist with the stone orientation and to remove the excess aggregate.

The site camp and aggregate stock pile sites must be cleared and cleaned to the satisfaction of the Department or its representative. This must include excess stone in the drainage elements. Spilt bitumen and the cut off paper must be suitably disposed of at a registered waste disposal dump or as set out in the Environmental Management Plan.

1.5.1 Access to the Site

Access to Site is not exclusive, throughout the duration of the contract, Roads may be shared with other contractors engaged by the Municipality (or other departments or entities) on other projects whose construction activities may affect access from time to time. The Contractor shall therefore be required to liaise on an ongoing basis with these other contractors with respect to access related matters throughout the duration of the contract.

1.5.2 Demolition work

The Contractor is not required to carry out any demolition work to existing structures.

1.5.3 Spoiling of surplus material

Surplus material shall be spoiled in designated areas approved by the Employer's Agent. The spoil material shall be disposed of in accordance with subclause 3306(f) of the COLTO Standard Specifications.

1.5.4 Quantities

The approximate leading quantities for the permanent Works to be constructed are as follows:

Description	Source	Approximate quantity
Mass earthworks	Commercial sources	
Mass earthworks	Cut / borrow	
Selected layers – Under sidewalks (G7)	Cut / borrow	
Selected layers – Pavement layer (G4)	Commercial sources	
Gravel Crushed-stone Base – Imported G2 Material	Commercial sources	
Asphalt	Commercial sources	

1.5.5 Material investigations

Materials information is furnished in section C4.4 at the end of this document.

1.5.6 Material sources, spoil and stockpile areas

Where possible, the contractor shall source material from within 2 km of the site utilizing local labour. The material which may be sourced from site includes:

- Rock for gabions and stone pitching

Possible commercial sources are identified below. The table below shall be used as a guide, the Employer accepts no responsibility for any losses, damages or claims. The tenderer is responsible to identify and negotiate with possible sources (beyond the list provided).

Material (Aggregate)		Source Type	Source	Availability	Distance to Road Limit (km)
	Asphalt	Commercial			
Base	G2	Commercial	Afrimat (PMB)		40
	G3	Commercial	Wearne Aggregates		23
	G4	Commercial	Taylor's Halt Quarry		11
	G4	Commercial			
Sub-base	G5	Commercial	Afrimat (PMB)		40
	G5	Commercial	Wearne Aggregates		23
	G6	Commercial	Taylor's Halt Quarry		11
	G6	Commercial	Afrimat (PMB)		40
Foundation	G6	Commercial	Wearne Aggregates		23
	G7	Commercial	Afrimat (PMB)		40
	G7	Commercial	Wearne Aggregates		23
	G7	Commercial	Taylor's Halt Quarry		11
	G7	Borrow Pit			
	G8	Borrow Pit			
	G9	Borrow Pit			

Spoil areas and areas for the temporary stockpiling of construction materials shall be determined and agreed on site in conjunction with the Employer's Agent, the PLC (where applicable) and the local

communities (where applicable). The Contractor shall be permitted to use only these agreed spoil and stockpile areas, which shall be landscaped and vegetated on completion of the work.

1.5.7 Accommodation of traffic

The Contractor shall be required to accommodate traffic on the existing roadway on the existing detours.

The rehabilitation process for both the road and bridges will be carried-out using half-width construction with stop/go control in the daytime and signalised traffic control facilities at night. The Contractor is restricted to the following parameters with respect to the accommodation of traffic, viz.

- The work zone of any closure may not exceed 2 km.
- Only two closures may be erected concurrently.
- The distance between closures may not be less than 2 km.

In terms of traffic volumes, allowance should be made for nearly 4 150 vehicles per day travelling in each direction with approximately 5% heavies.

The following construction methodology is proposed for the accommodation of traffic at each 2 km work zone:

1. Strengthen the right-hand shoulder as specified to provide additional width for the abnormal traffic and set a closure for the left-hand carriageway. Traffic shall then be accommodated for both directions using STOP/GO control in the right-hand carriageway.
2. Undertake the rehabilitation of the left-hand carriageway complete (layerworks, shoulders and wearing course) and install temporary roadstuds and roadmarking to demarcate the new shoulder line. During this construction phase, the right-hand carriageway must be monitored for any deterioration of the surfacing as a result of the increased traffic loading. In the event that repairs are deemed necessary, provision has been made for patching to be carried-out.
3. Transfer the traffic onto the completed section of the left-hand carriageway and re-set the closure over the same length for the right-hand carriageway. Proceed with the rehabilitation of this carriageway whilst accommodating traffic in the opposing carriageway.
4. On completion, install temporary roadstuds for the centre-line, lift the closure and open both carriageways to traffic. Undertake permanent roadmarking and roadstuds once 4 km has been surfaced.
5. Re-set the closure at the next location.
6. Measures must be adopted where to accommodate traffic utilizing minor accesses within the closures with the Employer's Agent.
8. Contractor to liaise with the KwaZulu-Natal Department of Transport which regulate the movement of abnormal loads along the route to ensure that sufficient width is provided through the works.

1.5.8 Accommodation of other contractors

The Contractor shall be required to liaise with, cooperate with and accommodate all other contractors and at any other part of the site where the other contractors may be working simultaneously, with a view to ensuring the smooth running of all contracts.

1.5.9 Existing services

The following services have been identified that will need to be relocated by the Contractor;

- Electricity poles and cabling
- Main water pipelines
- Distribution pipelines

It is also expected that unknown domestic services crossings requiring relocation or protection may be encountered along the route as the work proceeds. The Contractor shall make every effort to establish the location of these services in any area prior to excavations commencing in that area. Such efforts shall include diligent enquiry and discussions with adjacent landowners, visual surface inspection and exploratory trenching investigation as necessary.

1.5.10 Employer's Agent's site offices and laboratory

The Contractor shall be required to provide furnished site office facilities, laboratory facilities, ablution facilities, and carports for the Employer's Agent at a site located in close proximity to the Contractor's office establishment and to the Works. A possible area for such site establishment shall be indicated at the Site Clarification Meeting.

1.5.11 Climate

The project area is a town with a significant amount of rainfall with precipitation even during the driest months. The estimated average rainfall precipitation is approximately 967mm per annum..

The annual distribution of average daily maximum temperatures shows that the average midday temperatures for Mtubatuba range between 23.6°C and 30.0°C. The region is the coldest during July when the mercury drops to 11.1°C on average during the night.

1.5.12 Environment

The Contractor's attention is called to clause B1233 of Part B of these Project Specifications and to the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.

1.5.13 Labour

A Project Steering Committee (PSC) has been established and is a vital means of communication between all parties involved with the project. The composition of the PSC comprises representatives of the Employer, the Employer's Agent and formal structures within the community.

The Contractor shall make use of these communication channels, and shall appoint from amongst his site personnel a responsible person to participate in the affairs of the PSC, and this representative will be also required to attend the monthly PSC meetings.

It is mandatory that the Contractor shall interact with the community via proactive project liaison and project participation by its leaders and constituted organisations and forums, as well as through the employment of its people, and these activities shall constitute essential facets of the project.

Local labour is to be used and the employment of such labour is to be done in conjunction with the PSC.

1.5.14 Labour-intensive construction methods

Labour-intensive construction shall mean the economically efficient employment of as great a portion of local labour as is technically feasible to produce a standard of construction as demanded by the specifications with completion by the Due Completion Date, where local labour is the primary resource, supported by plant for activities that cannot be carried out feasibly by labour only.

Labour-intensive construction activities are to be planned as task-based work as a general rule. A task means a fixed quantity of work, to be performed to a clearly defined quality. Task-based work means work in which a worker is paid a fixed rate for performing a task, which is clearly defined in terms of quantity and quality. Typically, a particular task can be completed within a working day.

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

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

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

Subject to considerations of occupational health and safety, and subject to the nature of the in-situ materials being such that they can be excavated efficiently by hand, the portions of the Works to be carried out under supervision using labour-intensive construction methods, designated as LI items in the bill of quantities, include, but are not limited to, the following:

- Erection of the Contractor's and Employer's Agent's site establishment facilities.
- Provision of domestic services at the site establishment facilities.
- Provision of flagmen and labour for erecting traffic accommodation facilities.
- Clearing of the Site;
- Excavation for structures and open drains up to 1,5 m deep where the depth of the water table permits such excavation to be carried out safely, and the subsequent backfilling thereof;
- Bedding, selected fill, backfilling and compaction of all trenches for prefabricated culverts irrespective of depth, but assisted by mechanical compaction equipment in order to achieve the specified densities;
- Transportation and spoiling of all trench materials, where the disposal site is located within 20 metres of the source;
- Mixing and placing of concrete for the channel and backing to the prefabricated kerbs;
- Mixing and placing of concrete for concrete lined drains and sidewalks;
- Mixing and placing of concrete for minor drainage structures and road furniture structures;
- Mixing and placing of concrete for concrete edge beams at gravel road access points;
- Installation of prefabricated kerbs;
- Construction of all brickwork required for drainage structures and manholes;
- Erection of falsework and formwork;
- Fixing of reinforcement;
- Spreading of stabilising agent;
- Excavation for and construction of stone pitching, and subsequent backfilling;
- Excavation for and construction of gabion boxes and mattresses, and subsequent backfilling;
- Dismantling / erection of fences;
- Excavation and subsequent backfilling for guardrail;
- Dismantling / erection of guardrail;
- Excavation and subsequent backfilling for road signs;
- Dismantling / erection of road signs;
- Spreading of topsoil;
- Planting of grass cuttings, grass sodding and hand sowing of grass seeds; and
- Cleaning and tidying up of the Site.

In respect of those portions of the Works which are not listed above, the construction methods adopted and the equipment utilized shall be at the discretion of the Contractor, provided always that the construction methods adopted and the equipment utilized by the Contractor are appropriate in respect of the nature of the Works to be executed and the standards to be achieved in terms of the Contract.

1.6 Temporary Works

The Temporary Works required under this Contract shall include the traffic accommodation measures implemented, the provision of drainage control, falsework and formwork during the construction of the minor drainage structures, and the provision of any scaffolding or temporary propping used during the erection of the road signs.

All Temporary Works shall be removed from the Site on completion of the Contract.

1.7 Maintenance of the Works during the construction period

The Contractor shall take note of the various requirements of the General Conditions of Contract 2015 and the COLTO Standard Specifications with respect to the care and protection of the Works.

The handing-over of the road reserve for this contract is described in clause B1224 of these Project Specifications. The Contractor shall be responsible for maintaining this portion of the road from the date of hand-over until the issue of the Certificate of Practical Completion.

1.8 Testing of materials

A prime cost sum has been allowed in section 8100 of the Bill of Quantities for all acceptance control testing laboratory work to be carried out by the Employer's Agent using the laboratory facilities included in section 1400 and commercial laboratory facilities.

The Contractor shall carry out at his own cost the required process control testing as specified in terms of the COLTO Standard Specifications.

1.9 Power supply and other services

The Contractor shall make his own arrangements concerning the supply of electrical power and all other services. No direct payment shall be made for the provision of electrical and other services. The cost thereof shall be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.

1.10 Construction in confined areas

It may be necessary for the Contractor to work within confined areas. Except where provided for in the specifications, no additional payment shall be made for work done in restricted areas. In certain places the width of the fill material and pavement layers may decrease to zero and the working space may be confined. The method of construction in these confined areas largely depends on the Contractor's constructional plant. However, the Contractor shall note that, unless otherwise provided for in terms of the scheduled payment items in the COLTO Standard Specifications or these project specifications, measurement and payment shall be in accordance with the specified cross sections and dimensions only, irrespective of the method used for achieving these cross sections and dimensions, and that the tendered rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered when working in confined areas and narrow widths, and at or around obstructions, and that no extra payment shall be made nor shall any claim for additional payment be considered in such cases.

1.11 Contractor's campsite

Possible locations for a campsite shall be pointed out at the clarification meeting.

The Contractor shall make his own arrangements for the provision of his campsite and housing for construction personnel but the chosen site shall be subject to the approval of the Employer's Agent, the local authorities and, where applicable, the Project Liaison Committee (PLC) associated with the project.

The standard of the Contractor's camp, offices, accommodation, ablution, and other facilities must comply with the requirements of all local authority, environmental and industrial regulations concerned. In establishing and maintaining his campsite, due cognisance is to be taken of the requirements of clause B1233 of these Project Specifications.

The Contractor is to fully familiarise himself with all local by-laws and Government regulations for the employment, transport and accommodation of labour on site.

The Contractor shall particularly note that there is a high risk of theft, vandalism and damage to property in this area and strict security will be required for all plant, establishment, temporary works and partially completed works. The Contractor shall be responsible for providing security for all plant, establishment, temporary works and partially completed works. No separate payment shall be made for the provision of

such security since full compensation for these costs shall be deemed to be included in the amount tendered for item B13.01(c) (The contractor's general obligations: Time-related obligations).

1.12 Additional requirements for construction activities

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's tendered rates shall include full compensation for all costs which may arise from the construction and maintenance of deviations and construction under traffic. No claim for additional costs which may arise from these methods of traffic accommodation and no additional payment owing to inconvenience as a result of the Contractor's method of working shall be considered.

1.13 Construction programme

The Contractor shall submit a detailed time programme in accordance with clause 5.6.2 of the General Conditions of Contract 2015, clause 1204 of the COLTO Standard Specifications, and clause B1204 of Part B in section C3.2 Project Specifications.

A provisional preliminary construction programme for guidance purposes only is included below. This programme is given in good faith and no claims will be entertained due to inaccuracies, discrepancies or omissions contained in the programme.

PRELIMINARY CONSTRUCTION PROGRAMME

2. DRAWINGS

The drawings that form part of the Tender documents are issued on a CD and shall be used for Tender purposes only.

The Contractor will be supplied with three complete sets of A0 paper print drawings, and one set of drawings on a CD. These A0 paper prints and CD are issued free of charge and the Contractor shall make any additional copies he may require at his own cost.

Any information in the possession of the Contractor which the Employer's Agent requires to complete the as-built drawings shall be supplied to the Employer's Agent before a certificate of completion will be issued.

Only figured dimensions shall be used and drawings shall not be scaled unless so instructed by the Employer's Agent. The Employer's Agent will supply all figures / dimensions omitted from the drawings.

The levels given on the drawings are subject to confirmation on site, and the Contractor shall submit all levels to the Employer's Agent for confirmation before he commences any structural construction work. The Contractor shall also check all clearances given on the drawings and shall inform the Employer's Agent of any discrepancies.

3. PROCUREMENT

The contractor shall procure goods and services under provisional sums and prime cost sums according to the Employer's standards.

4. CONSTRUCTION

4.1 Applicable SANS 2001 standards for construction work

All construction work must conform with the relevant SABS or SANS specifications referred to in the 'Standard Specifications for Road and Bridge Works for State Road Authorities, 1998 Edition', or in Section C3.2 Project Specifications, Part B: Amendments to the Standard Specifications, of this document.

4.2 Applicable national and international standards

All construction work must be undertaken in accordance with the 'Standard Specifications for Road and Bridge Works for State Road Authorities, 1998 Edition', as prepared by the South Africa Committee of Land Transport Officials (COLTO) and as amended in Section C3.2 Project Specifications, Part B: Amendments to the Standard Specifications, of this document.

4.3 Particular / generic specifications

As well as the 'Amendments to the Standard Specifications' contained in Part B of Section C3.2 Project Specifications, of this document, the following Particular Specifications as contained in Section C3.3, are applicable to this Contract:

- Part C: Environmental Management Specification
- Part D: Daywork
- Part E: OHSA 1993 Health and Safety Specification
- Part F: Expanded Public Works Programme

The 'Standard Specifications for Road and Bridge Works for State Road Authorities, 1998 Edition' is applicable to this Contract but contains references to the 'General Conditions of Contract for Road and Bridge Works for State Road Authorities, 1998 Edition' which is not applicable to this Contract. Table B1115 in Section C3.2 Project Specifications, amends these references to the 'General Conditions of Contract for Construction Works, Third Edition (2015)', published by the South African Institution of Civil Engineering which is applicable to this Contract.

4.4 Certification by recognized bodies

No certification of items included in the Works is required.

4.5 Plant and materials provided by the Employer

No plant and materials are to be provided by the Employer.

4.6 Services and facilities provided by the Employer

The Employer's Agent's site office and laboratory facilities will be paid for in terms of the Contract. No other services or facilities are to be provided by the Employer.

5. MANAGEMENT

5.1 Applicable SANS 1921 standards

The following parts of SANS 1921 and associated specification data are applicable:

5.1.1 SANS 1921-1 Part 1: General engineering and construction works

Specification data associated with SANS 1921-1	
Clause No.	Essential data
4.1.7	There are no requirements for drawings, information and calculations for which the Contractor is responsible.
4.2.1	The responsibility strategy assigned to the Contractor for the works is 'A'.
4.3.1	The programme must conform to clause 1204 'Programme of Work' of the 'Standard Specifications' and clause 5.6 'Programme' of the 'General Conditions of Contract 2015'.
4.3.3	The Contractor must give 24 hours' notice for inspection of work that is to be covered up.
4.7.3	Where applicable, the Contractor is afforded the opportunity of pricing an item to cover costs of unavoidable over-break.
4.12.2	The samples of materials, workmanship and finishes that the Contractor is to provide and deliver to the Employer/Employer's Agent are to be as described in clause 1205 'Workmanship and Quality Control' of the 'Standard Specifications' and clause 7 'Quality and Related Matters' of the 'General Conditions of Contract 2015'.
4.12.2	The fabrication drawings that the Contractor is to provide to the Employer are: none.
4.14.5	The Contractor is to provide latrine and ablution facilities as described in Part C 'Environmental Management Plan' in Section C3.3 Particular Specifications of these Project Specifications.
4.14.6	The requirements for the provision and erection of signboards are as described in clause 1207 'Notices, Signs and Advertisements' of the 'Standard Specifications', and as detailed in the 'Example of Contract Signboard Details' in Section C4: Site Information of these Project Specifications.
4.17.1	The requirements for the termination, diversion or maintenance of existing services are described in clause B1202 of Part B of Section C3.2 Project Specifications.
4.17.3	Services that are known to exist on the site are described in clause B1202 of Part B of Section C3.2 Project Specifications.
4.17.4	The requirements for detection apparatus for locating underground services are: none.
4.18	The additional health and safety requirements are described in Part E 'OHSA 1993 Health and Safety Specification' in Section C3.3 Particular Specifications of these Project Specifications.

5.1.1.1 Additional clauses:

(a) Site meetings and procedures

Site meetings shall be convened as described in clause 1227 'Monthly Site Meetings' of the 'Standard Specifications'. The Contractor shall keep on site a set of minutes of all site meetings, daily records of

resources (people and equipment employed), a site memoranda book, a complete set of contract working drawings and a copy of the procurement document, and shall make these available at all reasonable times to all persons concerned with the contract.

(b) Water and electricity

The Contractor is to provide water and electricity as described in clauses 1219 'Water' and 1404 'Services' of the 'Standard Specifications'.

5.1.2 SANS 1921-6 Part 6: HIV/AIDS awareness

Specification data associated with SANS 1921-6	
Clause No.	Essential data
4.2.1(a)	A qualified service provider is one that is an accredited or provisionally accredited training service provider in the HIV/AIDS field. A list of accredited service providers can be obtained from the Construction SETA (CETA) (tel. 011 265 5900), Health and Welfare SETA (HWSETA) (011 622 6852) or on the Health and Welfare SETA website: www.hwseta.org.za .
4.2.1(a)	The HIV/AIDS awareness programme is to be repeated at four monthly intervals throughout the duration of the contract.

5.1.2.1 Additional clauses:

(a) Workshops

The duration of each workshop shall not be less than 2½ hours.

5.2 Recording of weather

The Contractor shall erect a rain gauge and record the rainfall as described in clause 1215 of the 'Standard Specifications'. This information together with other details of the prevailing weather conditions shall be recorded in the daily site diary.

5.3 Unauthorised persons

The Contractor shall keep unauthorised persons away from the Works at all times. Under no circumstances may the Contractor's personnel be accommodated on the site.

5.4 Management meetings

Management meetings are to be held weekly at a time convenient to all concerned, to discuss planning and health and safety amongst other things. Attendance by the Construction Manager and the Employer's Agent's Representatives on site is mandatory, and attendance by other interested parties will be by invitation.

5.5 Forms for contract administration

The Employer's Agent's Representative will provide standard forms for 'Site Diary', 'Site Memoranda', 'Requests for Inspection' and any others deemed to be necessary during the contract.

5.6 Electronic payments

Payments of approved payment claims will be made electronically upon submission of the Contractor's banking details.

5.7 Daily records

A site diary is to be compiled jointly by the Construction Manager and the Employer's Agent's Representatives on site and is to be agreed and signed by both parties. The original signed copy is to be retained by the Employer's Agent's Representative.

The Contractor is to keep daily records of people and equipment on site in a format to be agreed by the Employer's Agent's Representative, and is to provide copies to the Employer's Agent's Representative when requested.

5.8 Payment certificates

Details of measurements, proof of payment for items contained in provisional sums and prime cost sums, proof of ownership of Plant and materials on site and documentation pertaining to contract price adjustment and special materials, are required as substantiation of claims for payment.

5.9 Permits

No security/entrance permits are required by the Contractor's personnel to enter the site.

5.10 Proof of compliance with the law

The Contractor shall provide the necessary proof of compliance with any legislation to the Employer's Agent upon request.

5.11 Submission of reports

The contractor shall submit monthly reports in accordance with the specifications in Part F: Expanded Public Works Programme and Part G: Small Contractor Development.

C3.2: PROJECT SPECIFICATIONS**PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS****PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS**

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

The clauses and payment items dealt with in this part of the Project Specifications are numbered 'B' with a number corresponding to the relevant clause or item number in the COLTO Standard Specifications.

New clauses and payment items not covered by clauses or items in the COLTO Standard Specifications have been included here and have also been designated with the prefix 'B'. Such clauses and items have been given a new number following upon the last number used in the particular section referred to in the COLTO Standard Specifications.

SECTION 1100: DEFINITIONS AND TERMS**B1115 GENERAL CONDITIONS OF CONTRACT**

Replace clause 1115 with the following:

"The General Conditions of Contract that govern this contract are the General Conditions of Contract for Construction Works, Third Edition (2015), published by the South African Institution of Civil Engineering (SAICE), also referred to as GCC 2015.

Each definition in the COLTO General Conditions of Contract for Road and Bridge Works for State Road Authorities, 1998 and in the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities, 1998 that has an equivalent definition in the GCC 2015, shall be re-interpreted in terms of GCC 2015, and, where applicable, shall be replaced by the equivalent definition from the GCC 2015. A guide in this regard is shown in Tables B1115/1 and B1115/2 below.

The COLTO Standard Specifications make frequent use of the term "engineer". The Project Specifications and the Bill of Quantities in turn make reference to the COLTO Standard Specifications and may use similar terminology in order to facilitate the reading and cross-referencing thereof.

Wherever in the COLTO Standard Specifications, Project Specifications or Bill of Quantities reference is made to the "engineer" or the "Engineer", this is to be interpreted as the "Employer's Agent" as defined in subclause 1.1.1.16 of GCC 2015.

Wherever in the COLTO Standard Specifications, Project Specifications or Bill of Quantities reference is made to the "engineer's representative" or the "Engineer's Representative", this is to be interpreted as the "Employer's Agent's Representative" as defined in subclause 1.1.1.17 of GCC 2015."

Table B1115/1: COLTO GCC TO GCC 2015

Reference to a Clause that refers to, or defines, a contractual term in either the COLTO General Conditions of Contract for Road and Bridge Works for State Road Authorities 1998 (COLTO GCC 1998) or the Standard Specifications for Road and Bridge Works for State Road Authorities 1998		Equivalent reference to a Clause that refers to, or defines, a contractual term in General Conditions of Contract for Construction Works, Third Edition (2015), applicable to this contract	
COLTO GCC Clause No	Referenced COLTO GCC defined term	GCC 2015 Clause No	GCC 2015 defined term
1(1)(b)	Appendix	1.1.1.8	Contract Data
1(1)(f)	Constructional Plant	1.1.1.6	Construction Equipment
1(1)(n)	Engineer	1.1.1.16	Employer's Agent
1(1)(o)	Engineer's Representative	1.1.1.17	Employer's Agent's Representative
1(1)(p)	Letter of Acceptance	1.1.1.20	Form of Offer and Acceptance
4(3)	Letter of Acceptance (written proof of) delivery of	-	Confirmation of Receipt (pro forma appearing with the Form of Offer and Acceptance in GCC 2015)
1(1)(q)	Permanent Works	1.1.1.22	Permanent Works
1(1)(q)	Permanent Works	1.1.1.23	Plant
1(1)(s)	Project Specifications	1.1.1.28	Scope of Work
1(1)(t)	Schedule of Quantities	1.1.1.2	Bill of Quantities
1(1)(t)	Schedule of Quantities	1.1.1.25	Pricing Data
1(1)(w)	Special Conditions	1.1.1.8	Contract Data
1(1)(x)	Specifications	1.1.1.28	Scope of Work
1(1)(x)	Specifications	1.1.1.30	Site Information

Table B1115/2: COLTO STANDARD SPECIFICATIONS TO GCC 2015

COLTO Standard Specification	Reference to COLTO General Conditions of Contract 1998 shown in the Standard Specifications for Road and Bridge Works for State Road Authorities 1998	Equivalent reference in General Conditions of Contract for Construction Works, Third Edition (2015), applicable to this Contract
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Clause No	Clause No	Description or Reference	Clause No	Description or Reference amended to
1115		Definition of GCC, special conditions of contract		Definition GCC 2015 in the Contract Data
1202	15	Construction programme	5.6	Programme
1204		General reference to GCC		Applicable to GCC 2015
1206	14	Setting out of Works		Not defined – see SANS 1921
1209(a)		General reference to GCC		Applicable to GCC 2015
1209(e)	52	Valuation of material brought onto site	6.10.2	Valuation of material brought onto site
1210	54	Certificate of practical completion	5.14.2	Issue of Certificate of Practical Completion
1212(l)	49	CPA on alternative designs	6.8	Adjustment in rates and/or prices
1215	45	Extension of time for completion due to abnormal rainfall	5.12.2	Some reasons for extension of time
1217	35	Care of the Works	8.2	Care of the Works
1303 Item 13.01		General reference to GCC		Applicable to GCC 2015
1303 Item 13.01	49	Price adjustment item 13.01(a)	6.8	Adjustment in rates and/or prices
1303 Item 13.01	49	Price adjustment item 13.01(b)	6.8	Adjustment in rates and/or prices
1303 Item 13.01	53	Variations exceeding 20%	6.11	Variations exceeding 15 per cent
1303 Item 13.01	12	Payment item 13.01(c)	5.3	Commencement of the Works
1303 Item 13.01	45	Payment item 13.01(c)	5.12	Extension of time for Practical Completion
1403(c)(ii)	40(1)	Variation for rented accommodation	6.4.1	Valuation of variations
1505	40	Variation for temporary drainage	6.4	Valuation of variations
1517 Item 15.08	48	Payment of Provisional Sum	6.6	Provisional sums and prime cost sums
1517 Item 15.09	48	Payment of Provisional Sum	6.6	Provisional sums and prime cost sums
1517 Item 15.11	48	Payment of Provisional Sum	6.6	Provisional sums and prime cost sums
3108 Note (2)	40	Payment for prospecting for materials	6.6	Provisional sums and prime cost sums
3204(b)(iii)	40	Payment for breaking down of oversize material	6.4	Valuation of variations
3303(b)	2	Engineer's decisions, with reference to materials classification	3.2	Functions of the Employer's Agent
4404 Item 44.06		General reference to GCC, PC Sums	6.6.2	General reference to GCC 2015, Prime cost sums
5803(c)	40	Variation, for landscaping	6.3	Variations
5805(d)	40	Variation, for grassing	6.3	Variations
5809 Item 58.10	48	Payment for extra work	6.6	Provisional sums and prime cost sums
8103(c)	40	Variation, for testing material	6.3	Variations
8117 Item 81.02		General reference to GCC, Provisional Sums	6.6	General reference to GCC 2015, Provisional sums and prime cost sums
8117 Item 81.03	22	Clearance of site on completion, with reference to core drilling	5.15.1	Clearance of Site on completion

SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS**B1202 SERVICES**

Add the following at the end of clause 1202:

"A provisional sum is included in the schedule of quantities to cover the costs of relocating the known services. This provisional sum shall be used to effect payments for the services relocation work carried out by the subcontractor selected by the contractor in consultation with the employer for this purpose."

B1204 PROGRAMME OF WORK

Add the following paragraph to the end of clause 1204:

"(c) Additional requirements

The Contractor in compiling the construction programme, shall show and take into account the following:

- (i) Allowance shall be made for non-working days and special non-working days (refer to the Contract Data in section C1.2.2).
- (ii) Provision of an expected delay of "n" working days due to normal rainy weather during the contract period, including any approved extension of time, to be shown as a float in the programme, and distributed amongst the calendar months, as set out in clause B1215.
- (iii) Construction activities must comply with all the specified environmental requirements including clause B1233 and the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.
- (iv) Construction activities must comply with all the specified health and safety obligations including the requirements of Part E: OHS 1993 Health and Safety Specification contained in section C3.3 Particular Specifications.
- (v) Public traffic, utility service providers and authorised contractors must be accommodated through the site.
- (vi) The provision of embargo days on which work is prohibited as detailed in table B1204/1:

Table B1204/1
WORK PROHIBITED DURING EMBARGO PERIOD

Clause number	Description of work prohibited	Embargo period
B1502(k)	Lane closure	(i) Day before Good Friday (ii) Annual year-end shutdown period

"

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following paragraph to the end of clause 1205:

"Testing for quality control shall be conducted in accordance with the requirements of Section 8200 for Quality Control (Scheme 1)."

B1206 THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

Delete the first paragraph of clause 1206 in its entirety and replace it with the following:

"The contractor shall comply with all legal provisions in regard to surveying and setting out work."

Add the following paragraph to the end of clause 1206:

"It may become necessary to construct, level and coordinate new survey beacons during the course of the contract, or to protect existing survey beacons. A provisional sum is included in the schedule of quantities to cover the costs of such work."

B1209 PAYMENT

(a) Contract rates

Add the following new paragraph at the end of subclause 1209(a):

"All rates tendered are to be exclusive of VAT."

B1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS

Add the following to subclause 1210(e) after the words "road-surface markings":

"(including roadstuds)".

B1212 ALTERNATIVE DESIGNS AND OFFERS

Add the following to the end of subclause 1212(m):

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

B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

Extension of time resulting from abnormal rainfall shall be calculated according to the requirements of Method (ii) (Critical-path method).

Method (ii) (Critical-path method)

Delete the words "(based on a five-day working week)" in the fifth and sixth lines of the second paragraph of Method (ii).

Add the following to the end of Method (ii):

"The value of "m" working days expected delay caused by normal rainy weather for each respective calendar month of any year, is given in table B1215/1 below:

Table B1215/1
EXPECTED DELAY OF WORKING DAYS DUE TO NORMAL RAINY WEATHER

Month	Expected delay of "m" working days due to normal rainy weather	Month	Expected delay of "m" working days due to normal rainy weather
January*	6 (3)	July	2
February	6	August	2
March	5	September	3
April	4	October	4
May	2	November	4
June	2	December*	6 (2)

* The values in brackets are the expected delays to allow for the annual year-end shutdown period.

The contractor shall make provision in the approved programme of work, and all subsequent adjusted programmes of work, for an expected delay of "n" equal to 22 working days due to normal rainy weather during the contract period, including any approved extension of time, for which the contractor will not receive an extension of time. This provision shall be shown as a float in the programme, and distributed

amongst the calendar months.

Delays on programmed and actually planned working days only, shall be taken into account for an extension of time. If a delay due to wet conditions is caused by, or exacerbated by, the lack of adequate temporary drainage measures, such a delay shall not be taken into account in the calculation of any extension of time. Any delay due to rainfall shall only be recognized and granted to the extent that the delay could not be mitigated by changing work sequences.

Each day, or part of a day so agreed by the engineer, will accrue as "m" working days delay due to normal rainy weather. The summary of accrued "m" working days delay shall be recorded at each site meeting.

A claim for an extension of time will only be considered if the approved accumulative "m" working days delayed due to normal rainy weather, exceeds the contract provision of "n" working days during the contract period up to the due completion date, including any approved extension of time.

Note:

(1) Any surplus of the contract provision of "n" working days not claimed as rain days during the original contract period, shall not affect the original due completion date.

(2) For any approved extension of time period, any surplus of the contract provision of "n" working days not claimed as rain days during the original contract period, shall then be carried forward as a provision for an expected delay on working days due to normal rainy weather during the approved extension of time period."

B1219 WATER

Add the following paragraph to the end of clause 1219:

"The contractor shall arrange for chemical tests to be carried out to confirm the suitability of his proposed water sources for use as drinking water and for use in the concrete construction. The contractor shall ensure that these tests also include testing for salinity and sugar content levels.

The contractor shall note that the necessary permission must be obtained from the Department of Water and Sanitation for the abstraction of water from streams and rivers."

B1224 THE HANDING-OVER OF THE ROAD RESERVE

Add the following paragraph to the end of clause 1224:

"The handing-over of the road reserve for this project shall be subject to the following restrictions:

- (a) Only that portion of the road reserve as described in the Site Information shall be handed over to the contractor. The contractor shall be responsible for the maintenance along this portion of the road until completion of the contract.
- (b) The contractor shall be required to accommodate public traffic as well as the employer's other contractors working on various projects in the area.
- (c) The Contractor shall be required to accommodate service owners and other contractors working on the services relocation and maintenance in the execution of their duties."

B1229 SABS CEMENT SPECIFICATIONS

Add the following paragraphs to the end of clause 1229:

"All cement used on this contract shall comply with SANS 50197-1: Cement Part 1: Composition, specifications and conformity criteria for common cements.

Where reference is made in these Project Specifications or in the COLTO Standard Specifications to the former SABS cement specifications (e.g., SABS 471, SABS 626, SABS 831, SABS 1491), such reference shall be replaced with the new specification:

- SANS 50197-1: Cement Part 1: Composition, specifications and conformity criteria for common cements.

The blending of cements on site shall not be permitted.”

Add the following new clauses at the end of Section 1200:

"B1230 COMMUNITY LIAISON

(a) Project Liaison Committee

The process of implementing infrastructure projects will be undertaken by means of structured engagement between those responsible for the delivery of the project and the community.

A Project Liaison Committee (PLC) is a vital means of communication between the parties involved with the project. A PLC may be formed if the project is such that a specific community can be identified.

The PLC comprises representatives of the employer, the engineer and formal structures within the community. The contractor shall make use of these communication channels, and shall appoint from amongst his site personnel a responsible person to participate in the affairs of the PLC, and this representative shall also attend the monthly PLC meetings when so requested.

The PLC shall meet at least once every month until such time as it is of the opinion that it could fulfil its tasks by meeting less frequently.

The PLC deals with local labour on the project, and is tasked with:

- assisting with community liaison and the resolution of community disputes;
- devising fair and transparent procedures that will assist the contractor in the engagement of labour;
- advising on and monitoring labour issues; and
- assisting in the resolution of labour disputes.

All labour recruitment, employment and associated risks shall remain the sole responsibility of the contractor.

(b) Community Liaison Officer (CLO)

The contractor, after consultation with the Project Liaison Committee (PLC), shall appoint a competent local person as a Community Liaison Officer (CLO). The contractor shall appoint the CLO as part of his site personnel, and shall direct all his liaison efforts with the local community through the appointed CLO.

The period of employment and the remuneration of the CLO shall be determined jointly by the contractor, the engineer and the employer.

The CLO shall:

- (i) represent the community and assist the contractor, the engineer and the employer with communication between them and the community;
- (ii) work an 8-hour day with a total of 40 hours worked per week, and shall be present on site each day except when performing off-site community liaison activities;
- (iii) communicate daily with the contractor on labour related issues such as numbers and skill;
- (iv) assist in the identification and screening of local labour from the community in accordance with the contractor's requirements;
- (v) inform local labour of their conditions of employment, including their period of employment;
- (vi) attend disciplinary proceedings involving local labour, and ensure that hearings are fair and

reasonable;

- (vii) attend all meetings at which the community and/or local labour are present or are required to be represented;
- (viii) attend monthly site meetings to report on community and local labour matters;
- (ix) keep a daily written record of interviews and community liaison;
- (x) submit monthly returns regarding community liaison; and
- (xi) carry out all such other duties as agreed upon between all parties concerned.

A new pay item is included in section 1200 of the schedule of quantities relating to the payment of the CLO on a provisional sum basis. Payment under this item shall be made only for the period for which the duties of the CLO are required, and not necessarily for the full duration of the contract.

B1231 COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT, 1993

All labour employed on the site shall be covered by the Compensation for Occupational Injuries and Diseases Act, 1993, as amended. The contractor shall pay in full, including the payment of the necessary levies, such amounts as are due in terms of the Act. These amounts shall not be included in the wage rates and shall be payments allowed for by the contractor in addition to the wages paid to labour. The manner in which compensation in terms of this Act shall be handled shall be resolved by the contractor at the commencement of the contract.

B1232 COMPLIANCE WITH THE ROAD TRAFFIC ACT

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

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

The contractor shall provide, erect and maintain sufficient road signs, barricades, fencing and guarding as may be necessary or required by the engineer or by any act, regulation or statutory authority in order to minimise the danger and inconvenience caused to vehicle and pedestrian traffic. The contractor by accepting this contract shall be deemed to have indemnified the employer and the engineer against any claims, damages and / or costs that may arise in this regard.

B1233 ENVIRONMENTAL IMPACT CONTROL

In addition to aspects of the design which are intended to avoid or reduce environmental impact, and in addition to normal good construction practice expected of the contractor, the following requirements shall also be complied with:

- (a) The contractor shall comply with the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.
- (b) Clearing shall be limited to the road prism and, where applicable, to detours, which shall be sited in consultation with the engineer and the local communities.
- (c) No littering by construction workers shall be allowed. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer.
- (d) Adequate provision shall be made for temporary toilet requirements in construction areas. Use of the veld for this purpose shall not be allowed under any circumstances.

- (e) Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants, such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate tailings, wash water, organic materials and bituminous products. In the event of spillage, prompt action shall be taken to clear the affected area. Emergency measures in the event of spillage shall be set out and the responsible person shall be made aware of the required action. The construction of temporary and / or permanent dams shall be done with the necessary approvals from the Department of Water and Sanitation and the Department of Environmental Affairs.
- (f) Bituminous and / or other hazardous products shall not be spoiled on site and shall only be disposed of at licensed authorised disposal facilities.
- (g) Provision shall be made to prevent excessive erosion and siltation throughout the contract and in particular on adjacent land. Should excessive erosion and / or siltation take place outside the road reserve as a direct result of the contractor's construction activities, the contractor shall be responsible for making good the erosion / siltation to the satisfaction of the landowner and the engineer.
- (h) Alien and invader species of plants shall be controlled.
- (i) Dust and noise pollution shall be restricted to acceptable levels.

No separate payment shall be made for observing these requirements as such payment shall be deemed to be included in the amount tendered for item B13.02(a) Compliance with environmental management specification. Any avoidable non-compliance with these requirements shall be considered sufficient grounds for withholding payment of part or all of the amounts to be paid for the above item in order to pay for the repairs to any damages.

B1234 MEASUREMENT AND PAYMENT

Item	Unit
B12.01 Services:	
(a) Protection, relocation, realignment, removal or replacement of services	provisional sum
(b) Handling costs and profit in respect of subitem B12.01(a) above.....	percentage (%)

Expenditure under this item shall be made in accordance with clause 6.6 of the General Conditions of Contract 2015.

The tendered percentage is a percentage of the amount of expenditure approved by the engineer under subitem B12.01(a), and shall include full compensation for the handling costs of the contractor and the profit in connection with the protection, relocation, realignment, removal or replacement of the relevant services.

Item	Unit
B12.02 The setting-out of work and protection of beacons:	
(a) Provisional sum for new survey beacons to be constructed or for existing survey beacons to be protected during construction	provisional sum
(b) Handling costs and profit in respect of subitem B12.02(a) above.....	percentage (%)

Expenditure under this item shall be made in accordance with clause 6.6 of the General Conditions of Contract 2015.

The tendered percentage is a percentage of the amount of expenditure approved by the engineer under subitem B12.02(a), and shall include full compensation for the handling costs of the contractor and the profit

in connection with the construction of new survey beacons or the protection of existing survey beacons.

SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS**B1302 GENERAL REQUIREMENTS****(c) Legal and contractual requirements and responsibility to the public**

Add the following new paragraphs to the end of subclause 1302(c):

"Legislation imposes mutual obligations on the employer and contractor in the performance of their duties to society and to the built and natural environment. To assist the contractor in understanding and assessing his obligations, and thus to make allowances for the cost of compliance with this legislation, Parts C, E, F and G are included in section C3.3 Particular Specifications in the project specifications.

The contractor's general obligations shall also include the training of temporary labour, the management of labour enhanced work, the application of the Compensation for Occupational Injuries and Diseases Act, 1993, and compliance with the requirements of Part C: Environmental Management Specification, Part E: OHSA 1993 Health and Safety Specification, Part F: Expanded Public Works Programme and Part G: Small Contractor Development contained in section C3.3 Particular Specifications.

Part C: Environmental Management Specification contains the environmental management specification for this project. Its provisions regulate the contractor's construction methods so as to ensure responsible conduct with respect to the environment and responsible treatment of the environment relevant to the project. A new pay item B13.02 is included in section 1300 to allow the contractor to make separate provision for the cost of environmental management obligations during the construction process.

Part E: OHSA 1993 Health and Safety Specification contains the specifications that regulate the Contractor's construction methods so as to ensure the health and safety of his employees and the public. A new pay item B13.03 is included in section 1300 to allow the contractor to make separate provision for the cost of health and safety obligations during the construction process.

Part F: Expanded Public Works Programme contains requirements for employment and training in terms of the National Youth Service programme (where applicable – refer to Part F). Various pay items related to these requirements are included in Part F. However, to the extent that any costs relating to the requirements of Part F are not covered by the pay items in that section, the contractor shall include for such costs in the existing pay item B13.01 in section 1300.

Part G: Small Contractor Development contains provisions that regulate the contractor's construction processes for compliance with Government's initiatives towards broad-based black economic empowerment. Various pay items related to these requirements are included in Part G. However, to the extent that any costs relating to the requirements of Part G are not covered by the pay items in that section, the contractor shall include for such costs in the existing pay item B13.01 in section 1300. The contractor shall note that non-compliance with the provisions of Part G may lead to the imposition of penalties as described in clause G3.3.4."

B1303 PAYMENT

Add the following at the start of item 13.01:

"All references in item 13.01 to the final value of the work increasing or decreasing by "twenty (20) per cent" in terms of the COLTO Standard Specifications shall be read as increasing or decreasing by "fifteen (15) per cent" in terms of the General Conditions of Contract 2015.

Separate provision has been made in the schedule of quantities for the pricing of the contractor's "General Item" obligations with regard to environmental management and health and safety."

Refer to the second sentence of the second last paragraph of item 13.01 and delete the words "from the date on which the Contractor has received the letter of acceptance in terms of clause 12 of the general conditions of contract," and replace these words with the following:

"from the commencement date of the Works in terms of clause SCC 5.3.1 of the General Conditions of

Contract 2015, ”.

Add the following at the end of clause 1303:

"Note (1): Extension of time

The amount payable to the contractor for time-related general items arising from an extension of time granted in accordance with clause 5.12.1 and 5.12.2 of the GCC 2015, shall be calculated as follows:

- (i) The contractor shall claim for an extension of time in terms of the number of days delay incurred calculated in accordance with clause 5.1 of the GCC 2015.
- (ii) The contractor shall base his claim for an extension of time in terms of the number of working days delay incurred. Non-working days and special non-working days as defined in the contract data shall not be counted as working days.

The number of working days extension of time granted by the engineer, shall then be added to the original due completion date of the contract, commencing on the first working day after the day of the original due completion date, and ending on a working day which shall then be the extended due completion date.

- (iii) The number of calendar days extension of time to be granted by the engineer from the original due completion date to the extended due completion date as calculated in (ii) above, shall then be calculated commencing on the first calendar day after the day of the original due completion date.

The following formula shall then be used to calculate the number of months extension of time granted:

No. of months extension of time granted

= [(No. of calendar days extension of time granted / 365) x 12]

- (iv) The number of months extension of time granted calculated as in (iii) above shall be the number of additional months measured for payment for time-related obligations under item B13.01(c) and in accordance with clause 5.12.3 of the GCC 2015 as a result of the extension of time granted.

Note: The number of months extension of time granted calculated as in (iii) above shall also be included in the measurement of any other items scheduled under sections 1300, 1400, 1500 or elsewhere in the schedule of quantities, that involve the unit of measurement "month" and that were provided on site for the full duration of the extension of time period. Where such items were provided for a portion of the extension of time period only, a pro rata payment shall be made, based on the number of calendar days the item was provided on site after the original due completion date divided by the number of calendar days as calculated in (iii) above for the extension of time granted."

Item	Unit
B13.01	The contractor's general obligations:
(a)	Fixed obligations.....lump sum
(c)	Time-related obligations..... month

Add the following before the start of the first paragraph of item 13.01:

"Subitems B13.01(a) and (c) are "General Items" as defined in clause 1.1.1.21 of GCC 2015."

After the end of subclause (iii) in the first paragraph of item 13.01, add the following new subclauses which further define the contractor's general obligations:

- “(iv) Complying with the requirements and conditions of the additional specifications in Part F: Expanded Public Works Programme to the extent that any costs relating to the requirements of Part F are not covered by the pay items included in that section.
- (v) Complying with the requirements and conditions of the additional specifications in Part G: Small Contractor Development relating to the Government’s broad-based black economic empowerment initiatives to the extent that any costs relating to the requirements of Part G are not covered by the pay items included in that section. The tendered amount shall also include the cost of establishment on site within the Contractor’s own camp facilities, for the Targeted Enterprises, including the provision of site offices, common camp facilities, medical, security, safety, electricity, water, sewage services, waste disposal and all other camp services.”

Add the following new payment items at the end of clause 1303:

Item	Unit
B13.02 Health and Safety obligations:	
(a) Fixed obligations for the preparation of risk assessments, safe work procedures, the project Health & Safety file, the Health & Safety plan and any other Health & Safety matters that the Contractor deems necessary	lump sum (Sum)
(b) Fixed obligations for completing and checking the Project Health & Safety file and handing it over to the Employer on completion of the Works.....	lump sum (Sum)
(c) Time-related obligations for updating and amending the risk assessments, the safe work procedures, the project Health & Safety file and the Health & Safety plan, and for full compliance with all Health & Safety matters during the construction of the Works under the contract	month

Payment of the lump sums tendered under subitems B13.02(a) and (b) and the rate per month for subitem B13.02(c) shall, for the three subitems together, include full compensation for all the Contractor’s costs in respect of compliance with the OHS Act and Construction Regulations.

Payment of each of the lump sums tendered under subitems B13.02(a) and (b) shall be made in three instalments as specified in the COLTO standard specifications for the payment of the lump sum tendered under subitem 13.01(a).

The tendered rate for subitem B13.02(c) shall be paid as specified in the COLTO standard specifications for the payment of the tendered rate for subitem 13.01(c).

Item	Unit
B13.03 Supply and transport to site and erection of the contract sign board.....	No

The rate tendered in sub-item b13.03 (a) shall include full compensation for all costs resulting from the manufacturing, any equipment and facilities, etc, transportation to site and erection of the contract sign board

Item	Unit
B13.04 Monitoring of the Environmental Management Plan (EMP) by the Environmental Control Officer (ECO)	
(a) Monitoring of the EMP by the ECO	provisional sum
(b) Handling costs and profit in respect of subitem B13.04(a) above.....	%

The rate tendered in sub-item B13.03 (a) shall include full compensation for all costs resulting from the recruitment and employment of a full time dedicated Environmental Officer (DEO), This shall include all expenses related to the employment of the Environmental officer, including the provision of transport, any equipment and facilities, etc. required by Environmental officer to carry out his/her duties.

SECTION 1400: HOUSING, OFFICES AND LABORATORIES FOR THE ENGINEER'S SITE PERSONNEL**B1401 SCOPE**

Add the following paragraph to the end of clause 1401.

Office accommodation is required to be provided for the Employer's Agent in terms of this contract. The office must be fully furnished with a desk, chairs, pinning board, white board, printer, plan rack and plan inspection table and air-conditioner.

Services provided shall include electricity and potable water. Ablution facilities shall be provided for the Employer's Agent

Measurement and Payment**B14.01 Office and laboratory accommodation:****(a) Offices:**

Add the following new subsubitems to subitem 14.03(a):

"Item	Unit
(a) Offices	square-meter (m ²)

The unit of measurement shall be the authorised number of units supplied and installed, complete and in accordance with the specifications and drawings, together with all minor fittings, brackets, connections, leads, mountings, etc.

The tendered rate for subitem B14.03(a)(xix) shall include for the operation of the lights from sunset to sunrise for the full duration of the contract."

SECTION 1500: ACCOMMODATION OF TRAFFIC**B1501 SCOPE**

Add the following to the end of clause 1501:

“Throughout the course of the contract the contractor shall ensure that the works do not prevent service owners or the employer’s other contractors from gaining access through the site.

The contractor shall be required to accommodate traffic in the vicinity of the points at which he accesses the site from the existing road network. All movements of the contractor’s plant to and from the existing access road at these intersections shall be strictly controlled by means of appropriate signage, delineators, stop / go facilities and flagmen.”

B1502 GENERAL REQUIREMENTS

Add the following new subclauses to the end of clause 1502:

“(j) Public traffic

The contractor must plan and conduct his activities so as to bring about the least possible disruption to the traffic on the existing roads. In all dealings with the public the contractor shall bear in mind the public's right to enjoy the use of the road, and the employer's desire to interfere as little as possible with this right. At all points of contact with the public, the contractor shall deal with deliberate courtesy and understanding in any discussions or disputes.

“(k) Lane closures

The contractor shall be prohibited from accommodating traffic by means of a lane closure during an embargo period due to peak traffic conditions as detailed in table B1502/1.

Table B1502/1
LANE CLOSURE EMBARGO PERIOD

Description of work prohibited	Embargo period
Lane closure	(i) Day before Good Friday (ii) Annual year-end shutdown period

The contractor shall programme the works in order to ensure that there shall be no lane closures during an embargo period, and shall make provision for the embargo period as specified in clause B1204 Programme of Work”.

B1503 TEMPORARY TRAFFIC-CONTROL FACILITIES

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

“The contractor shall provide, erect and maintain the necessary traffic-control devices, road signs, channelization devices, barricades, warning devices and road markings (hereinafter referred to as traffic-control facilities) in accordance with these project specifications and as shown on the drawings and in the South African Road Traffic Signs Manual, Volume 2, Chapter 13 Roadworks Signing, and shall remove them when no longer required.

The contractor shall replace at his own cost any traffic-control facilities that have been damaged, lost or stolen. The contractor shall also remove all bituminous or other foreign material from the traffic-control facilities in order to keep them clean and visible at all times. Traffic-control facilities that can no longer be cleaned effectively shall be replaced with new ones at the cost of the contractor.”

Replace the first sentence of the third paragraph of clause 1503 with the following:

"The type of construction, spacing and placement of traffic-control facilities shall be in accordance with the South African Road Traffic Signs Manual, Volume 2, Chapter 13 Roadworks Signing, these project specifications, and the drawings.

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

(a) Traffic-control devices

Add the following new paragraph after the end of the second paragraph of subclause 1503(a):

"The reduction of the road width to a single lane carrying one-way traffic and controlled by "STOP / GO" boards shall be allowed only during daylight hours in clear weather conditions when work is actively taking place on the road, and such reduction of the road width shall always be accompanied by sufficient on-going watering to keep the dust down at all times on any trafficked gravel surfaces in order to maintain good visibility along the deviation. At least two lanes carrying two-way traffic shall be provided at all other times."

(b) Road signs and barricades

Add the following to the end of subclause 1503(b):

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

The temporary road signs required for this contract shall generally be mounted on poles installed in the ground. Where temporary signs such as delineators are mounted on portable supports, the only permitted method of ballasting such sign supports shall consist of durable sandbags filled with sand of adequate mass to prevent the signs from being blown over by wind. The cost of the sandbags shall be included in the tendered rates for the applicable types of temporary road signs.

The traffic-control devices, temporary signs and devices required in the contract are those designated in the South African Road Traffic Signs Manual, Volume 2, Chapter 13 Roadworks Signing.

The covering of permanent road signs, if applicable, shall be carried out by utilising a hessian bag which shall be pulled over the sign in the form of a hood and fastened to the sign posts using wire ties. Plastic bags or other materials, and fastening by means of adhesive tape, shall not be permitted for this purpose. The cost of covering permanent road signs shall be deemed to be covered by the tendered rates for items 15.01 and 15.10 (if applicable).

No work may proceed on any section where accommodation of traffic is required until such time as the relevant requirements with regard to signposting are met and the written approval of the engineer has been obtained. The contractor shall keep sufficient surplus signs, delineators and barricades on the site to allow for the replacement of damaged or missing items immediately upon discovery, or within three hours of instructions to such effect having been given by the engineer. Delineators shall be of the flexible plastic / rubber reversible variety and not of the rigid metal variety."

(c) Channelization devices and barricades

Add the following paragraphs at the end of subclause 1503(c):

"Delineators shall be manufactured from plastic / rubber materials and shall be adequately ballasted with sand bags to prevent the signs from being blown over by wind or wind turbulence from moving traffic.

Delineators shall:

- (i) comply with the requirements of SANS 1555;
- (ii) comply with the manufacturing and reflective requirements of the SARTSM and the blades shall be reversible with dimensions as scheduled;

- (iii) have smooth round edges and shall be mounted on a post and base. All components shall be of durable plastic material;
- (iv) have the lower edge of the reflective part of the delineator mounted not lower than 250 mm above the road surface;
- (v) be capable of withstanding the movement of passing vehicles and gusting winds up to 60 km/h in typical working conditions without falling over. To achieve this, the area of the base shall be at least 0,18 m² and shall be ballasted by sandbags with sand;
- (vi) together with their mountings be designed such that they will collapse in a safe manner under traffic impact.

Traffic cones shall be manufactured from fluorescent orange, red-orange or red plastic material, and shall be used only at short term lane deviations during daylight hours. All traffic cones used on deviations shall be 750 mm high. Cones shall not be used on their own but shall be interspersed with delineators at a ratio not exceeding 3 cones : 1 delineator. Lane closures which continue into the night time shall be demarcated by delineators only.

The use of steel drums as channelization devices shall not be allowed on this Contract. Channelization shall be effected by the use of delineators or cones as detailed in the South African Road Traffic Signs Manual, Volume 2, Chapter 13 Roadworks Signing."

(e) Warning devices

Add the following to subclause 1503(e):

"All construction vehicles and plant used on the works shall be equipped with 200 mm diameter rotating amber flashing lights and with "CONSTRUCTION VEHICLE" warning signs. All vehicles and plant shall obtain a clearance permit from the engineer before being allowed onto the site.

Rotating lights shall have an amber lens of minimum height of 200 mm and shall be mounted to ensure clear visibility from all directions. The lights on construction vehicles shall be switched on as the vehicles decelerate to enter a construction area, while construction vehicles are operating within the accommodation of traffic area, and as the vehicles accelerate to the general speed when entering the road from a construction area. Lights on plant shall operate continuously while the plant is working alongside sections of road open to public traffic.

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

Rotating lights and the "CONSTRUCTION VEHICLE" warning signs on the contractor's vehicles and plant shall not be paid for separately but shall be included in the rates covering the use of the vehicles.

The contractor shall apply and maintain to the approval of the engineer such rotating amber lights and warning signs, together with any temporary mounting brackets. Vehicles and plant that do not comply with these requirements shall be removed from the site."

Add the following new subclauses to clause 1503:

"(g) Other signs and facilities

The engineer may instruct the contractor to provide any other road sign and reflective tape, not measured in the standard pay items. Such other road signs and reflective tape shall conform to the requirements of the Southern African Development Community Road Traffic Signs Manual and any other specification provided by the engineer.

(h) High visibility safety vests

The contractor shall ensure that all his own personnel, excluding those who are permanently office bound, all other construction workers on the site, staff of the engineer and visitors are equipped with high visibility reflective safety vests. High visibility reflective safety vests shall be worn at all times when working on or near to the travelled way. High visibility reflective safety vests shall be kept in good condition and any such safety vests that are, in the opinion of the engineer, ineffective shall be replaced immediately by the contractor.”

B1517 MEASUREMENT AND PAYMENT

Item	Unit
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B15.03 Temporary traffic control facilities:

(a) Flagmen	man-day
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Add the following to the end of subclause 15.03(a) (which describes the unit of measurement and tendered rate for flagmen):

“To the extent described in item B15.10, the flagmen and STOP/GO controllers associated with half-width road closures shall be paid for in terms of the rate tendered for item B15.10, and no separate payment for such personnel will be made in terms of subitem B15.03(a).

All flagmen and STOP/GO controllers associated with half-width road closures using traffic signals shall be paid for in terms of the rate tendered for subitem B15.11(b), and no separate payment for such personnel will be made in terms of subitem B15.03(a).”

SECTION 1600: OVERHAUL**B1602 DEFINITIONS****(a) Overhaul material**

Add the following to the end of subclause 1602(a):

"Overhaul shall not be measured separately for payment for materials obtained from commercial sources, and the rates tendered for such materials shall be fully inclusive of all haul required."

(b) Overhaul

Delete the first two paragraphs of subclause 1602(b) and replace them with the following:

"Restricted overhaul shall not apply to fill material from cut and borrow and to spoil material from excavations when hauled in excess of a free-haul distance of 0,5 km in respect of haul up to and including 1,0 km, and no measurement and payment for restricted overhaul shall be made under any item in respect of material hauled between or over these distances.

Ordinary overhaul only shall apply in respect of haul in excess of 1,0 km."

Delete the final paragraph of subclause 1602(b) since restricted overhaul shall not apply to the work required under this contract.

(d) Free-haul distance

Delete the second sentence of subclause 1602(d) and replace it with the following:

"This distance shall be 1,0 km in the case of all overhaul materials."

B1603 MEASUREMENT AND PAYMENT

Delete item 16.01 since restricted overhaul shall not apply to the work required under this contract.

*Refer to the **Note** immediately below the description of the unit of measurement for item 16.02. Delete the first paragraph of this note since restricted overhaul shall not apply to the work required under this contract.*

SECTION 1700: CLEARING AND GRUBBING**B1704 MEASUREMENT AND PAYMENT**

Item	Unit
B17.01 Clearing and grubbing.....	ha

Add the following to the end of the first paragraph of item 17.01:

“Only clearing and grubbing necessarily required for road works and structural works within the road reserve shall be measured for payment. Payment for clearing and grubbing for the construction of campsites shall be regarded as being included in the rates tendered for item 13.01 for the contractor’s general obligations, and shall not be measured separately.”

SECTION 2100: DRAINS**B2101 SCOPE**

Amend the first paragraph to read:

“This section covers all work in connection with the excavation and construction of open drains, subsoil drainage and banks and dykes at the locations and to the sizes, shapes, grades and dimensions as shown on the drawings or as directed by the Employer’s Agent or the Employer’s Agent’s representative, and the test flushing of subsoil drains.”

Add after the third paragraph:

“It includes the clearing and cleaning of streams and river beds of any debris materials both upstream and downstream of culverts and causeways that have the potential for damming up of water or clogging the inlet or outlet structures.”

B2102 OPEN DRAINS

Amend the second paragraph under (c) to read:

“Care shall be taken to avoid excavation below the required grades for the open drains and any excavation carried beyond the required grade shall be backfilled with suitable material and compacted to at least 90% of modified AASHTO density in open areas, and to densities that match the layerworks compaction densities in road reserves, by the contractor at his own expense.”

B2104 SUBSOIL DRAINAGE**(a) Materials****(i) Pipes**

Amend this sub-clause by adding the following to the end of the third paragraph:

“(category-heavy duty) or SANS 1601 (stiffness class 350)”

“The pipes to be used shall be either slotted uPVC pipes or perforated HDPE pressure pipes, 100 mm ID”

(ii) Natural permeable material

Add the following to the 3rd paragraph:

“The crushed stone shall be fine (13.2 mm nominal size) and shall be washed clean of all fines”

(iii) Synthetic-fibre filter fabric

Under item (4) Selection, of this sub-clause, replace the 1st paragraph with the following:-

“The filter-fabric used for subsoil drains shall be grade 2 geotextile and shall conform to the criteria for a grade 2 geotextile as specified in Table 2104/2”

(b) Construction of subsoil drainage systems

Add the following sub-clause:

“(v) Proving of pipes in sub-soil drainage systems

On completion of the pipe laying and prior to backfilling, all pipe joints shall be surveyed as proof of their installation to line and level. After backfilling the pipes shall be proved by pulling through a cylindrical cleaning brush followed by a wooden mandrill $\pm 400\text{mm}$ long and 5mm in dia. less than the bore of the pipe. Proving of pipes shall not be paid for separately and the cost thereof shall be deemed to be included in the rate tendered for laying the pipe."

Generally, prefabricated stormwater drainage pipes and rectangular culverts will be installed using the 'trench method'. Installation in half widths can be anticipated.

- Add the following:

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

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

- **SCOPE**

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

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

- **PRECEDENCE**

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

- **HAND EXCAVATEABLE MATERIAL**

- Hand excavateable material is material:

- A. granular materials:

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

- B. cohesive materials:

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

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

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

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

Table 1: Consistency of materials when profiled

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

Trench excavation

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

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

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

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

Excavation

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

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

- Measurement shall be as specified for pay item 21.01 of the standard specifications.

The tendered rate shall include full compensation for carrying out the excavation by hand where circumstances prevent the use of mechanical excavators.

SECTION 2200: PREFABRICATED CULVERTS**B2201 SCOPE**

Add to Clause 2201 the following:

This section also covers work associated with the removal of existing pipes and their inlet and outlet structures. Due to the nature of the project, the Contractor can expect that works associated with the installation of pipe culverts will have to be carried out under traffic.

B2204 CONSTRUCTION METHODS

Add to Clause 2204 the following:

Generally, prefabricated stormwater drainage pipes and rectangular culverts will be installed using the 'trench method'. Installation in half widths can be anticipated.

Add the following:

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

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

SCOPE

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

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

PRECEDENCE

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

HAND EXCAVATEABLE MATERIAL

Hand excavateable material is material:

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

e. cohesive materials:

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

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

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

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

Table 1: Consistency of materials when profiled

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

Trench excavation

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

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

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

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

Excavation

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

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

B2210 LAYING AND BEDDING OF PREFABRICATED CULVERTS**(f) General**

Add to Sub-clause 2210(f) the following:

Pipe culverts have been designed to the positions, lengths, and elevations shown on the drawings. However, site conditions may dictate that changes are necessary. Any such changes will be agreed with the Employer's Agent and recorded in writing.

B2211 BACKFILLING OF PREFABRICATED CULVERTS

Add to the fourth paragraph of Clause 2211 the following:

Where backfilling is done in the upper layers of the road formation, the quality and strength of the backfill material shall match that of the surrounding road layerworks.

B2212 INLET AND OUTLET STRUCTURES, CATCHPITS AND MANHOLES

Add to Clause 2212 the following new sub-clause (j):

(j) Subsurface drain outlet into catchpits and manholes

Where required, sub-surface drain pipes shall be led into standard stormwater catchpits or manholes, as shown on the drawings or as directed by the Employer's Agent. This shall be done either by making provision during the construction of the chamber, or by breaking out and making good after completion of the chamber.

B2218 MEASUREMENT AND PAYMENT**MEASUREMENT AND PAYMENT**

Item	Unit
B22.02 Backfilling:	
“(b) Using imported selected material:	

Delete the second sentence of the third paragraph of item 22.02 and replace it with the following:

“The tendered rate for subitem B22.02(b) shall, in addition, include full compensation for supplying G6 quality subbase or G7 quality selected subgrade material, as instructed by the Employer's agent, imported from necessary excavations on site or from borrow pits, including a free haul of 1,0 km.

SECTION 2300: CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS**B2301 SCOPE**

Add to Clause 23.01 the following:

This section also covers the replacement of damaged concrete kerbing, channelling and lining.

B2302 MATERIALS**(b) Kerbing and channelling**

Add to Sub-clause 2302(b) the following:

Precast kerbs shall preferably be manufactured on site.

B2304 CONSTRUCTION**(b) Prefabricated concrete kerbing and channelling**

Add to Sub-clause 2304(b) the following:

Kerbing of radius 1m and less shall be cast in situ in accordance with sub-clause 2304(e) and as shown on the drawings.

All precast kerbs shall be provided with continuous in-situ concrete backing (haunching), the cost of which shall be included in the tendered rate.

Dimensions of the triangular-shaped (in cross-section) haunching shall be calculated as follows: If the difference in levels between the top of the kerb and the sub base on which the kerb is laid is (h), then the height of the haunch is $2/3h$ and the width of the haunch is h.

(e) Cast in-situ kerbs and channels

Add to Sub-clause 2304(e) the following:

Where new kerbing and channelling has to be laid in an existing bitumen surface, the surface shall be neatly cut to a straight line with an angle grinder or similar approved means along the edge of the channel. The existing road foundation shall then be carefully removed over the width and depth required to construct the new kerb and channel.

During the construction of the in situ channel, the contractor shall take care not to stain or damage the existing road surface. Any damage, excess overbreak, undermining or staining shall be repaired by the Contractor at his own expense.

Add the following new Sub-clauses to Clause 2304:

(l) Shrinkage joints for cast in-situ concrete work.

Unless shown otherwise on the drawings, cast in situ channels shall be provided with shrinkage joints spaced a maximum of 2m apart. Shrinkage joints shall be constructed so that shrinkage cracks are generated at the joints. Sections of channel which have cracked between shrinkage joints shall be removed and replaced by the contractor at his own cost.

(m) Formwork and finish

All visible edges of cast in-situ channels shall be rounded with a rounding tool.

(n) **Removal of existing kerb and channel**

Where shown on the drawings and/or indicated by the Employer's Agent, the existing kerb and channel shall be removed and transported to spoil as directed.

SECTION 3100: BORROW MATERIALS**B3103 OBTAINING BORROW MATERIALS****(a) General**

Add the following:

“The Contractor shall note that natural materials which meet the requirements for the selected and sub-base layers are scarce, even when the properties are improved via stabilisation. Therefore, careful selection of materials will be required in the borrow pits. The Contractor shall refer to Section 3200 of the standard specifications with regard to his liabilities in respect of the contamination of good quality materials.

The contractor shall adhere to the requirements within the environmental management plan for the preparation of the area to be utilised as a borrow pit. This shall include the removal and storage of the topsoil within the affected area, maintenance of the area during use and the rehabilitation of the area to its natural state on completion. A photographic record shall be kept of all borrow pit areas. Any construction material spoiled within these sites shall be buried to a depth of no less than 300mm below the surface soil. No construction material of any nature shall be left visible after topsoiling. The Employer’s Agent shall confirm this before grassing commences. The area shall be kept free of all undesirable plant material.”

B3104 OPENING AND WORKING BORROW PITS AND HAUL ROADS**(a) Removing topsoil**

Add to Sub-clause 3104(a) the following:

“The topsoil to be stockpiled shall be placed between the Road and the physical borrow pit area so as to provide a temporary visual screen in front of the borrow activities. The topsoil shall not be stockpiled for longer than 6 months, nor shall the stockpile be higher than 2,0m.”

(d) Excavating borrow material

Add the following:

“No excavator type machinery shall be allowed for the excavating of borrow material”

(g) Unproclaimed private access roads

Add the following:

“The Contractor is responsible for proper maintenance of haul roads in cases where the material from the borrow pit areas has to be transported over secondary, tertiary, private or access roads. At the completion of activities in the borrow pits, the haul roads shall be restored to their original state and to the satisfaction of the Employer’s Agent.

Expropriation of borrow pits on private property by the Employer, will include access roads to the borrow pits. However, the Contractor is fully responsible for negotiating details of the right of access to the borrow pits with the private owners as well as for the building, maintenance and later removal of all access roads. No additional payment will be made for this work and full remuneration will be deemed to be included in the tendered rates for the various items where the material is to be used.”

B3107 CLASSIFICATION OF BORROW PITS FOR GRAVEL MATERIALS FOR PAVEMENT LAYERS

Add the following:

"No distinction shall be made between soft and intermediate material" Only soft and hard material classification as that described in Clause 3303 of mass earthworks shall be applicable."

SECTION 3300: MASS EARTHWORKS**B3302 MATERIALS****(b) Fill**

Add the following to the end of subitem 3302(b)(iv):

“The swell at 100% of modified AASHTO density shall not exceed 2%.”

B3303 CLASSIFICATION OF CUT AND BORROW EXCAVATION**(a) Classes of excavation****(ii) Intermediate excavation**

Add the following to the end of subclause 3303(a)(ii):

“No distinction shall be made between soft and intermediate excavation, and all intermediate excavation shall be classified and measured and paid for as if it is soft excavation.”

(iii) Hard excavation

Delete both paragraphs of subclause 3303(a)(iii) and replace them with the following:

“Hard excavation shall be classified as that material remaining in cut and borrow which, after every reasonable endeavour has been made to remove it as intermediate material, can only be removed by drilling and blasting.”

B3306 CUT AND BORROW**(d) Selection**

Add the following new paragraphs to the end of subclause 3306(d):

“The contractor shall make all reasonable endeavours to select diligently materials in the cuts suitable for deployment in the construction of the fills.

Any unsuitable material encountered shall be hauled to the designated spoil site.

The engineer reserves the right to alter the contractor's programme and method of operation to achieve this objective.”

B3312 MEASUREMENT AND PAYMENT**General directions****(3) Work in restricted areas**

Add the following to the end of this paragraph:

“No extra payment shall be made in terms of items 33.15 and 33.18. Allowance for all such extra over costs arising from work executed in restricted areas shall therefore instead be included in the rates tendered for the other items scheduled with reference to Section 3300.”

Add the following new paragraphs (4), (5), (6) and (7) after (3) above:

“(4) Excavating material from the pavements and fills of existing roads

No extra payment shall be made in terms of item 33.14 with respect to the excavation of material from the

pavements and fills of existing roads. Allowance for all such extra over costs arising from such excavation shall therefore instead be included in the rates tendered for the other items scheduled with reference to Section 3300.

(5) Overhaul

Referring to subclauses B1602(b) and B1603 of these project specifications, no restricted overhaul payment shall be made under this contract, and the free-haul distance under Section 3300 shall be 1,0 km.

All references throughout Section 3300 (including those references in the payment items) to a free-haul distance of 0,5 km shall be read instead as being a free-haul distance of 1,0 km.

Where applicable, the descriptions of payment items B33.01, B33.02, B33.04 and B33.07 in the schedule of quantities have been changed accordingly to read "including free-haul up to 1,0 km".

(6) Classes of excavation

For measurement and payment purposes, no distinction will be made between soft and intermediate excavation.

(7) Widening of cuts

No extra payment shall be made in terms of item 33.08 with respect to the widening of cuts. Allowance for all such extra over costs arising from such widening of cuts shall therefore instead be included in the rates tendered for the other items scheduled with reference to Section 3300."

Change the heading of the description of item 33.01 to read as follows:

"B33.01 Cut and borrow to fill, including free-haul up to 1,0 km:"

In the third line of the fifth paragraph of item 33.01, delete "soft excavation" and replace it with "soft or intermediate excavation".

In the fifth line of the fifth paragraph of item 33.01, delete "0,5 km" and replace it with "1,0 km".

Change the heading of the description of item 33.03 to read as follows:

"B33.03 Extra over item B33.01 for excavating and breaking down material in:"

Delete subitem 33.03(a) which shall not apply to this contract.

Change the heading of the description of item 33.04 to read as follows:

B33.04 Cut to spoil, including free-haul up to 1,0 km. Material obtained from:"

Change the description of subitem 33.04(a) to read as follows:

"(a) Soft or intermediate excavation".

Delete subitem 33.04(b) which shall not apply to this contract.

In the fourth paragraph of item 33.04, delete "0,5 km" and replace it with "1,0 km".

Change the heading of the description of item 33.07 to read as follows:

"B33.07 Removal of unsuitable material (including free-haul up to 1,0 km):"

In the final paragraph of item 33.07, delete "0,5 km" and replace it with "1,0 km".

SECTION 3400: PAVEMENT LAYERS OF GRAVEL MATERIAL**B3401 SCOPE**

In the first paragraph, replace “or partially crushed” with “stone”.

B3402 MATERIALS**(a) General**

Add the following to the end of the second paragraph of subclause 3402(a):

“Distinction shall be made between crushed and natural G4, G5 and G6 materials. Where the crushing and/or screening of these materials have been specified, the combined grading shall conform to the grading limits specified for G4 material in Table B3402/1. The same shall apply for all G4, G5 and G6 materials specified as crushed stone to be obtained from commercial sources.

For chemically stabilised layers, the material shall conform to the requirements set out in table B3402/5 of these project specifications.”

Add the following to the end of subclause 3402(a):

“The pavement layers for the road rehabilitation included under section 3400 shall consist of:

Gravel Base	125mm thick gravel (G2) base layer, consisting of imported G2 material, in accordance with Table B3402/5 contained in these project specifications below.
Sub-Base (C3) Stabilised	150mm thick in-situ cement stabilised (C3) subbase layer, including at least 50mm imported G4 material to fill the shortfall on the instruction of the engineer, in accordance with Table B3402/5 contained in these project specifications below.
Selected layer	150mm thick imported G4 material

The materials shall comply, as applicable, with the requirements of tables B3402/1 and B3402/5 contained in these project specifications below, or with table 3402/2 of the COLTO Standard Specifications, except that, in the case of crushed materials, G4, G5 and G6 crushed materials shall all be crushed to the G4 grading in table B3402/1 for nominal maximum size 37,5 mm, and G7 and G9 crushed materials shall all be crushed to a nominal maximum size of 75 mm.”

Add the following new subclause to the end of clause 3402:

“(d) Classes of excavation**(i) Soft excavation**

For purposes of section 3400, soft excavation shall be as defined in subclause 3303(a)(i) in section 3300 of the COLTO standard specifications.

(ii) Intermediate excavation

For purposes of section 3400, no distinction shall be made between soft and intermediate excavation, and all intermediate excavation shall be classified and measured and paid for as if it is soft excavation.

(iii) Hard excavation

For purposes of section 3400, hard excavation shall be classified as that material remaining in cut and borrow which, after every reasonable endeavour has been made to remove it as intermediate material as defined in subclause 3303(a)(ii) in section 3300 of the COLTO standard specifications, can only be removed by drilling and blasting."

(b) Compaction requirements

Add the following to the end of subclause 3402(b):

"The compaction requirements for the pavement layers included under section 3400 shall be:

Cement stabilised base layer (C3) 98% of modified AASHTO density

Gravel shoulders (G7 quality natural gravel material) 95% of modified AASHTO density"

Gravel subbase layer at intersections (G6 quality natural gravel material) 95% of modified AASHTO density"

Renummer Table 3402/1 as Table B3402/1 after replacing the grading section in Table 3402/1 with:

PROPERTY		TYPE OF MATERIAL				
		G4		G5	G6	
GRADING	Nominal aperture size of sieve (mm)	Percentage passing through sieve by mass			The percentage by mass passing the 2,00 mm sieve shall not be less than 20% nor more than 70%	-
		Crushed material		Uncrushed material		
		Nominal maximum size				
		37,5 mm	28 mm			
	53			100		
	50			95 - 100		
	37,5	100		85 - 100		
	28	86 - 95	100			
	20	73 - 86	87 - 96	61 - 91		
	14	61 - 76	73 - 86			
	5	37 - 54	43 - 61	31 - 66		
	2	23 - 40	27 - 45	20 - 50		
	0,425	11 - 24	13 - 27	10 - 30		
	0,075	4 - 12	5 - 12	5 - 15		

Note: Refer to the standard COLTO table 3402/1 for the COLTO grading if required."

Add the following at the end of the second paragraph:

"For chemically stabilised layers the material shall conform to the requirements in table B3402/5."

Replace Table 3402/5 with:

**“TABLE B3402/5
REQUIREMENTS FOR CHEMICALLY STABILISED PAVEMENT LAYERS**

Classification	C3	C4
Material before treatment	At least G4 quality	At least G5 quality
PI after treatment *(1)	6 max.	6 max.
UCS (MPa) *(2)	1,50 min.	0,75 min.
ITS (kPa) *(3)	250 min.	200 min.
WDD (% loss) *(4)	20 max.	20 max.

Note:

- * (1) For materials derived from the basic crystalline rock group, the Plasticity Index after stabilisation shall be non-plastic.
- * (2) Unconfined Compressive Strength @ 100% Mod. AASHTO density.
- * (3) Indirect Tensile Strength @ 100% Mod. AASHTO density (rapid curing).
- * (4) Wet/Dry Durability according to the method in clause B8110 of these project specifications."

B3403 CONSTRUCTION

Add the following new paragraph at the start of clause 3403:

Construction of new stabilised subbase layer. Tenderers are to allow for the processing of this layer using conventional recycling equipment or plant as described in B3403 (f).

Add the following new subclause to the end of clause 3403:

“(f) Use of recycler

(i) Recycler mixing equipment

The addition of the water and the mixing thereof with aggregate and stabilising agent (where applicable) shall be effected by utilizing a recycling machine with the capability of mixing together (in a single pass to the specified depth) the specified materials. As a minimum the recycling machine shall have the following features:

- The capability of mixing together the materials to depths of at least 300 mm in a single pass, a milling drum that rotates upwards into the direction of advance and achieves at least 2,0m of cut width in a single pass, and a gradation control system consisting of an adjustable bar, or beam, positioned in front of the milling drum to promote fragmentation of the material being recycled.

In order to mix the milled material and stabilising agent (where applicable) with water (to achieve optimum moisture content), the recycling machine shall include the following features:

- A micro-processor control system to regulate the application of water in relation to the forward travel speed of the machine and the quantity of material being used.
- A pumping and spraying system to enable the water to be delivered and sprayed separately into the recycler's mixing chamber. The pumping system shall be calibrated to deliver the required quantity of water within a tolerance of $\pm 5\%$ by mass.

The application nozzles shall be self-cleansing to ensure a uniform application across the full width of treatment. The spray bars shall be equipped with nozzles that can be closed so that the width of treatment can be varied. The mixed material shall exit from the recycling machine in a manner that prevents particle segregation. Final placing and level cutting shall be undertaken by a motor grader only after initial compaction has been effected to ensure a uniform level of compaction across the full layer width.

(ii) Tankers for the supply of water

Only tankers with a capacity exceeding 10 000 litres shall be employed to supply the recycling machine with water. Each tanker shall be fitted with a recessed pin-type hitch at the rear, thereby allowing the tanker to be pushed from behind by the recycling machine. No leaking tanker will be permitted on the site.

(iii) Controlling the moisture content of the recycled material

Sufficient water shall be added during the recycling operation to achieve the optimum moisture content of the material. The water shall be added through the spray bar only, by means of the micro-processor control system on the recycler.

Positive care shall be taken to prevent excessive wetting of any portion of the work. The moisture content of the recycled material shall be constantly monitored behind the recycler, and the water addition shall be adjusted to ensure that the moisture content required for effective compaction is maintained.

(iv) Control of cut thickness

The actual depth of cut mixing shall be physically measured at both ends of the milling drum at least once every 100 m along the cut length. This shall be recorded and submitted to the engineer on a daily basis.

(v) Overlap on longitudinal joints

To ensure complete treatment across the full width of the road, longitudinal joints between successive cuts shall overlap by a minimum of 150 mm. Cut lines pre-marked on the road surface shall be checked to ensure that only the first cut is the same width as the milling drum.

All successive cut widths into the material in the pavement that has not yet been recycled shall be narrower than the drum width by at least 150 mm.

The recycling machine shall be steered so as to accurately follow the pre-marked cut lines. Any deviation in excess of 50 mm shall be rectified immediately by reversing to where the deviation commenced and reprocessing along the correct line, without the addition of any further water.

The widths of the overlaps shall be determined before the start of each new cut sequence so that the spray widths for the water can be adjusted before the recycling operation is commenced.

(vi) Continuity of treated layer

The contractor shall ensure that no unprocessed material remains between successive recycling passes. The exact location at which each cut terminates shall be carefully marked. This mark shall coincide with the position of the centre of the mixing drum at the point at which the supply of stabilizing agent ceased. To ensure continuity of the recycled layer, the next successive cut shall be started at least 500 mm behind this mark."

B3406 QUALITY OF MATERIALS AND WORKMANSHIP

Add the following to the end of clause 3406:

"Test results and measurements shall be assessed in accordance with the provisions of Section 8200 : Quality Control (Scheme 1) of the COLTO Standard Specifications, as amended in these project specifications."

B3407 MEASUREMENT AND PAYMENT

Add the following to the end of the first paragraph at the start of clause 3407:

"No extra payment shall be made in terms of items 34.08, 34.09 and 34.13 for work that has to be executed in such restricted areas. Allowance for all such extra over costs arising from work executed in restricted areas shall therefore instead be included in the rates tendered for the other items scheduled with reference to Section 3400."

Delete items 34.08, 34.09 and 34.13 which shall not apply to the work required under this contract.

Add the following new pay items to the end of section 3400:

"Item	Unit
B34.14 Pavement layers constructed from gravel obtained from commercial sources:	
(a) Gravel selected layer compacted to:	
(i) 93% of modified AASHTO density (150mm G9-Lower selected subgrade)	cubic metre (m ³)
(ii) 95% of modified AASHTO density (150mm G7-Upper selected subgrade)	cubic metre (m ³)
(b) Gravel Subbase (chemically stabilized material) compacted to::	
(i) 97% of modified AASHTO density 150mm thick (minimum G4 quality natural material) stabilised to C3 strength.. ..	cubic metre (m ³)

The unit of measurement shall be the cubic metre of compacted pavement layer, and the quantity shall be calculated from the authorised dimensions of the completed layer.

The tendered rate shall include full compensation for procuring and furnishing suitable approved material of the specified quality from commercial sources, including all excavation costs irrespective of classification, for hauling the material to the site over an unlimited free-haul distance, for breaking down, placing and compacting the material, and for the protection and maintenance of the layer and the conducting of control tests, all as specified. No additional payment shall be made for the removal of oversize material from the road after processing or for the disposal thereof to spoil, including the transport thereof over an unlimited free-haul distance, regardless of the volume of such oversize material."

SECTION 3500: STABILISATION**B3501 SCOPE**

Add the following as a 3rd paragraph:

“The use of recyclers for cold in situ recycling purposes is also covered in this section, which includes cement, lime, emulsion and foam stabilisation of base and subbase layers consisting of gravel and/or crushed stone material as described in sections 3400 and 3600.”

Add the following as a 4th paragraph:

“The document titled, “Technical Guideline: Bitumen Stabilised Materials A Guideline for the Design and Construction of Bitumen Emulsion and Foamed Bitumen Stabilised Materials” shall form part of the scope of the project specifications. Elsewhere in the project specifications, the title of the above publication shall be abbreviated to: “TG2 (Second edition, May 2009)”.”

B3502 MATERIALS**(a) Chemical stabilizing agents**

Add the following to sub clause (i):

“Only slaked lime shall be permitted for the use of lime modification”

Delete subsubclauses 3502(a)(ii), (iii), (iv) and (v) and replace them with the following:

“Cement shall comply with the relevant requirements of SANS 50197-1 (refer to clause B1229 in these project specifications). The use of strength classes greater than 32,5 shall not be permitted for stabilization.

Only the following cements shall be permitted for the purposes of cement stabilization:

CEM II/B-L 32,5 N
and/or CEM II/B-M (V-S) 32,5 N
and/or CEM III/A 32,5 N
and/or CEM V/A (S-V) 32,5 N

The blending of cements on site shall not be permitted.”

c) Material for bituminous stabilisation**(i) Bituminous stabilising agents**

Add the following after the last paragraph:

“Foamed bitumen shall be produced by injecting a small amount of water (typically between 2% and 4% by mass of bitumen) into a 70/100 penetration-grade bitumen complying with SANS 4001. The minimum foaming characteristics (in terms of expansion ratio and half-life) shall be as specified in Table B3502/1.

TABLE B3502/1 FOAM BITUMEN CHARACTERISTIC LIMITS (MINIMUM VALUES)

Aggregate Temperature (°C)	10 – 25 °C	> 25 °C
Expansion Ratio, ER (times)	10	8
Half Life, $\tau_{1/2}$ (secs)	6	6

e) Water

Insert the following in the first sentence after the word “emulsions”:

“... and/or production of foam bitumen...”

B3503 CHEMICAL STABILIZATION

(a) Preparing the layer

Insert the following before the first paragraph of subclause 3503(a):

“Moisture content tests shall not be undertaken more than one day in advance of in situ stabilisation operations. Care shall be taken to ensure that samples are representative of the in situ material. Checks shall be conducted when wet weather occurs between initial testing and work commencing on any section.”

(b) Applying the stabilizing agent

Replace the second sentence of the second paragraph of subclause 3503(b) with the following:

“Spreading shall only commence when the engineer is satisfied that the correct quantity of stabilizing agent has been placed on the layer and has given permission for the stabilizing agent to be spread uniformly over the entire surface to be treated.”

(h) Curing the stabilized work

Add the following after the end of the first sentence of method (ii):

“The covering material shall be placed by the method of end-tipping followed by spreading, whereby the wheel loads of the end-tipping plant and the spreading plant shall be carried by the spread material and shall not at any stage bear directly on the stabilised layer below. The spread material shall not be compacted until the underlying layer has cured for at least 7 days.”

Add the following to the end of subclause 3503(h):

“The curing method for the stabilised sub-base constructed under this contract shall be as follows:

Method 3503(h)(i) shall apply for the first 24 hour period, thereafter method 3503(h)(ii) shall apply. Methods 3503(h)(iii) and (iv) shall not be applicable”

(i) Construction limitations

In the left hand column of Table 3503/1, delete “Ordinary portland cement, and/or approved portland cement blends” and replace with “Cement complying with the relevant requirements of SANS 50197-1 and/or approved blends using such cements”.

In the right hand column of Table 3503/1, delete “8 hours” and replace with “6 hours”.

Replace the fourth paragraph starting with “No stabilization ...” with the following:

“No stabilisation shall be done during windy conditions, during wet weather, or with falling air temperatures (7°C and dropping), or during rising air temperatures (when the air temperature is below 3°C).

The surface temperature of a compacted stabilized layer shall not be allowed to fall below 1°C during the first three days after stabilization. The contractor shall be responsible for taking the necessary precautions to prevent the layer from freezing.

All stabilized layers damaged by rain, frost or by the formation of ice in the layer shall be removed and replaced by the contractor at his own expense.

Only the equipment associated with the curing of the stabilised base, and traffic accessing adjoining properties at controlled access points approved by the engineer, shall be allowed on the stabilised base. All other traffic shall be kept off the stabilised base layer.

The covering of the sub-base with the subsequent layer of Base material shall be carried out using the method of end-tipping and spreading to prevent the wheel loads of the end-tipping and spreading plant from bearing directly on the stabilised layer (refer to subclause B3503(h) below)."

The contractor shall make allowance for these requirements in his construction programme."

B3506 TOLERANCES

a) Rate of application

(ii) Bituminous stabilising agents

Add the following new paragraphs after the 1st paragraph:

"Where bitumen stabilisation is done through an in situ recycling process, the contractor shall determine the bituminous stabilising agent application and usage utilising the in situ recycling machine's computer. To verify the application and usage, the contractor shall provide the engineer with a weekly reconciled schedule showing any stock records together with all consumption and deliveries for that specific week. All deliveries shall be supported by original (or certified copies of) official weighbridge certificates that are used by the contractor as the basis of payment to the supplier.

Where there is a discrepancy between the actual and theoretical consumption of bituminous stabilising agent, the contractor shall immediately check the calibration of the flow meter on the in situ recycling machine. To do so, he shall provide a full tanker load of bituminous stabilising agent with a loading ticket from an assized weighbridge. The entire contents of the tanker shall then be used to recycle a continuous section of road (after resetting the computer). The consumption reflected by the computer on the in situ recycling machine shall be compared with the mass shown on the weighbridge ticket and, if necessary, the computer shall be re-calibrated. A second tank-load of bituminous stabilising agent with a loading ticket shall then be used to confirm the accuracy of the recalibration exercise.

Dipstick readings shall not be used as a basis of payment for bitumen stabilising agents."

(b) Uniformity of mix (chemical stabilization)

Delete the first three lines of subclause 3506(b) and replace them with the following:

"Test method (i) below shall be applied to assess the uniformity of mix:"

Add the following to the end of subsubclause 3506(b)(i):

"The coefficient of variation shall not exceed 0,3 for material mixed in situ, and 0,2 for material mixed in a mixing plant.

The coefficient of variation shall be calculated as follows:

$$\text{coefficient of variation} = (S_n / x_n)$$

where:

the sample consists of "n" stabilizer content test results;

S_n is the sample standard deviation of the "n" stabilizer content test results;

x_n is the arithmetic mean of the set of "n" stabilizer content test results."

B3507 CONSTRUCTION OF TRIAL SECTION

Insert the following before the second paragraph:

"Prior to carrying out the trial section for cold in situ recycling, the contractor shall assemble all items of plant and equipment that he proposes to use for the recycling operation. Only those machines he intends using for production work shall be used to construct the trial section and under no circumstances shall he be permitted to use any substitutes. The first section of pavement to be recycled shall be regarded as a trial section with the objective of:

- demonstrating that the equipment and processes he proposes to employ are capable of constructing the recycled layer in accordance with the specified requirements;
- determining the effect on the grading of the recycled material by varying the forward speed of the recycling machine and the rate of rotation of the milling drum; and
- determining the amount of rolling necessary to achieve the compaction requirements.

The trial section shall be at least 200m in length and shall cover the full lane-width or half-road width in accordance with the geometry of the road and the accepted work plan.

To allow the engineer sufficient time to assess all aspects of quality of the completed trial section and contingent on the results being satisfactory, the contractor shall programme to start production recycling work no sooner than one week after constructing the trial section.

Should the contractor make any alterations in the methods, processes, equipment or materials used, or if he is unable to comply consistently with the specifications due to variations in the in situ material, or for any other reason, he may be required to undertake further trial sections before continuing with the permanent work."

Insert the following new paragraph after the third paragraph:

"For cold in situ recycling provision is made for payment for the first approved trial section. Such payment will be made as an extra-over to the various payment items for recycling work together with all additives that will be measured and paid as normal production work. Any further trial sections ordered by the engineer shall likewise be paid provided they are approved."

B3509 QUALITY OF MATERIALS AND WORKMANSHIP

Add the following to the end of the second paragraph of clause 3509:

"Bitumen stabilised layers shall be judged on the same criteria as chemically stabilised layers."

Add the following new paragraphs to the end of clause 3509:

"The engineer shall be notified in good time to enable him to conduct tests himself.

Sample preparation and testing for cement stabilization testing shall be done by means of the Rapid Cure Method as described in clause B8110 while bitumen stabilisation sampling and testing shall be in accordance with the latest edition of the TG2.

The stabilized material sampled from the layer for the compaction of modified AASHTO briquettes shall be prepared according to SANS 3001-GR54 (i.e., discard material coarser than a 37,5 mm test sieve), and shall be compacted according to SANS 3001-GR31."

Any delamination of the completed layer (biscuiting), identified by the hollow sound caused when a chain is dragged over the stabilized layer, shall be removed and repaired prior to the construction of subsequent layers. The repair method shall be approved by the engineer. No payment will be made for repairs.

(a) Process control for cold in situ recycling

The contractor shall establish a comprehensive process control system for the recycling work.

The following daily reports shall be submitted as a minimum:

- The production plan;
- The completed pre-start check list;
- Weather conditions and temperature measurements;
- Details of the recycling work completed during the day with the following information for each cut that was made:
 - start and end chainage;
 - depth of cut (including a schedule of dip measurements);
 - width of application of stabilising agent(s);
 - nozzle settings (closures) for each spraybar (where relevant);
 - computer data input;
 - cement / lime spreading check measurements (where relevant); and
 - compaction data in electronic format from the integrated compactometer device fitted to the primary roller (if applicable);
- Where the material is treated with a bitumen stabilising agent, the following shall be included:
 - bitumen emulsion or Pen-grade bitumen consumption;
 - average temperature and pressure measured at the spraybar; and
 - all other details shown in the sample report included in the Appendices of the latest edition of SAPEM and TG2;
- Relevant comments / information concerning the recycling operation. These shall include but shall not be limited to:
 - standing time and the reason(s);
 - sections where in situ pavement conditions changed together with a description of the change (e.g. thick asphalt between km 1+200 and km 1+230 in Cut #2);
 - details of any non-routine tests that were undertaken;
 - any changes in the weather during the day (e.g. strong wind from 13:00); and
 - relevant instructions received and from whom; and
 - The location where the daily sample of pulverised material was taken."

B3510 MEASUREMENT AND PAYMENT

Add the following to the end of the first paragraph at the start of clause 3510:

"No extra payment shall be made in terms of items 35.10, 35.11 and 35.12 for work that has to be executed in such restricted areas. Allowance for all such extra over costs arising from work executed in restricted areas shall therefore instead be included in the rates tendered for the other items scheduled with reference to Section 3500."

Delete items 35.10, 35.11 and 35.12 which shall not apply to the work required under this contract.

Item	Unit
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B35.01 Chemical stabilisation extra over unstabilized compacted layers consisting of:

Add the following at the end of the final paragraph:

"The tendered rate shall make no distinction in respect of the quantity of imported material added to the layer".

Add the following sub items at the end of the final paragraph:

"(a) Chemically stabilised base 150mm thick (minimum G4 quality natural material) stabilised to C3 strength.

..... cubic metere (m³)

Item	Unit
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B35.02 Chemical stabilising agent:

Add the following at the start of item 35.02:

"The notation used in the schedule of quantities to describe the cement stabilising agents corresponds with the notation specified in SANS 50197-1."

Delete subitems 35.02(a), (b), (d) and (f) and replace them with the following:

"(a) Ordinary Portland Cement:

(i) CEM III/A 32,5 N..... ton (t)

Replace the full stop at the end of the third paragraph with the following:

" and layer dimensions."

B3513 PROTECTION AND MAINTENANCE**(a) Trafficking the completed layer****(i) Cementitious stabilisation**

Under no circumstance shall traffic, besides construction vehicles, be allowed to travel on layers of cement stabilised material.

(b) Maintenance of the stabilised layer

Until the surfacing is applied, the contractor shall maintain the surface integrity of the new layer by deploying staff on a daily basis to visually monitor all sections under construction traffic and take immediate action as soon as signs of ravelling are detected. Such action shall include the local application of dilute emulsion (applied by hand using a large paint brush) or the application of a further fog spray.

Where damage occurs as a consequence of the surfacing not being applied within the time limits specified in clause B3513 (c) below, the engineer shall have the right to summarily reject the affected layer and the contractor will have no recourse for the costs he incurs in removing the layer and replacing it with fresh stabilised material.

(c) Application of surfacing

To prevent environmental degradation and/or abrasion damage, new base layers shall be surfaced as soon as the moisture content at all positions within the layer is below 50% of optimum moisture content according to TMH 1, Method A7.

The maximum time delay between completing a new base layer and applying the surfacing shall be 14 days (with due allowance made for inclement weather)."

SERIES 4000: ASPHALT PAVEMENTS AND SEALS**SECTION 4100: PRIME COAT****B4102 MATERIALS****(a) Priming material**

Delete the entirety of subclause 4102(a) and replace it with the following:

“The priming material shall be one of the following as may be specified or directed by the engineer:

Inverted bitumen emulsion complying with SANS 4001-BT5:2014.

Low viscosity emulsion prime (Coleprime-E or similar approved)”

(b) Aggregate for blinding

Add the following to the end of subclause 4102(b):

“Blinding of the primed surface with aggregate shall only be permitted to facilitate vehicular access to adjoining properties.”

B 4103**(a) Binder distributor**

- (i) Delete “by one of the centres for testing binder distributors mentioned in TMH 2” and replace with “by the Department of Transport KwaZulu-Natal.”

B4104 WEATHER AND OTHER LIMITATIONS

Replace paragraph (g) with the following:

“(g) when at any position within the layer the moisture content of a granular base layer or a stabilised base layer is more than 50% of the optimum moisture content determined according to SANS 3001-GR30. In the event of rain after priming, the base shall be allowed to dry out to meet the above moisture content requirement prior to surfacing.”

B4106 APPLICATION OF THE PRIME COAT

Add the following to the end of subclause 4106(c):

“The type of prime and application rate best suited for the base shall be determined during construction. The contractor shall provide about 20ℓ of each prime and apply it at different application rates with a brush on the base. The engineer will then instruct the type of prime and application rate to be used. No payment shall be made for tests to determine the type of prime.

Unless otherwise directed by the engineer or indicated on the drawings, the edges of the primed surface shall be 150 mm wider than the edges of the surfacing.”

Add the following new subclause to the end of clause 4106:

“(j) Application in areas of half-width construction shall be primed using a mechanical distributor complying with subclause 4103(a). The edges of the previously constructed or existing surfacing shall be adequately protected by approved means to ensure that an overlap of prime not exceeding 50 mm is sprayed onto the previously constructed or existing surfacing.”

B4107 MAINTENANCE AND OPENING TO TRAFFIC

Add the following to the end of clause 4107:

"Blinding of the primed surface with aggregate shall only be permitted to facilitate vehicular access to adjoining properties. Primed layers shall not be opened to any other traffic prior to the construction of the asphalt wearing course."

B4108 TOLERANCES

Replace the first paragraph with the following:

"The actual spray rates measured at spraying temperature shall not deviate by more than 8,0% from that ordered by the engineer. The engineer may, at his discretion, conditionally accept application rates falling outside this tolerance at reduced payment in accordance with Table B4108/1.

Table B4108/1
PAYMENT REDUCTION FACTORS FOR CONDITIONALLY ACCEPTED PRIME COAT

Deviation from specified spray rate at spraying temperature (%)	Payment reduction factor of tendered rate
±8,0	1,00
±9,0	0,97
±10,0	0,95
±11,0	0,90
±12,0	0,85
±13,0	0,80

Any deviation outside these limits shall not be paid for. However, the engineer shall have the right to instruct the contractor to make up any deficiency, or blind excessive prime without additional payment. Where so instructed, the material for such blinding shall consist of approved, screened 7 mm nominal single size aggregate. The use of crusher dust for such blinding shall not be permitted. If under-spraying occurs, and it is accepted by the engineer, only the actual quantities applied shall be paid for."

B4109 TESTING

Add the following to the end of clause 4109:

"No payment will be made if this condition is not adhered to. The contractor shall provide, at his cost, representative samples of every batch of prime delivered onto site."

SECTION B4300: SEALS: MATERIALS AND GENERAL REQUIREMENTS**B4301 SCOPE**

Add the following paragraph:

“The seals to be used for the following project include the following;

- 1) A type 20/10 double seal (S2 – TRH3, 2007) using a hot applied S-E1 binder tack coat and 70/100 standard penetration grade binder penetration coat.
- 2) A Fine Slurry, Fine Grade to be used as a texture correction at specified intersections”.

Add the following paragraph:

“The contractor shall take and submit samples of materials and/or mixtures to the engineer who must approve designs before construction work can commence.”

B4302 MATERIALS

Add the following to the first paragraph:

“Any tests referred to in the publication “Technical Guideline: TG1 The Use of Modified Bituminous Binders in Road Construction (TG 1-2015): Asphalt Academy”, shall supersede those specified in the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition). This document is available from the Asphalt Academy.”

a) Bituminous binders

- (v) Homogeneous hot applied polymer modified binders (summer grades)

Replace the entire sub-sub-clause with the following:

“(1) Base bitumen

The base bitumen or blends thereof, shall comply with the requirements of SANS 4001-BT1:2012. In addition, the chemical composition of the bitumen shall be such as to permit blending with the proposed polymer to form a stable product.

(2) Polymer

The type and percentage of polymer to be blended with the bitumen is not prescribed, however the contractor shall indicate, in the relevant payitem in the Pricing Schedule, the type of polymer to be utilized.

(3) Polymer modified blend

The polymer modified bitumen shall be blended at the factory.

The polymer modified bitumen to be used on this project shall be S-E1 and shall comply with the requirements of table B4302/7.

The binder for the day’s production shall be tested on site to determine the softening point before any seal work is commenced with. No claim for delays due to this requirement shall be considered. As a control, a hand held spindle viscometer shall be used to monitor the viscosity of the binder at the spray temperature.”

Replace Table 4302/7 with the following table B4302/7:

TABLE B4302/7 PROPERTIES OF POLYMER MODIFIED BINDERS FOR HOT SEALING APPLICATIONS

Property Before ageing	Unit	Test Method	Class	
			S-E1	S-E2
Softening Point ⁴	°C	MB-17	50–70	60-80 ¹
Elastic recovery @ 15°C	%	MB-4	>50	>60
Dynamic Viscosity @ 165°C	Pa.s	MB-18	≤ 0.55	≤ 0.60
Storage Stability @ 180°C ²	°C	MB-6	≤ 5	≤ 5
Flash Point	°C	ASTM D92	≥ 230	≥ 230
Mass change ³	%	MB-3	≤ 1.0	≤ 1.0

¹ The softening point values obtained for bitumen modified with SBS will tend to fluctuate over time and on reheating. Road surfaces could become too rigid at low overnight temperatures with resultant poor adhesion properties.

² Certain base bitumens, when used in the production of modified binders, are prone to cause segregation of the modified binder. The Storage Stability test result should be interpreted as an indicator of the compatibility of the base bitumen and the modifier used. In cases where compliance limits are not met, proposals of site agitation procedures of the binder to prevent segregation shall be submitted to the client for consideration. In all cases whenever there is any reason to believe that the composition of the base bitumen has changed, the test shall be repeated to ensure compliance or to determine the need for measures to prevent segregation

³ Mass loss gives an indication of the presence of volatiles in the binder.

⁴ The prescribed test method is based on not using stirrers although it has been reported that the use of stirrers has shown no difference in test results. For refereeing purposes no stirrers should be used.

b) Aggregates

(i) Aggregates for seals

Add the following at the end of the sentence:

“and durability.”

(1) Grading

Add the following:

“Only grade 1 aggregate shall be used for the construction of seals on this project.”

(3) Shape

Add Table B4302/13 and the following paragraph:

“Ninety five (95%) percent of the particles shall have at least three fractured faces. The Average Least Dimension (ALD) of the relevant nominal aggregate sizes shall comply with the requirements of Table B4302/13.”

TABLE B4302/13: MINIMUM ALD REQUIREMENTS

Nominal Aggregate Size (mm)	Minimum ALD (mm)
20	12,0
14	8,0
10	5,5

Replace Table 4302/8 with:

TABLE B4302/8

Sieve size (mm)	Grade	Percentage by mass passing						
		Nominal size (mm)						
		28	20	14	10	7	5	2
37,5	1 & 2	100						
28		85 – 100	100					
20		0 – 30	85 – 100	100				
14		0 - 5	0 – 30	85 – 100	100			
10			0 - 5	0 – 30 [#]	85 – 100	100		
7				0 – 5 ^{##}	0 – 30 [#]	85 – 100	100	
5					0 – 5 ^{##}	0 – 30 [#]	85 - 100	100
3,35							0 – 30	
2,0						0 – 5 ^{##}	0 - 5	0 – 100
	3	Gradings shall comply with the requirements for Grades 1 and 2 with the following exceptions: # 0 – 50, ## 0 – 10						
Fines content: passing 0,425 mm sieve	1	0,5	0,5	0,5	0,5	0,5	1,0	15
	2	1,5	1,5	1,5	1,5	1,5	2,5	15
	3	2,0	2,0	2,0	2,0	3,0	3,5	15
Dust content: passing 0,075 mm sieve	1	0,2	0,2	0,2	0,2	0,5	0,5	2,0
	2	0,5	0,5	0,5	0,5	1,0	1,0	2,0
	3	1,5	1,5	1,5	1,5	1,5	1,5	2,0

Note:

Refer to standard COLTO table for COLTO grading if required

Replace Table 4302/9 with:

TABLE B4302/9

Sieve sizes (mm)	Percentage passing by mass
5	95 minimum
0,425	50 minimum
0,075	20 maximum
Plasticity index = Non-plastic	

Note:

Refer to standard COLTO table for COLTO grading if required

Replace Table 4302/10 with:

TABLE B4302/10

Nominal size of aggregate (mm)	Maximum flakiness index (%)	
	Grade 1	Grade 2
20	25	30
14	25	30
10	30	35
7	30	35

Note:

Refer to standard COLTO table for COLTO grading if required

Replace Table 4302/11 with:

TABLE B4302/11

Sieve size (mm)	Percentage passing sieve by mass				
	Fine slurry			Coarse slurry	
	Fine grade	Medium grade	Coarse grade	Type 1	Type 2
14					100
10				100	86 – 100
7		100	100	87 – 100	71 – 91
5	100	84 – 100	72 – 91	72 – 91	62 – 82
2	84 – 99	51 – 90	40 – 64	40 – 63	36 – 56
1	60 – 90	33 – 68	25 – 46	22 – 41	22 – 41
0,600	42 – 72	22 – 50	19 – 34	15 – 30	15 – 30
0,300	23 – 48	15 – 37	12 – 25	10 – 20	10 – 20
0,150	10 – 27	7 – 20	7 – 18	6 – 15	6 – 15
0,075	4 – 12	4 – 12	2 – 8	4 – 10	4 – 10

Note:

Refer to standard COLTO table for COLTO grading if required

Delete Table 4302/12 without replacement.

Add the following sub-sub-clause:

“The slurry to be used as a texture correction at intersections within this project shall be a fine slurry, fine grade and shall conform to the grading requirements as specified in Table B4302/11.

Add the following sub-sub-clause:

“(4) *Durability*

Aggregate used in seals and asphalt shall show a durability index of less than 4 as determined by the test method specified in Clause B8105 paragraph (g).”

(ii) Aggregate for slurry seals

In the first paragraph, add the following after the first sentence:

“The engineer may order the addition of an approved natural sand or additional cement to improve either the permeability or workability of the slurry.”

Add the following sub-sub-clause:

“(iii) Aggregate for blinding

The aggregate used for blinding the single seal shall consist of 2,00mm to 5mm crushed aggregate or river sand. The aggregate shall be clean, hard and free from clay, silt or other deleterious matter.”

d) Hydrophilic aggregates

(i) Precoating of aggregate for stockpiling or for immediate use:

In the second paragraph, delete “12 litre” in the second sentence, and add the following sentence:

“Precoating fluid shall be manufactured from petroleum based products. The use of tar based precoating fluids will not be permitted. For tender purposes the nominal quantity of precoating fluid for the relevant nominal aggregate sizes is specified in table B4302/14.”

TABLE B4302/14: NOMINAL APPLICATION RATES FOR PRECOATING FLUID

Nominal aggregate size (mm)	Nominal precoating application rate (l/m ³)
20	12
14	16
10	19
7	22

Add the following sub-clauses:

“e) Water for diluting emulsions

Water used for the dilution of emulsions on site shall be suitable potable water, and each source of water used shall be tested for compatibility with the emulsion before it is added to the bulk emulsion.

f) Testing of polymer modified bitumen/emulsion

Testing shall be in accordance with the methods described in “Technical Guideline: The use of Modified Bituminous Binder in Road Construction (TG 1-November-2007): Asphalt Academy”.

During spraying of each batch, the contractor shall draw off at least three test samples of the modified bitumen/emulsion product and submit them to the engineer for acceptance testing purposes. The supplier shall submit all his tests results to the engineer for correlation purposes, failing which the engineer’s results shall be binding in terms of acceptance or rejection of the product.”

B4303 PLANT AND EQUIPMENT

b) Binder distributor

Add the following:

"Prior to the commencement of any work, a calibration certificate, not older than 12 months, for the binder distributor shall be presented to the engineer for approval.

The binder distributor shall be capable of spraying the binder at the specified application rates and to the satisfaction of the engineer. The pump of the distributor shall be capable of delivering the binder at the spray bar nozzles at the correct pressure to obtain the specified application rates, irrespective of the viscosity properties of the prescribed binder. The spray bar of the distributor shall be fitted with fishplates at the outside edge of the bar to prevent over spraying onto gravel shoulders or staining of concrete elements on the edge of the surfacing of the road

In addition, the transverse distribution of the spray bar shall be field-verified by means of SANS 3001-BT24: Civil engineering test methods Part BT24: Measurement of transverse distribution ('Bucket test') for a binder distributor. The maximum permissible tolerance permitted between the troughs (excluding the outer 300mm) is dependent on the viscosity of the binder type being applied and shall be as follows:

- Emulsions, cutback and penetration grade bitumens - 5%
- Homogeneous modified bitumens - 7%
- Non- homogeneous binders (bitumen rubber) - 10%

The spray bar shall be of such design as to allow for any adjustments to be made in order to meet the above tolerances. This procedure shall be carried out each time the distributor is first established on site and once a week thereafter or when a problem with transverse distribution is suspected. The binder distributor shall thus have a set of troughs available in order to allow the execution of the test. For limited quantities of spray-work, the engineer may accept the results of a recently completed distribution test that has been recorded and approved by an independent supervisor on the distributor's test log book.

The binder distributor shall be fitted with a suitable valve or other access gate for taking of samples of the binder for testing purposes."

c) Chip spreaders

Add the following at the end of the first paragraph:

"The chip spreader shall be capable of delivering a proper and uniform transverse distribution of chips across the conveyor belts. The chip distribution shall be tested by means of canvas patches, each 1,0m by 1,0m and placed side by side. The mass of chips spread onto each individual canvas patch shall not deviate by more than 10% from the calculated average spread per canvas patch."

Add the following to the last paragraph:

"A non-self-propelled chip spreader may only be used in the event of a breakdown of the self-propelled chip spreader during a pull, and shall be limited to the completion of that pull. No further application of binder shall be permitted until such time as the self-propelled chip spreader is repaired or replaced."

i) Precoating plant

Delete the paragraph and replace with the following:

"The precoating of chips shall be done with a suitable purpose-made precoating plant capable of uniformly coating, mixing and drying the chips. The use of equipment such as front-end loaders for mixing and drying shall not be permitted."

B4304 GENERAL LIMITATIONS AND REQUIREMENTS

a) Weather limitations

Add the following:

"There shall be no embargo period declared on this project. The Contractor shall take cognisance of the forecasted average monthly temperatures for the project area shall plan his construction programme appropriately."

b) Moisture content

Replace "reseal" with "seal" in the second line of the second sentence.

Insert "and/or primed base" after "surfacing" in the third line of the second sentence.

Replace the last sentence with "In such case the base shall be allowed to dry out to meet the above moisture content requirement prior to placing the seal layer."

(i) General

Add the following:

“Seal work shall not be permitted on granular base layers if the moisture content in the upper 50mm exceeds 50% of the optimum moisture content, determined in accordance with SANS 3001-GR30 (replacing TMH1 Method A7). This limitation shall apply even if the layer has been previously primed.

Sealing work shall not commence until the engineer has approved all other works ordered on that section of road.”

e) Demarcation of the working areas

(i) New work

Add the following:

“Before the tack coat and first application of aggregate may be applied, the centreline of the road shall be demarcated by means of a clearly visible weatherable fibre rope, pegged down with nails driven into the existing surface at intervals of 15m on straight sections and 3m apart on curves. The demarcating rope shall be removed prior to the application of the tack coat and aggregate on the adjacent lane.”

B4305 HEATING AND STORAGE OF BITUMINOUS BINDERS

d) Homogeneous cold applied modified binders

Add the following:

“The requirements for short term handling, storage and application of these binders shall comply with the requirements listed in table B4305/5.”

TABLE B4305/5: TEMPERATURE/TIME LIMITS FOR POLYMER MODIFIED EMULSIONS

Binder Class	Short Term handling/ transportation ⁵		Storage		Spraying / application		
	Max temp (°C)	Max holding time (hrs)	Max temp (°C)	Max holding time ⁴ (hrs)	Max temp (°C)	Min temp (°C)	Max holding time (hrs)
SC-E1/E2 ¹	60	24	Ambient	>240 ³	70	50	6
SC-E1/E2 ²	70	24	Ambient	>240 ³	80	50	6

¹ This applies to modified emulsions with a binder content of approximately 65% m/m.

² This applies to modified emulsions with a binder content of approximately 70% m/m.

³ The modified emulsion should be gently circulated or stirred at regular intervals to avoid sedimentation over time.

⁴ If the recommended maximum holding time has been exceeded, the binder should be resampled and tested to ensure compliance to the specification.

⁵ Freshly manufactured product that is transported direct to site may exceed short term handling and transportation maximum temperatures.

e) Homogeneous hot-applied binders (summer grade)

In the second paragraph, replace table 4305/3 with “table B4305/3”:

TABLE B4305/3: TEMPERATURE/TIME LIMITS FOR HOT POLYMER MODIFIED BINDERS

Binder Class	Short Term Handling/ Transportation		Storage ¹		Spraying/Asphalt Mixing/Application		
	Max temp (°C)	Max holding time (hrs)	Max temp (°C)	Max holding time ² (hrs)	Max temp (°C)	Min temp (°C)	Max holding time (hrs)
S-E1 (SBR & SBS)	180	24	150	240	210	175	8
S-E1 (SBS)	180	24	150	240	185 ³	175	12
S-E2	180	24	150	240	185 ³	175	12

¹ When storing product for 48 – 240 hours it is recommended that the tank has agitation circulation.

² If the recommended maximum holding time has been exceeded the binder should be resampled and tested to ensure compliance with the specification

³ S-E1 and S-E2 (SBS) can be sprayed at a maximum temperature of 195°C, but at the risk of thermal degradation.

B4306 STOCKPIILING OF AGGREGATE

a) General

Add the following:

"The contractor shall heed the environmental requirements of Part C of this volume in the preparation, operation and closure of stockpile sites. The positions for stockpiling of aggregate and the proposed operation methods shall be approved by the engineer before delivery of the aggregate can commence.

After application of the seal all loose stones swept off the road surface are to be heaped either in the drain or gravel shoulder, whichever is applicable, and removed in one operation. No sweepings are to be left on site for more than 24 hours. No sweepings are to be heaped or stored on the vegetated areas of the road reserve. No loose stone is to be spoiled in the road reserve."

B4307 CONSTRUCTION OF SEAL

b) Single and double aggregate seals

(i) Application of tack coat and aggregate

Replace the last sentence of the fourth paragraph with the following:

"The contractor shall so place the strips when constructing the seal that the joint between two adjacent aggregate applications shall be located along the centreline and at 3,7m from the centreline."

Add the following to the fourth paragraph:

"Joints shall be straight and aggregate shall be broomed back in a neat straight line before the next spray. String lines shall be used to demarcate joint edges. All stone-loss and "tram-lining/roping" shall be made good by the contractor at no additional cost."

(ii) Initial rolling of aggregate

Replace the second sentence with the following:

"In the case of modified emulsions, initial rolling by means of self-propelled 5-ton flat steel wheel rollers shall only be permitted if crushing of aggregate does not occur. Pneumatic-tyred rolling shall be delayed until the emulsion has been allowed to break sufficiently to firmly secure the aggregate. Rolling shall be postponed if there is any pick-up of aggregate on the tyres of the pneumatic type roller."

(iii) Broom drag and final rolling of aggregate

Add the following after the first paragraph:

"The contractor shall provide a back-chipping team, together with a pneumatic-tyred roller, of sufficient capacity to ensure that back-chipping and rolling of aggregate shall be completed within thirty minutes after initial application of the aggregate."

Replace third paragraph with the following:

"After completing the spreading of the aggregate, final rolling shall consist of a minimum of four passes utilizing a 15-ton to 20-ton pneumatic-tyred roller, followed by one or two passes of a 6-8 ton flat steel wheel roller."

iv) Joints between binder sprays

Add the following at the end of the paragraph:

"The protective sheets shall be made of reinforced building paper."

(v) Protection of kerbs, channels etc.

Add the following:

"Where bitumen binder is to be sprayed directly adjacent to existing concrete kerbs, channels, side drains, concrete edge beams and bridge balustrades, or over bridge joints, such concrete elements shall be covered with an approved reinforced building paper."

Add the following sub-sub-clause:

"(vi) Trial section

Before the contractor commences with the construction of any seal work he shall demonstrate that the equipment and processes he proposes to use will enable him to construct the seal in accordance with the specified requirements.

At the commencement of the surfacing operation, a 200m half-width section shall be considered as a trial. After completion of each phase of the seal on this 200m section, the engineer will review and then approve/reject the work method. If approval is granted for a specific operation i.e. application of tack coat, aggregate, fog or slurry, the contractor may proceed with that approved operation.

Should the contractor at any stage fail to deliver an acceptable product, he shall rectify the problems at his own cost and demonstrate with a further trial section that he can carry out the operation successfully. No specific payment shall be made for conducting these trials and the cost thereof shall be deemed to be included in the tendered rates of sections 4400, 4500 and 4600."

In the first sentence of the first paragraph, delete the following after "conventional":

"or homogeneous modified"

Add the following at the beginning of the second sentence:

"Homogeneous and"

In the second paragraph, replace 4314 with:

"B4314"

B4314 TOLERANCES AND FINISH REQUIREMENTS

c) The rate of application

Replace the first paragraph with the following:

"The maximum permissible variation from the rates of application of aggregate or slurry, as ordered by the engineer, shall be plus or minus 5%.

For binders, the maximum permissible variation from that specified shall be 5% for conventional bitumen and all emulsions (measured net cold), and 5% for hot applied modified binders (measured at spray temperature). Provided he is satisfied that the seal will perform satisfactorily, the engineer may, at his discretion, conditionally accept out of tolerance variations at the reduced rates of payment listed in Table B4314/1 below. However, variations in total binder application rates in excess of those tabled shall be deemed rejected. Rejected sprays will not be considered for payment unless corrected to the satisfaction of the engineer.

A lot for acceptance control purposes shall be at least 2000 litres. Lots smaller than 2000 litres shall be combined with succeeding lots until a combined lot not less than 2000 litres is obtained. "

TABLE B4314/1: PAYMENT REDUCTION FACTORS FOR CONDITIONALLY ACCEPTED BINDER APPLICATION RATES

Conventional bitumen and emulsion. Deviation from specified spray rate Net cold bitumen. (%)	Hot applied homogeneous and non-homogeneous modified bitumen. Deviation from specified rate. At spray temperature. (%)	% Payment of tendered rate for seal
±5,0	±5,0	100%
±6,0	±6,0	97,5%
±7,0	±7,0	95%
±8,0	±8,0	90%
±9,0	±9,0	85%
±10,0	±10,0	80%

Add the following at the end of the last paragraph:

"The completed surfacing shall be of uniform texture without gaps or patches and shall be free from longitudinal and transverse corrugations and any loose aggregate or binder spillage.

The edges of the completed bituminous surfacing shall be true to line."

d) Conditional acceptance

Delete the entire sub-clause

SECTION 5200: GABIONS**B5202 MATERIALS****(f) Filter fabric below the gabions**

Add the following at the end of subclause 5202(f):

"In the case of the filter fabric used to line the earth faces of gabion boxes or mattresses constructed under this contract, the following properties shall apply:

Penetration load (minimum)	3500 Newton
Puncture resistance (maximum)	15 mm
Water percolation (minimum)	20 litre / m ² / sec"

SECTION 5400: GUARDRAILS**B5402 MATERIALS****(a) Guardrails****(i) Galvanising**

Delete the entire content of subclause 5402(a)(i) and replace it with the following:

“All holes in guardrail sections shall be drilled prior to galvanising.

The galvanising of guardrails, bolts, nuts, washers, reinforcing plates and reflective plates shall be carried out in accordance with subclause 6705(m)(iii) of the standard specifications as modified by subclause B6705(m)(iii) of these project specifications.

The contractor shall submit SABS test certificates certifying that the galvanising complies with the specification.

Galvanised guardrails shall not be nested when stacked for storage.”

(b) Guardrail posts**(i) Timber posts**

Add the following new paragraph to the end of subclause 5402(b)(i):

“After erection, the tops of all timber guardrail posts and spacer blocks shall be sealed with a coat of 35/50 penetration-grade bitumen. Galvanised gang-nail plates shall then be nailed to the tops of the guardrail posts.”

B5404 REQUIREMENTS

Add the following after the end of the first sentence of clause 5404:

“The required vertical and horizontal position of the guardrail relative to the top edge of the adjacent road shoulder is indicated on standard drawing SD 1101/B. The completed guardrail shall be within a vertical tolerance of 3 mm from this required position. On straights and on curves the completed guardrail shall be within a horizontal tolerance of 10 mm (on straights) and 15 mm (on curves) respectively from this required position.”

SECTION 5600: ROAD SIGNS**B5601 SCOPE**

Replace "South African Road Traffic Signs Manual" in the second paragraph with:

"SADC Road Traffic Signs Manual"

B5603 MANUFACTURING OF ROAD SIGN BOARDS AND SUPPORTS**(a) Road sign boards**

Add the following after the end of the third paragraph of subclause 5603(a):

"The contractor shall make every effort to ensure that sign boards are correct in all respects, and before dispatching the boards from the manufacturer's factory shall provide the Employer's agent with a 100mm x 150mm colour photograph of each sign face for approval of the correctness of the legend. Such approval will not imply final acceptance of the board. If the contractor is in any doubt as to the correctness of the sign detail, the sign designer shall be contacted for verification."

(ii) Steel profile road sign boards

Add the following to the end of subclause 5603(a)(ii):

"Where the letter or legends cross the horizontal joints of the sign panels, the letter shall be cut on the joint and both ends folded around the radius.

Retro-reflective material to adjoining Chromadek panels on a sign shall be a practical visual match of the specified colour."

B5604 ROAD SIGN FACES AND PAINTING

Add the following new subclause to the end of clause 5604:

"(e) Application of retro-reflective material

All sign faces shall be faced with retro-reflective material. Painted front sign faces shall not be used.

Where applied to Chromadek sections, retro-reflective material shall be applied as specified for aluminium sections in clause 5603(d) of the COLTO Standard Specifications, and as further specified in subclause B5603(a)(ii) of this Project Specification."

B5605 STORAGE AND HANDLING

Add the following to the end of clause 5605:

"The following shall not be allowed on the sign face:

- Drilling of holes, except for the fastening of overlays;
- Application of any form of adhesive;
- Cleaning with any chemicals that are not specifically approved by the manufacturer of the retro-reflective material;
- Covering the sign face with an impermeable material that does not allow free circulation of air."

B5606 ERECTING ROAD SIGNS**(b) Excavation and backfilling**

Add the following to the end of the second paragraph of subclause 5606(b):

"Sign posts shall be fixed in concrete footings only in those instances specifically instructed by the

Employer's agent."

(c) Erection

Add the following to the end of subclause 5606(c):

"After erection the sign board shall be thoroughly cleaned with a cleaning agent approved by the retro-reflective material's manufacturer.

All vegetation obstructing the new or replaced sign board shall be removed and disposed of as instructed by the Employer's agent."

B5608 DISMANTLING, STORING AND RE-ERECTING EXISTING ROAD SIGNS

Add the following to the end of clause 5608:

"Existing ground mounted road signs that are being replaced by new signs shall be dismantled and disposed of by the contractor. Where possible the dismantling of the signs shall not be before the replacement sign is erected and displayed. Where dismantling of the sign is required before erection of the replacement sign, the dismantling shall not take place until immediately before work is due to commence on the replacement, and the replacement shall be completed and the new sign displayed as soon as possible thereafter (within 72 hours).

Dismantling shall include sign panels and ground mounted sign supports.

Ground mounted sign supports shall be cut off just below ground level. Material excavated for removal of buried poles shall be replaced, and any depression made good using excess material from excavation for new signs."

SECTION 5700: ROAD MARKINGS**B5701 SCOPE**

Replace “South African Road Traffic Signs Manual” in the second paragraph with:

“SADC Road Traffic Signs Manual”

B5702 MATERIALS

Insert the following before the start of subclause 5702(a):

“The selection of the appropriate road marking paint and materials for permanent road markings to ensure conformance with the requirements of this specification rests with the contractor. Such paint and materials shall have technical characteristics (brightness, luminance, skid resistance, durability) equal to or greater than the road marking paint and materials specified in subclauses 5702(a) and (b), as modified by subclauses B5702(a) and (b) of these project specifications below, and B5702(c).”

(a) Paint

Replace subsubclause 5702(a)(i) with the following:

“(i) Road marking paint

Road marking paint shall be type 1 as specified in SANS 731-1. Only paint, manufactured in a SANS approved and accredited facility shall be accepted. The no-pick-up time of road-marking paint shall comply with the class 1 requirement in accordance with SANS 731-1.

The paint shall be delivered at the site in sealed containers marked in accordance with SANS 731-1.

The viscosity of the paint shall be such that it can be applied without being thinned down.”

(b) Roadstuds

Replace the second sentence with the following:

“All square roadstuds shall have a footprint of 100 mm x 100 mm and a height of at least 20 mm. Circular roadstuds shall have a footprint of 100 mm diameter and a height of at least 20 mm. Only non-metallic products with glass as reflective material shall be used.”

Add the following new subitem B5702(c) to the end of clause 5702:

“(c) Retro-reflective beads

Retro-reflective glass beads shall be applied to the wet paint.

The beads shall comply with Class A beads in accordance with EN 1424: 1998, with the following requirements or as approved by the Employer’s agent:

- colour : crystal clear
- roundness : > 80%
- size range of : 14 – 200 US Mesh (75 – 1400 microns)
- refractive index : ≥ 1.5
- specific gravity : ± 2.5
- granulometry : as per the table below:

SIEVE SIZE (microns)	CUMULATIVE RETAINED MASS	
	Minimum (%)	Maximum (%)

1700	0	2
1400	0	10
1180	5	30
850	40	80
600	70	100
425	80	100
355	90	100
212	95	100
pan	100	100

The beads shall be delivered to the site in sealed bags, marked with the name of the manufacturer, the batch number and an inspection seal of SANS, confirming that the beads form part of a lot tested by SANS and comply with the requirements of EN 1424: 1998. Alternatively, the contractor shall at all times have a SANS certificate on the site, identifying the batches to which the inspection seals apply and certifying that they have been tested by SANS, and comply with the requirement of EN 1424: 1998."

B5704 MECHANICAL EQUIPMENT FOR PAINTING

Add the following sentence to the end of the first paragraph of clause 5704:

"The road-marking machine shall be fitted with a device to guide the operator to the centre of the line to be painted. This device shall be used at all times of operation."

B5705 SURFACE PREPARATION

Add the following to the end of the second paragraph of clause 5705:

"The onus is on the contractor to ensure that the surface on which the road markings are to be applied is sufficiently clean and dry to ensure that the quality of the road markings will not be adversely affected. The contractor is also responsible for protecting the road studs from being painted over, and for the subsequent cleaning of the road studs should such over-painting occur."

B5706 SETTING OUT THE ROAD MARKINGS

Replace "South African Road Traffic Signs Manual" in the first paragraph with:

"SADC Road Traffic Signs Manual"

Add the following to the end of clause 5706:

"Where road markings are to be replaced after operations such as milling / recycling / reconstruction or raising of pavement layers / surfacing, it is essential that all existing barrier lines and other road marking lines be accurately referenced before commencement of those operations which will obliterate the existing road markings. The positions of barrier lines shall be re-assessed on site by the Employer's agent before the contractor commences with the road marking."

B5707 APPLYING THE PAINT

Add the following new paragraph at the start of clause 5707:

"The contractor's establishment on site and general obligations shall be deemed to include fully for the establishment of the road-marking team, irrespective of the number of times the road-marking team is required to be on site or is required to move within the site."

Replace the sixth paragraph of clause 5707 with the following:

"Solvent-borne road marking paint shall be applied at a nominal rate of 0,42 l/m² or as directed by the Employer's agent.

In order to ensure proper coverage on all types of surfaces the Employer's agent may order an increase in

the above nominal application rate. Payment for such variations in application rates shall be made under item 57.04.

A daily log sheet shall be completed and signed by the contractor and the Employer's agent's representative, recording the quantities of paint and glass beads used on that day and shall be available for inspection at all times. The completed and signed log sheets for the period covered by a payment certificate shall be attached to the payment certificate."

Add the following to the last paragraph of clause 5707:

"The centre-line shall be painted immediately after 2,0 km of continuous full width road has received a new asphalt layer, or where, in the opinion of the Employer's agent, conditions are unsafe."

B5708 APPLYING THE RETRO-REFLECTIVE BEADS

In the first paragraph of clause 5708, delete the nominal application rate of "0,8 kg/l" and replace it with "400 gram/m²".

B5710 TOLERANCES

(c) Alignment of markings

Add the following paragraphs to subclause 5710(c):

"When an unbroken line and a broken line are painted alongside each other, the beginning and the end of the unbroken line shall coincide with the beginning of one broken line and the end of another broken line. When existing lines are repainted, the new markings shall not deviate from the existing markings by more than 100 mm in the longitudinal direction and by more than 10 mm in the transverse direction.

The alignment of road studs shall not deviate from the true alignment by more than 10 mm and shall be positioned so that the reflective faces, when viewed in plan, are within 5° of a right angle to the centre line of the road."

Add the following new subclause to the end of clause 5710:

"(e) Testing

Before painting any permanent road markings, the contractor shall satisfy himself and the Employer's agent, by painting test lines on a section of pavement other than the section required to be marked, that:

- (1) the painting machine is in good working order and properly adjusted;
- (2) the operator is fully experienced;
- (3) the machine sprays at the specified rate of paint application; and
- (4) the machine sprays within the specified tolerances.

The contractor shall bear the cost of all materials and workmanship required for the above plant tests.

In addition, the contractor shall conduct random paint thickness tests and dip/spread tests as required by the Employer's agent."

B5711 GENERAL

Insert the following into the last sentence of the last paragraph of clause 5711 between "black paint" and "or chemical paint remover":

" , bituminous emulsion, slurry"

Add the following to the last paragraph:

"Where black paint is used, it shall be matt."

B5712 FAULTY WORKMANSHIP OR MATERIALS

Add the following new paragraph to the end of clause 5712:

“While work is in progress, tests shall be carried out on materials and/or the quality of work to ensure compliance with the specified requirements. The sampling methods are specified in SANS 731-1. The sampling methods described in TMH5 shall be followed where applicable.”

B5713 PROTECTION

Delete the entirety of clause 5713 and replace it with the following:

“During the various processes of surface preparation, referencing existing lines, setting out and premarking the road marking, applying the painted road markings, installing or removing roadstuds, and removing painted road markings, the contractor shall be responsible for providing flagmen, and for erecting, placing and removing all warning boards, flags, cones, delineators, barricades and other protective measures which may be necessary in terms of any statutory provisions and/or as may be recommended in the South African Road Traffic Signs Manual and/or as may be specified in terms of section 1500 of the standard specifications as modified by section 1500 of these project specifications.

Such protection shall also be provided after the paint has been applied and after the roadstuds have been installed in order to protect the new road markings against damage by traffic or other causes until such time as the new paint has dried or the new roadstud adhesive has hardened respectively. Traffic cones used as part of the process to effect such protection shall not be smaller than 750 mm in height and shall be placed on the road at a centre to centre spacing not greater than 48 m. All marks on the road caused by traffic driving over wet road marking paint shall be removed by the contractor at his own cost.

No additional payment shall be made for the provision of such protection and the rates tendered for the various road marking payment items shall be deemed to include full compensation for the provision of all protective measures required.”

Add the following clause to the end of section 5700:

“B5715 REMOVAL OF EXISTING ROAD STUDS

On any particular day, any existing road studs on that portion of the road programmed for reconstruction on that day shall be removed immediately prior to commencement of the reconstruction operation.”

SECTION 8100: TESTING MATERIALS AND WORKMANSHIP**B8105 TESTING THE AGGREGATES**

Add the following subclause:

“(g) Determination of Ethylene Glycol Durability Index

The Ethylene Glycol Durability Index shall be determined as follows:

(i) Apparatus

Suitable pans or basins
Ethylene Glycol Solution
Stirring rod

(ii) Method

Obtain three or more representative samples from the source to be evaluated.

If not already crushed, crush the material in order to obtain sufficient minus 20 mm plus 14 mm sized aggregate in order to totally cover the bottom of the basin or pan with a single layer of stone. Add sufficient ethylene glycol to each basin ensuring that every aggregate particle is completely submerged.

After soaking for 24 hours, gently stir the aggregate, allow to settle and observe and record the response of the aggregate to the ethylene glycol according to the criteria listed in (iii) below. Continue the above cycle at intervals of 24 hours for a further 4 days, in each case recording the observed response. After 5 days allow the samples to remain submerged in the solution and observe and record the disintegration response after a total period of 15, 30 and 60 days has elapsed.

(iii) Classification of response

After each cycle, classify and record the response of the aggregate as follows:

DISINTEGRATION CLASS

Class 1 : No obvious effects, or only very minor spalling of sand sized particles or very small flakes.

Class 2 : Splitting of rock, accompanied by any other disintegrative effects.

Class 3 : Fracturing (spheroidal and/or internal) without extensive spalling or distortion.

Class 4 : Fracturing (spheroidal and/or internal) with extensive spalling or distortion.

Class 5 : Complete disintegration.

The time factor in the above disintegrative process is classified according to the time taken for the most serious effect of the expansive stresses to occur i.e.

TIME CLASS

Class 4 : 0 - 5 days

Class 3 : 6 - 15 days

Class 2 : 16 - 30 days

Class 1 : 31 - 60 days

Class 0 : Over 60 days

(iv) Determination of Glycol Durability Index

The Ethylene Durability Index is determined by adding the class number as assigned for the specific disintegrative response observed to the class number as assigned for the period for this response to occur. A durability index ranging from 1 (no response) to 9 (rapid and complete disintegration) is thus determined."

B8110 TESTS RELATING TO CHEMICAL STABILIZATION

Add the following subclause:

“(d) The Wet-Dry Durability Test for cement-treated materials using the hand brush method (National Department of Transport test method)”

This method covers the procedure for determining the soil-cement losses obtained by repeated wetting, drying and hand brushing of hardened soil-cement specimens.”

SECTION 8200: QUALITY CONTROL (SCHEME 1)**B8201 SCOPE**

Add the following to the end of clause 8201:

“Quality Control (Scheme 1) shall be applicable to this contract, unless otherwise specified.”

B8203 DEFINITIONS**(b) Random sample**

Add the following new paragraphs to the end of subclause 8203(b):

“The contractor shall note that, in accordance with subclause 8106(a), the testing of concrete test cubes is carried out in accordance with TMH1 method D1.

In accordance with TMH1 method D1, the average of three individual cube compressive test results is reported as the compressive strength of the test sample.

Referring to Table 8206/2, the “n”-values in the right hand column must therefore be multiplied by three in order to obtain the minimum number of individual test cubes to be made for a particular lot size. For example, for a lot size in the range 0 – 20 m³ (for which minimum sample size n = 4):

4 samples x 3 individual test cubes per sample = 12 individual test cubes required in total for the lot”

B8206 JUDGEMENT PLAN B

Delete in its entirety (1)(c) Voids of the Notes below table 8206/3 and replace it with the following:

“(c) Voids

Ls = specified values – 1,0 percentage points
L's = specified values + 1,0 percentage points”

C3.3: PARTICULAR SPECIFICATIONS

In addition to the Standard Specifications and the Project Specifications, the following Particular Specifications shall apply to this contract and are bound in hereafter:

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION	C142
PART D: DAYWORK.....	C148
PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION	C151
PART F: EXPANDED PUBLIC WORKS PROGRAMME.....	C159

3.3 PARTICULAR SPECIFICATIONS

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION**C1. SCOPE**

The Employer recognises environmental management as a key component of road infrastructure development and as part of its environmental policy has developed this environmental management specification as a tool for continual improvement in environmental performance.

This environmental management specification prescribes the methods by which proper environmental controls are to be implemented by the Contractor. The duration over which the Contractor's controls shall be in place cover the construction period of the project as well as the limited time after contract completion defined by the General Conditions of Contract 2015 as the Defects Notification Period (maintenance period).

C2. ENVIRONMENTAL MANAGEMENT PLAN

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

- Encourage good management practices through planning and commitment to environmental issues,
- Provide rational and practical environmental guidelines to:
 - (i) Minimise disturbance of the natural environment,
 - (ii) Prevent pollution of land, air and water,
 - (iii) Prevent soil erosion and facilitate re-vegetation.
- Adopt the best practicable means available to prevent or minimise adverse environmental impact,
- Develop waste management practices based on prevention, minimisation, recycling, treatment or disposal of wastes,
- Train employees and contractors with regard to environmental obligations.

C3. ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

The Contractor is responsible for the implementation of this EMP to ensure sound environmental management during the construction phase of a project.

The Contractor shall receive and implement any instruction issued by the Employer's Agent relating to compliance with the EMP including the removal of personnel or equipment.

Compliance with the provisions contained herein or any condition imposed by the environmental approvals, shall become the responsibility of the Contractor through an approved Environmental Officer (EO). The Contractor shall nominate a person from among his site personnel to fulfil this function and submit to the Employer's Agent for his approval the curriculum vitae of the proposed EO. This request for approval shall be given, in writing, at least fourteen days before the commencement of any construction activity clearly setting out reasons for the nomination, and with sufficient detail to enable the Employer's Agent to make a decision.

Once a nominated representative of the Contractor has been approved as the EO, the EO shall be the responsible person for ensuring that the provisions of this EMP are complied with for the duration of the contract. The EO shall submit monthly written reports of compliance with the EMP to the Employer's Agent.

In addition to the compliance duties relating to this EMP, the EO shall also provide full cooperation whenever the Contractor is subjected to regular environmental audits.

C4. TRAINING AND INDUCTION OF EMPLOYEES

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

C5. COMPLAINTS REGISTER AND ENVIRONMENTAL INCIDENT BOOK

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

The following information must be recorded:

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

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

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

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

C6. SITE CLEANLINESS AND NEATNESS

- Location of a construction camp is to be approved by the Employer's Agent and is to be restored to its previous condition after completion of construction.
- The construction camp should preferably be fenced with a 1,8m Bonnox fence or similar approved.
- All materials, equipment, plant and vehicles must be stored within the construction camp.
- A dedicated area must be made available for construction staff to change and store their personal belongings.

C7. ACCESS

- Access to existing roads, schools, buildings, shops and residential properties must not be impeded during construction.
- Access roads utilised by the Contractor must be maintained in good condition.

C8. BORROW PITS

- Mining authorisations (permits) for borrow pits must be obtained from the Department of Mineral Resources (DMR) in consultation with the Department of Water and Sanitation (DWS).
- Spoil dumps resulting from borrow pits must not interfere with any natural surface drainage.
- Borrow pits must be rehabilitated after use in accordance with the requirements of DMR and DWS.

C9. DUST CONTROL / AIR QUALITY

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

C10. FAUNA

- Contractors' and subcontractors' staff and workers may not chase, catch or kill animals encountered during construction.

C11. FIRE PREVENTION AND CONTROL

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

C12. GRAVE SITES

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

C13. MATERIALS HANDLING AND SPILLS MANAGEMENT

- Any hazardous materials to be used during construction (e.g. lime, fuel and paint) are to be stored in a designated area at the campsite.
- The storage containers/facilities (including any diesel or petrol tanks) must be placed on an impermeable surface and surrounded by a bund wall, in order to ensure that accidental spillage does not pollute the environment.
- Workers must at all times be made aware of the health and safety risks associated with any hazardous substances used (e.g. smoking near fuel tanks), and must be provided with appropriate protective clothing/equipment in case of spillages or accidents.
- Ensure all staff and contractors undergo relevant training in the maintenance of equipment to prevent the accidental discharge or spill of fuel, oil, lubricants and other chemicals.
- Any spill of potentially hazardous materials must be cleaned up immediately (potentially hazardous materials on site include paint, oil, grease, fuel and turpentine).
- The area of contaminated soil or spill must be deposited into the hazardous waste container(s).
- The Contractor should keep Peat Sorb or a similar absorbent on site to clean up any spills. The absorbent must be stored in a designated area and be available for inspection.
- All spills are to be recorded in the environmental incident book.

C14. NOISE

- Noise generating activities must be restricted to between 07:00 and 17:00 Monday to Friday, unless otherwise approved by the appropriate competent person in consultation with adjacent landowners/affected persons.
- All equipment, vehicles and machinery must be in good working condition and be equipped with sound mufflers if necessary.
- Construction staff must be trained and made aware of not creating unnecessary noise such as hooting and shouting.

C15. POLLUTION CONTROL

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

C16. RIVERS AND STREAMS

- During construction of bridge structures, there must be no obstruction of the water flow of rivers and streams.
- Excavated material must not be stockpiled on or near riverbanks, in order to prevent sedimentation occurring.
- Erosion control measures must be employed both during and after construction.
- No impediments to natural surface water flow, other than approved erosion control measures,

must occur.

C17. SAFETY

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

C18. SOIL MANAGEMENT

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

C19. WORKER CONDUCT

Code of Conduct for Construction Personnel:

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

C20. TRAFFIC DISTURBANCES AND DIVERSIONS

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

C21. VEGETATION

- Only vegetation falling directly on the route must be removed where necessary.
- Alien vegetation within the road reserve must be eradicated, and management measures must be implemented for future control of these species.
- Vegetation that has been removed from large areas (e.g. on traffic diversion routes) during

construction must be replaced with indigenous vegetation after construction has been completed.

C22. WASTE MANAGEMENT

- All general, non-hazardous waste must be placed in a skip container and disposed of at a registered waste disposal site.
- The Contractor is to ensure that the portable toilet facilities at the campsite are properly maintained and in working order.
- No disposal, or leakage, of sewage must occur on or near the site.
- All hazardous waste (e.g. oil, paint, empty lime bags, and contaminated wash water) must be stored in leakproof containers and disposed of at a registered hazardous waste disposal site.
- The contents of waste storage containers must, under no circumstances, be emptied to the surrounding area. In general, littering, discarding or burying of any materials is not allowed on site or along the route.
- Adequate waste receptacles must be available at strategic points around the construction camp and site for all domestic refuse and to minimise the occurrence of littering.
- Concrete rubble must be collected and disposed of as directed by the Employer's Agent.
- Each working area must be cleared of litter and building waste (e.g. rubble, wood and concrete packets) on completion of the day's work.
- Any spill around the container(s) should be treated as per clause C13 and C18.

C23. MEASUREMENT AND PAYMENT

The contractor shall make provision in the various rates and prices for all costs related to the environmental management specification and measures required in terms of legislation. Provision is made in item B13.02 of the Bill of Quantities for the contractor's general obligations, risks and liabilities in accordance with the environmental management specification.

3.3 PARTICULAR SPECIFICATIONS

PART D: DAYWORK

PART D: DAYWORK**D1. SCOPE**

This part deals with the provision for daywork in the Bill of Quantities. Rates for daywork shall be entered in the Bill of Quantities in accordance with the following specifications.

D2. DAYWORK RATES

According to Clause 6.5 of the General Conditions of Contract 2015, certain work may be carried out using rates tendered in the daywork schedule. A schedule of personnel, construction equipment and vehicles which may be required to perform work on a daywork basis is included in the Bill of Quantities. The quantities used in the Bill of Quantities are for tender evaluation purposes only and the use or not of these items shall not constitute a variation in terms of Clause 6.3 of the General Conditions of Contract 2015.

No work will be paid for as daywork without the written instruction or approval of the Employer's Agent.

D3. TYPE OF WORK

The Employer's Agent may order daywork in certain cases where it is necessary to vary or to extend the works due to new or unforeseen circumstances to such an extent that the tendered rates for specific items of work are no longer applicable, or where no suitable combination of tendered rates can be used to pay for such work.

As a general rule, applicable rates for additional work items will be agreed between the Contractor and the Employer's Agent. Daywork will only be used in exceptional circumstances.

D4. MATERIALS

Materials for use in works carried out under daywork shall be purchased by the Contractor who shall also arrange for delivery to site, and shall be responsible for any other requirements associated with specific materials. A Provisional Sum has been allowed in Section D of the Bill of Quantities for daywork materials. The Contractor shall enter a tendered percentage in the Bill of Quantities to cover his handling costs and profit, as per other provisional and prime cost sums in this Contract.

Materials shall be paid for using the method described in C2.1, 'Pricing Assumptions'. No contract price adjustment will be applicable to materials.

The Contractor shall submit proof of ownership for any materials used in daywork with his daywork claim to the Employer's Agent. Further, if specific materials are required for daywork, quotations will be called for as per Clause 6.5.2 of the General Conditions of Contract 2015.

D5. CONSTRUCTION EQUIPMENT

Where daywork is ordered, the tendered rates for construction equipment in Section D of the Bill of Quantities shall be used in calculating the payment due for any construction equipment required to execute the daywork. If no rate is included in the Bill of Quantities for a particular item of construction equipment, and where no other rate or combination of rates would provide suitable compensation, then the daywork method of payment described in Clause 6.5.1.3 of the General Conditions of Contract 2015 will be used.

The tendered rates for each item of construction equipment shall include for all operating costs associated with the said item of construction equipment. Such costs are deemed to include fuel, re-fuelling costs, lubrication and routine servicing / maintenance, breakdowns and spares, all overhead costs, site management costs and administration costs. The tendered rates shall also include the construction equipment operator and the general supervision of the construction equipment while it is engaged in the daywork.

D6. SALARIES AND WAGES OF WORKMEN

The salaries and wages of workmen executing daywork shall be paid for using the tendered rates in the Bill

of Quantities. The tendered rates shall include for all costs associated with the employment of personnel, including salaries, wages, allowances, workmen's compensation, medical aid and pension contributions, government levies and taxes, training costs and any costs associated with living on the site. The tendered rates shall also include for the transportation of the workmen to the site of the daywork.

All overhead costs, administration costs, site management costs and the Contractor's profit are deemed to be covered by the daywork rates and no additions or mark ups will be made to the tendered rates.

The tendered rates shall also include any hand tools normally associated with the workmen's job description e.g. picks, shovels, hammers, saws and spirit levels. The tendered rate for labourers shall also include for the casual supervision by a gang leader or foreman. Only when specifically called for by the Employer's Agent, will payment be made for the use of a gang leader or foreman supervising on a continuous basis.

D7. MEASUREMENT AND PAYMENT

The following principles shall also apply to the measurement and payment of daywork.

The unit of measurement for construction equipment shall be the number of Vibroclock hours worked and each item of construction equipment shall be fitted with a Vibroclock, the cost of which shall be included in the rates. Excessive non-productive time when the engine is idling will not be paid for. Where there is ambiguity between the flywheel horsepower and mass of the machine, the flywheel horsepower shall govern the measurement category. Where width and mass are specified, mass shall govern the measurement category.

The Contractor's attention is drawn to the requirements of Clauses 6.5.3 and 6.5.4 of the General Conditions of Contract 2015 with regard to the submission of lists and statements of personnel, materials and construction equipment used for daywork.

C3.3 PARTICULAR SPECIFICATIONS

PART E: OHS 1993 HEALTH AND SAFETY SPECIFICATION

PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION**E1. SCOPE**

This part covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy working environment for all employees, subcontractors, the Employer, the Employer's Agent, inspectors and all other persons entering the site of works.

This specification shall be read in conjunction with the Occupational Health and Safety Act, 1993 (Act No 85 of 1993 and amendment Act No 181 of 1993) and the corresponding Construction Regulations 2014, and all other safety codes and specifications referred to in the said Act and Construction Regulations.

In terms of the OHSA Agreement in Section C1.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible for compliance with all provisions of OHSA 1993 and the Construction Regulations 2014.

This specification and the Contractor's own Health and Safety Plan as well as the Construction Regulations 2014, shall be displayed on site or made available for inspection by inspectors, the Employer, the Employer's Agent, the Construction Health and Safety Agent, subcontractors, employees, representatives of trade unions and any other persons entering the site of works.

E2. DEFINITIONS

For the purpose of this contract the following shall apply:

E2.1 **"Construction Health and Safety Agent"** (CHSA) means any competent person who acts as a representative for the Employer in managing health and safety on a construction project for the Employer and who has satisfied the registration criteria of the SACPCMP to perform the required functions.

E2.2 **"Contractor"** where used in the contract documents and in this specification, means the Contractor as defined in the General Conditions of Contract 2015, and it shall have the exact same meaning as **"principal contractor"** as defined in the Construction Regulations 2014. **"Contractor"** and **"principal contractor"** are therefore interchangeable and shall be read in the context of the relevant document.

In this specification the terms **"principal contractor"** and **"contractor"** are replaced with **"Contractor"** and **"subcontractor"** respectively.

For the purpose of this contract the Contractor will, in terms of OHSA 1993, be the mandatory, without derogating from his status as an employer in his own right.

E2.3 **"Employer"** where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract 2015 and it shall have the exact same meaning as **"client"** as defined in the Construction Regulations 2014. **"Employer"** and **"client"** are therefore interchangeable and shall be read in the context of the relevant document.

E2.4 **"Employer's Agent"** where used in this specification, means the Employer's Agent as defined in the General Conditions of Contract 2015.

E3. EMPLOYER'S BASELINE RISK ASSESSMENT**E3.1 Risk information**

The information presented in this clause is based on the Employer's baseline risk assessment prepared specifically for this contract.

This information describes the type of work required in terms of this contract that will be accompanied by dangers, hazards and risks which the Contractor shall be required to identify, analyse, manage, monitor and review in terms of the Health and Safety Plan and risk assessments.

This information is neither prescriptive nor exhaustive, and is provided as a guideline to Tenderers in

preparing their tender submissions, and to the successful Contractor as a basis for the preparation of the site-specific risk assessments to be performed by the Contractor in terms of Construction Regulation 9.

Tenderers shall make their own assessment of the dangers, hazards and risks that can be expected during the course of this contract, which may include dangers, hazards and risks not identified in the baseline risk assessment, including those that may arise from specific methods of construction employed by the Contractor, and shall make due allowance in their tendered rates and prices for all costs related to complying with the provisions of the Act and Construction Regulations.

This information is given in good faith for the guidance of Tenderers, and no additional payment shall be made as a result of any inaccuracies, discrepancies or omissions contained therein.

E3.2 Baseline risk assessment

The following is a list of risks identified which forms the Baseline Risk Assessment for the project prepared by the Employer in terms of Construction Regulation 5(1)(a).

E3.3 Guidelines for construction and maintenance projects under Covid-19 Lockdown

The Employer has prepared guidelines which set out the key principles and minimum requirements that define responsible, healthy and safe operations for road construction operations under COVID-19 Lockdown conditions, for the Contractor to comply with. In addition, the Contractor shall comply with any new COVID-19 Regulations issued by Government.

The guidelines have been included as Annexure A at the end of this Project Document.

E4. APPLICATION FOR CONSTRUCTION WORK PERMIT

Where the contract meets the requirements of Construction Regulation 3, the Employer must at least 30 days before commencement of the work and in accordance with the requirements of Construction Regulation 3, apply to the Provincial Director of the Department of Labour in writing for a construction work permit to perform construction work. The Employer's application must be done in a form similar to Annexure 1 of the Construction Regulations, and submitted with the required documentation, some of which the Contractor shall provide as stated in the Contract Data.

A copy of the construction work permit must be kept on site in the occupational health and safety file, available for inspection by inspectors, the Employer, the Employer's Agent, the Construction Health and Safety Agent, subcontractors, employees, representative trade unions and any other persons on the site. The Provincial Director will assign a site-specific number for each construction site, which must be conspicuously displayed at the main entrance to the site.

E5. NOTIFICATION OF CONSTRUCTION WORK

Where the contract meets the requirements of Construction Regulation 4, the Contractor shall, before commencement of the work and in accordance with the requirements of Construction Regulation 4, notify the Provincial Director of the Department of Labour of the intention to carry out the construction work, using the pro forma form included as Annexure 2 to this Health and Safety Specification.

A copy of the notification form must be kept on site, available for inspection by inspectors, the Employer, the Employer's Agent, the Construction Health and Safety Agent, subcontractors, employees, representative trade unions and any other persons on the site. A copy of the notification form shall also be kept on the health and safety file, and a further copy shall be forwarded to the Employer for his records.

E6. HEALTH AND SAFETY PLAN

Before commencement of any construction work, the Contractor shall prepare a project specific Health and Safety Plan complying with the requirements of Construction Regulation 7(1)(a) and this Health and Safety Specification.

The Health and Safety Plan must include a risk assessment performed and recorded in writing by a competent person as required in terms of Construction Regulation 9. The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards identified.

The Health and Safety Plan shall be available on site for inspection by inspectors, the Employer, the Employer's Agent, subcontractors, employees, representative trade unions, and health and safety representatives and committee members, and must be monitored and reviewed periodically by the Contractor.

E7. APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

E7.1 Appointments

The Contractor shall appoint in writing all employees.

The Contractor shall appoint in writing all subcontractors, and such appointments shall be in compliance with the requirements of Construction Regulation 7.

E7.2 Health and safety induction training

No person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the site.

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo health and safety induction training by a competent person before commencement of construction work in compliance with Construction Regulations 7(5) and 9(3) and (4).

The Contractor shall ensure that all visitors to the construction site undergo health and safety induction and are provided with the necessary personal protective equipment in compliance with Construction Regulation 7(6).

E7.3 Medical certificate of fitness

The Contractor shall ensure that every employee, including subcontractors and their employees, has a valid medical certificate of fitness issued in compliance with Construction Regulation 7(1)(g) or 7(8) as applicable.

E8. APPOINTMENT OF SAFETY PERSONNEL

E8.1 Construction manager

Refer to Construction Regulation 8(1), (2), (3) and (4).

The Contractor shall appoint a full-time **Construction Manager** with the duty of managing all the construction work on the site, including the duty of ensuring occupational health and safety compliance.

The Contractor may also have to appoint one or more **assistant construction managers** to assist the Construction Manager where justified by the scope and complexity of the works.

E8.2 Construction health and safety officer

Refer to Construction Regulation 8(5) and (6).

Taking into consideration the size of the project and the dangers, hazards or risks that can be expected, the Contractor shall appoint in writing a full-time or part-time **construction health and safety officer** to assist in the control of all health and safety related aspects on the site. The construction health and safety officer shall be registered as required by the Chief Inspector of the Department of Labour and shall have the necessary competencies and resources to assist the Contractor.

E8.3 Construction supervisor

Refer to Construction Regulation 8(7), (8), (9) and (10).

The Contractor shall appoint a **construction supervisor** responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

The Contractor may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

E8.4 Health and safety representatives

In terms of Sections 17 and 18 of the Act (OHSA 1993) the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a **health and safety representative** whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 50 employees.

The function of health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery, etc. on a regular basis, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

E8.5 Health and safety committee

In terms of Section 19 of the Act (OHSA 1993), the Contractor (as employer) shall establish one or more **health and safety committees** where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

E8.6 Competent persons

The Contractor shall appoint in writing designated competent employees and/or other competent persons as required by the Act and Regulations. Such appointments shall be in accordance with the relevant applicable sections of the Act and Regulations as determined by the requirements of the contract.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work in all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities for compliance with all requirements of the Construction Regulations.

E9. RECORDS AND REGISTERS

The Contractor shall keep records and registers related to health and safety on site as required by the relevant applicable sections of the Act and Regulations as determined by the requirements of the contract. Such records and registers shall be available for periodic inspection by inspectors, the Employer, the Employer's Agent, the Construction Health and Safety Agent, subcontractors, employees and

representatives of trade unions.

E10. CONTRACTOR'S RESPONSIBILITIES

For this contract the Contractor will be the mandatary of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations 2014.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) in terms of C1.4 'Agreement in terms of Section 37(2) of the Occupational Health and Safety Act No. 85 of 1993', to confirm his status as mandatary (employer) for the contract under consideration.

The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations, as ignorance of the Act and the Regulations will not be accepted in any proceedings related to non-conformance to the Act and the Regulations.

E11. MEASUREMENT AND PAYMENT

It is a condition of this contract that contractors who submit tenders for this contract shall make provision in their various tendered rates and prices for all costs related to the health and safety measures required in terms of the Act and Regulations during the construction process.

(a) Health and safety plan

The Contractor shall assess the risks associated with the Works when preparing the health and safety plan. In addition, the Contractor shall implement the health and safety plan, including the provision of a dedicated, full time health and safety officer, carrying out all the required site health and safety training and briefings, staff medical evaluations, monitoring and administering the health and safety plan and for supplying all transport, personal protection safety items, other health and safety equipment, safety notices and any other health and safety related items that are required on site. Provision is made for the costs of preparing and implementing the health and safety plan in item B13.03 of the Bill of Quantities.

(b) Safety appointments

No separate additional payment will be made to cover the costs related to persons appointed as required in terms of the Act and Regulations to fulfil the various health and safety functions. Such persons include the Construction Manager, any assistant construction managers, the construction health and safety officer, the construction supervisor, any assistant construction supervisors, health and safety representatives, health and safety committee members and competent persons, all as referred to in subclauses E8.1 to E8.6 above. The Contractor shall therefore make provision in the various tendered rates and prices for all costs related to such persons, and for which no separate additional payment will be made except to the extent provided in item B13.03 of the Bill of Quantities.

(c) Records and registers

The keeping of records and registers related to health and safety on site as described in clause E9 above shall be regarded as a normal duty of the Contractor for which payment shall be deemed to be included in the Contractor's various tendered rates and prices, and for which no separate additional payment will be made except to the extent provided in item B13.03 of the Bill of Quantities.

(d) Medical certificates

No separate additional payment will be made to cover the costs related to obtaining the medical certificates of fitness required for every employee, including subcontractors and their employees, issued in compliance with Construction Regulation 7(1)(g) or 7(8) as applicable. The Contractor shall therefore make provision in the various tendered rates and prices for all costs related to such medical certificates, and for which no separate additional payment will be made except to the extent provided in item B13.03 of the Bill of Quantities.

ANNEXURE 2**OCCUPATIONAL HEALTH AND SAFETY ACT, 1993
(Regulation 4 of the Construction Regulations, 2014)****NOTIFICATION OF CONSTRUCTION WORK**

1. (a) Name and postal address of principal contractor:
.....
.....
- (b) Name and telephone number of principal contractor's contact person:
.....
2. Principal contractor's compensation registration number:
.....
3. (a) Name and postal address of client:
.....
.....
- (b) Name and telephone number of client's contact person or agent:
.....
4. (a) Name and postal address of designer(s) for the project:
.....
.....
- (b) Name and telephone number of designer's(s') contact person(s):
.....
.....
5. Name and telephone number of principal contractor's construction manager on site appointed in terms of regulation 8(1):
.....
6. Name(s) of principal contractor's assistant construction manager(s) on site appointed in terms of regulation 8(2):
.....
.....
.....

ANNEXURE 2 - Continued

7. Exact physical address of the construction site or site office:

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

8. Nature of the construction work:

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

9. Expected commencement date:

10. Expected completion date:

11. Estimated maximum number of persons on the construction site:

Total: Male: Female:

12. Planned number of contractors on the construction site accountable to principal contractor:

.....

13. Name(s) of contractors already selected:

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

.....
Principal Contractor

.....
Date

.....
Client's Agent (where applicable)

.....
Date

.....
Client

.....
Date

- THIS DOCUMENT IS TO BE FORWARDED TO THE OFFICE OF THE DEPARTMENT OF LABOUR **PRIOR TO COMMENCEMENT** OF WORK ON SITE.

C3.3 PARTICULAR SPECIFICATIONS

PART F: EXPANDED PUBLIC WORKS PROGRAMME

PART F: EXPANDED PUBLIC WORKS PROGRAMME**F1. SCOPE**

This part provides the specifications with regard to the following:

- (a) The Expanded Public Works Programme (EPWP); and

The Contractor shall be required to participate in job creation (employment of local labour) by executing various portions of the Works using local labour (unskilled or semi-skilled), recruited from the local community, who are South African Citizens or foreigners in possession of a work visa issued by the Department of Home Affairs (only one such foreigner may be employed on any project). Such local labour shall be the targeted participants in the EPWP.

Furthermore, in order to avoid duplication of training facilities, the provision of training facilities for all structured training, shall be measured and paid for in terms of the pay items provided in this Part F.

F2. EXPANDED PUBLIC WORKS PROGRAMME (EPWP)**F2.1 Labour-intensive construction, supervision and management for the Expanded Public Works Programme (EPWP)**

The Expanded Public Works Programme (EPWP) is a multi-sectoral government initiative to create jobs. In the case of the infrastructure sector, existing government expenditure is realigned using labour-intensive technologies to create job opportunities. This involves the use of both labour and construction equipment, where labour is preferred and construction equipment is used appropriately.

All work undertaken in terms of the Expanded Public Works Programme (EPWP) shall be implemented using labour-intensive construction methods to the extent economically feasible, in accordance with the "Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP) Third Edition 2015".

The aforementioned guidelines can be downloaded from the EPWP website of the Department of Public Works (<http://www.epwp.gov.za/>).

Items scheduled for labour-intensive construction are marked with the letters "LI" in the bill of quantities in the manner described in C2.1 Pricing Assumptions.

Contractors shall note that they shall employ in labour-intensive works only the following supervisory and management staff that have completed the required Skills Programme in terms of Appendix C of the aforementioned guidelines:

- (a) Foremen / Supervisors at NQF level 4 "National Certificate: Supervision of Civil Engineering Construction Processes";
- (b) Site Agent / Construction Manager at NQF level 5 "Manage Labour-Intensive Construction Processes" or equivalent Quality Council for Trades and Occupations (QCTO) qualifications at NQF level 5 or 7.

In addition to their normal supervisory and management functions, the aforementioned supervisory and management staff shall also be responsible for setting the workers' daily tasks in accordance with labour-intensive construction principles, and for ensuring that the EPWP job creation reporting data is accurately recorded on a daily basis and compiled and submitted to the Employer each month in accordance with clause F4 of this Part F.

F2.2 Labour laws applicable to the Expanded Public Works Programme (EPWP)

The work to be undertaken on this contract by unskilled or semi-skilled workers under the Expanded Public Works Programme (EPWP) shall be implemented in accordance with:

- (a) the Code of Good Practice for Employment and Conditions of Work for Expanded Public Works Programmes (EPWP), issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. 129 of 18 February 2011 (Government Gazette No. 34032 of 18 February 2011); and
- (b) Ministerial Determination 4: Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. R347 of 4 May 2012.

The aforementioned Government Notice No. R347 contains the standard terms and conditions for workers employed in elementary occupations on an Expanded Public Works Programme (EPWP). These terms and conditions do not apply to persons employed in the supervision and management of an Expanded Public Works Programme (EPWP).

The above documents can be downloaded from the EPWP website of the Department of Public Works (<http://www.epwp.gov.za/>).

F2.3 Persons to be employed under the Expanded Public Works Programme (EPWP)

All local labour required for the execution of labour-intensive works shall be engaged strictly in accordance with prevailing legislation.

The Contractor shall, through the Project Liaison Committee (PLC) and with the assistance of the Community Liaison Officer (CLO), inform the local community of the labour-intensive works proposed and the employment opportunities thereby presented.

The Contractor shall determine the minimum education level / skills required to undertake the works specified. In consultation with the PLC and the War Room convener for each relevant ward, selection of the local labour shall be made from households on the Operation Sukuma Sakhe (OSS) database profiled through the War Room for each ward. The list obtained from the OSS database must be accompanied by a letter from the War Room convener confirming that all the information provided was sourced from the War Room and that all listed incumbents reside within the relevant ward. The Contractor must maintain records of household profiles as part of the portfolio of evidence for selection. Selection shall be based on the minimum education level / skills required and the most-needy households, as determined by the household profiling. Preference shall be given for at least one person from each household in the community to be employed before further persons are considered for selection.

The Contractor shall endeavour to ensure that the number of temporary jobs using local labour (unskilled or semi-skilled), recruited from the local community, who are South African Citizens or foreigners in possession of a work visa issued by the Department of Home Affairs (only one such foreigner may be employed on any project), shall include for a minimum allocation of:

- (a) 60% women;
- (b) 55% youth who are between the ages of 18 and 35; and
- (c) 2% persons with disabilities.

All labour recruitment, employment and associated risks shall remain the sole responsibility of the contractor.

The contractor shall comply with the minimum supervisor to worker ratio stated below, required to ensure the effective supervision of the labour-intensive works for all LI activities undertaken on this project:

Minimum supervisor to worker ratio = 1:10

F2.4 Contract of employment with persons employed under the Expanded Public Works Programme (EPWP)

The Contractor shall enter into a formal contract of employment with each person employed under the Expanded Public Works Programme (EPWP), using the pro forma contract of employment attached at the end of this Part F of section 3.3 Particular Specifications.

The Contractor shall note that all such formal contracts of employment entered into with persons employed under the Expanded Public Works Programme (EPWP) shall expire on 31 March each year, and the Contractor shall therefore be required to enter into new contracts with such persons as of 1 April each year.

F2.5 Employment of targeted labour under the Expanded Public Works Programme (EPWP)

The Contractor shall be contractually obliged to:

- (a) brief EPWP workers on the conditions of employment;
- (b) enter into a formal contract of employment with each EPWP worker, which contract will form part of the Employment Agreement;
- (c) keep personnel files for all EPWP workers and make copies available to the Employer if and when requested; and
- (d) ensure that payments to EPWP workers are made in accordance with Government Notice No. R347.

The rate of pay for persons employed under the Expanded Public Works Programme (EPWP) shall be the gazetted rate:

- (i) per task (for task-rated workers); or
- (ii) per day (for time-rated workers).

During those periods when an EPWP worker is engaged in formal classroom training (other than in-service training), the rate of pay shall be equal to the minimum wage rate as set on an annual basis in the Ministerial Determination for the Expanded Public Works Programme.

Tasks set by the Contractor shall be such that:

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

The Contractor shall revise the time taken to complete a task whenever it is established that the time taken per week to complete the tasks set does not fall within the limits indicated in (a) and (b) above.

F2.6 Training of persons employed under the Expanded Public Works Programme (EPWP)

The training of persons employed under the Expanded Public Works Programme (EPWP) is described in clause F4 below.

F2.7 Contractor's obligations towards persons employed under the Expanded Public Works Programme (EPWP)

Over and above implementing in accordance with Government Notice Nos. 129 and R347 the EPWP work to be undertaken on this contract, it shall be the responsibility of the Contractor to carry out the following functions with respect to the EPWP workers:

- (a) ensure that all participants are covered by the Compensation for Occupational Injuries and Diseases Act, 1993, for as long as they are contracted to the Contractor, and pay in full to the Compensation Commissioner such amounts as are due in terms of the Act;
- (b) pay in full to the Unemployment Insurance Fund for all participants such UIF contribution amounts as are due in terms of the Unemployment Insurance Act, 2001, as amended, and the Unemployment Insurance Contributions Act, 2002, as amended, and provide proof of such UIF payments upon request;
- (c) ensure that all participants are paid their wages on time through the pre-agreed payment method as stipulated in the participant contract of employment;

- (d) implement health and safety procedures with respect to the participants, ensuring that the health and safety regulations are adhered to;
- (e) ensure that all participants receive induction on site safety prior to commencing with work on site;
- (f) provide all participants with the necessary protective clothing and equipment as required by law for the specific tasks in which the participants are involved, in addition to the branded overalls stipulated for EPWP workers;
- (g) provide safe on-site storage facilities for apparel and tools issued to the participants;
- (h) assist in the assessment of participants with regard to their competencies;
- (i) provide overall supervision and day-to-day management of participants; and
- (j) implement strict quality control to ensure that the work carried out by the participants is of the required standard, and, where necessary, to train and mentor the participants to assist them in achieving the standards required.

F2.8 Apparel and tools for persons employed under the Expanded Public Works Programme (EPWP)

The Contractor shall provide Personal Protective Equipment (PPE) to all EPWP workers in accordance with the requirements arising from Part E: OHS 1993 Health and Safety Specification and the Contractor's site-specific health and safety plan and accompanying risk assessments.

Where indicated below, certain items of the PPE issued by the Contractor to the EPWP workers shall include branded EPWP markings in accordance with the attached branding requirements.

PPE shall comprise the following:

- (a) Compulsory PPE issued to all EPWP workers for use during general work activities:
 - (i) Protective overalls (two sets), green in colour, with EPWP branding;
 - (ii) Lime green reflective safety vest with EPWP branding;
 - (iii) Protective footwear; and
 - (iv) Protective gloves.
- (b) PPE issued to EPWP workers for specific activities where required in terms of the Contractor's site-specific health and safety plan and accompanying risk assessments, such as:
 - (i) Protective headwear, green in colour, with EPWP branding;
 - (ii) Protective eyewear such as spectacles and goggles;
 - (iii) Protective face shields;
 - (iv) Protective earplugs and earmuffs;
 - (v) Respiratory masks;
 - (vi) Disposable safety apparel;
 - (vii) Kidney belts;
 - (viii) Safety harnesses; and
 - (ix) Any other protective equipment identified.

The Contractor shall replace any item of issued PPE that becomes unserviceable.

The Contractor shall not charge any fee to the EPWP workers for the prescribed PPE issued except under the following circumstances:

- (i) where the employee requests the issue of additional PPE in excess of what is prescribed;
- (ii) where the employee has patently abused or neglected the issued PPE leading to early failure; or
- (iii) where the employee has lost the issued PPE.

The Contractor shall instruct and train the EPWP workers in the use of all PPE issued, and shall ensure that they use the prescribed equipment.

EPWP workers shall not have the right to refuse to use or wear the equipment prescribed by the Contractor.

If it is not possible for an EPWP worker, through health or any other reason, to use or wear the prescribed PPE issued, such employee shall not be allowed to continue working under the hazardous conditions for which the equipment was prescribed. Under such circumstances an alternative solution shall be found, and this may include relocating or discharging the employee.

The Contractor shall provide each EPWP worker with hand tools of adequate quality and of the type required to carry out the assigned tasks safely and efficiently.

The Contractor shall instruct and train the EPWP workers in the safe and efficient use of all hand tools issued.

The Contractor shall maintain the issued tools in a serviceable and safe working condition.

The EPWP workers shall be responsible for the safe on-site storage of all PPE and tools issued to them, using the storage facilities provided on site by the Contractor.

No separate payment shall be made for providing the EPWP workers with PPE, or for providing relevant items of PPE in the specified colours with branded EPWP markings. Furthermore, no separate payment shall be made for providing the EPWP workers with hand tools or for providing them with safe storage facilities on site for PPE and tools. The Contractor shall therefore make provision for all costs related to providing the PPE, tools and safe storage facilities in the tendered rates and prices for the various items of work scheduled throughout the bill of quantities.

F2.9 EPWP contract signboard

The Contractor will be required to erect a contract signboard displaying the EPWP logo, indicating that this project is part of the Expanded Public Works Programme (EPWP). Provision for the costs related to the provision, erection and subsequent removal of the contract signboard is made in pay item provided in section 1300 of the bill of quantities for this purpose.

F2.10 Payment matters relating to the EPWP work

F2.10.1 General

No separate pay items shall be provided in terms of Part F of the bill of quantities for the construction work activities carried out by EPWP participants. Payment for such work activities shall be made only indirectly, in terms of the pay items scheduled for the work activities in which such persons are engaged.

Furthermore, no direct payment will be made to cover the Contractor's costs associated with implementing the on-site work programme for the EPWP participants, for planning, organising, directing, controlling and administering their day to day activities, including the setting of daily tasks, record keeping and any on-site liaison, training and mentoring required, and for the associated job creation reporting, and such costs shall therefore be built into the rates tendered for the various items of work scheduled throughout the bill of quantities.

F2.10.2 Payment for labour-intensive components of the work

Payment will be made for items which are designated for labour-intensive construction in the bill of quantities only in those instances where such items are constructed using labour-intensive methods.

Any unauthorised use of construction equipment to carry out work which was scheduled to be carried out using labour-intensive methods will not be condoned and any Works so constructed will not be certified for payment. Any non-payment for such Works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

During the course of construction, as a result of unforeseen site conditions or operating conditions encountered, it may happen that an item designated for labour-intensive construction can no longer be carried out in a safe and economically feasible manner, either in full or in part, using labour-intensive methods. In such instances the Employer's Agent shall, where necessary, order a variation in terms of clause 6.3 of the of the General Conditions of Contract 2015 with respect to that portion of the item quantity

that cannot be carried out using labour-intensive methods.

F2.11 Penalty applicable to any shortfall in the local labour content achieved

The amount spent on wages for local labour (excluding VAT) for this project, as certified by the Employer's Agent, shall equal or exceed the specified minimum percentage of the contract amount which is the Contract Price (adjusted to exclude penalties and value added tax).

The Contractor is obliged to commit to or exceed the specified minimum percentage of local labour content stated in section C1.2.2 Data Provided by the Employer.

In the event that the Contractor fails to substantiate that any failure to achieve the minimum required local labour content for this project is due to quantitative underruns, the elimination of items contracted to local labour, or any other reason beyond the Contractor's control which may be acceptable to the Employer, the Contractor shall be liable for a financial penalty as prescribed in clause SCC 4.1.1 of section C1.2.1.2 Special Conditions of Contract. The financial penalty shall be calculated as follows:

$$P = 0,05 \times [(E - E_0)/100] \times C_A$$

where:

- E is the specified minimum percentage for local labour content
- E₀ is the local labour content percentage which the Employer's Agent certifies as being achieved upon completion of the contract
- C_A is the contract amount which is the Contract Price (adjusted to exclude penalties and value added tax)
- P is the monetary value of penalty payable

The penalty shall not apply to shortfalls in the allocations to the individual target groups (i.e., Women/Youth/Disabled as per clause F1.3 above), only to shortfalls in the total local labour content achieved.

The evaluation of the Contractor's achievement of the local labour content percentage shall be undertaken monthly by the Employer's Agent, based on the accumulative achievements in comparison to the programmed utilisation of local labour, as a means of monitoring the Contractor's performance in achieving the Contract Participation Goal.

Failure by the Contractor to achieve the Contract Participation Goal target by the time of Practical Completion, shall result in the financial penalty being applied as prescribed in this clause. The Employer's Agent shall make a final determination of the Contractor's achievement of the Contract Participation Goals based on the value of the Final Payment Certificate.

F3. NATIONAL YOUTH SERVICE (NYS)

Note: The Contractor shall not be required to employ NYS workers in terms of this contract.

F4. JOB CREATION REPORTING FOR EPWP

In order to assist the Employer in complying with the goal of creating EPWP job opportunities, the Contractor must provide the information specified in clause F4.1 below for reporting purposes.

In addition, the Contractor's payment certificates shall be accompanied by the information specified in clause F4.2 below.

F4.1 Type of project data required per project

Every EPWP project shall collect and keep specific project data for the purpose of EPWP progress reporting on a monthly basis, using the EPWP Data Collection Tool template (this will be made available to the

Contractor in Microsoft Excel format - refer to the pro forma spreadsheets at the end of this Part F of the Particular Specifications).

The data that is required to be kept, maintained and reported on a monthly basis for each project includes:

F4.1.1 Participant (local labour) data

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

- (a) Participant identity – name, surname, initials, date of birth and identity number (or other unique identifier) plus certified copy of ID book.
- (b) Participant profiles – nationality, gender, age, education level and disability status.
- (c) Work data for participants – daily wage to be received, number of calendar days training attended and number of calendar days worked.
- (d) Records of training – as required in terms of the EPWP Data Collection Tool template.

In addition, the signed contracts of employment between the Contractor and each EPWP participant shall be kept and maintained on site for audit purposes.

F4.1.2 Project work data

The project work data generally seeks to confirm the number of people at work daily on the project. This data shall be recorded, checked and signed off by the Contractor, and shall be submitted to the Employer at each monthly site meeting. The data shall be maintained on site by the Contractor, in order that it can be provided by the Employer to the National Department of Public Works upon request when the latter is undertaking sample auditing. These records shall be kept by the Contractor for a period of three years after contract completion should they be required for audit purposes.

The data shall include:

- (a) Daily attendance register – register for each day showing all the workers that were registered as being at work on that day. Attendance registers shall be completed on site on a daily basis and signed off by the Contractor on a weekly basis. Refer to pro forma attendance register attached at the end of this Part F of section 3.3.
- (b) Summary of monthly attendance.

F4.1.3 Project payment data

The project payment data generally seeks to confirm what was paid, for how much work and to whom. This data shall be recorded, checked and signed off by the Contractor, and shall be submitted to the Employer at each monthly site meeting.

It is required that the Contractor adopt one of the following methods as standard procedure for recording and maintaining this information:

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

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

F4.1.4 Employment output data

The Contractor shall submit to the Employer at each monthly site meeting a progress report detailing production output compared to the programme of works, together with the data necessary to enable the Employer to calculate the following employment output data in accordance with the EPWP Data Collection Tool template:

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

F4.2 Project data to be submitted with the Contractor's payment certificates

The Contractor's payment certificates shall be accompanied by labour returns providing the labour information for the corresponding period in a format specified by the Employer.

Should the Contractor choose to delay submitting payment certificates, the labour returns shall nevertheless still be submitted as per the frequency and timeframes stipulated by the Employer. The Contractor's payment certificates shall not be paid by the Employer until all pending labour information has been submitted.

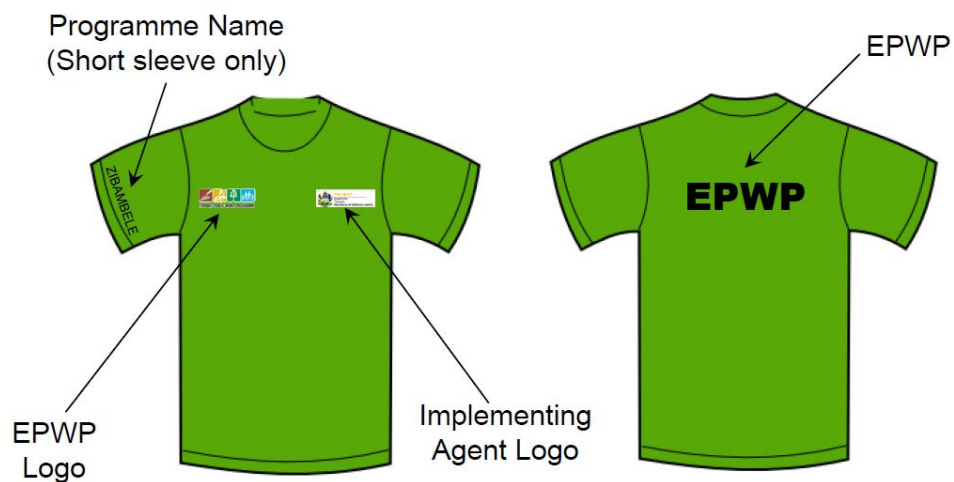
The following information shall be maintained on site and submitted with each payment certificate in the format specified by the Employer:

- (a) Copies of the signed contracts between the Contractor and any new EPWP participants (the Contractor shall note that all such formal contracts of employment entered into with persons employed under the Expanded Public Works Programme (EPWP) shall expire on 31 March each year, and the Contractor shall therefore be required to enter into new contracts with such persons as of 1 April each year, and shall be required to submit copies of all such new contracts with the first payment certificate thereafter);
- (b) Certified ID copies of all local labour employed as EPWP participants;
- (c) Attendance registers for the EPWP participants;
- (d) Proof of payment of EPWP participants; and
- (e) Information as required in terms of the EPWP Data Collection Tool template.

Expanded Public Works Programme: PPE BRANDING For EPWP Projects

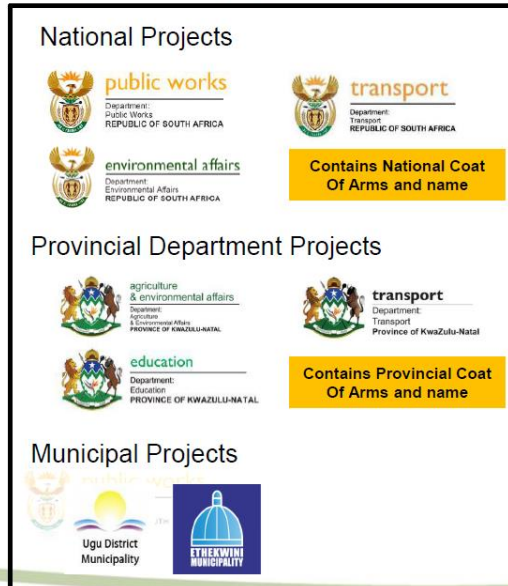


T-Shirt/Overall/Safety Vest Branding



Logo Options

Implementing Agent Examples



PLEASE VERIFY WHICH LOGO NEEDS TO USED

EPWP LOGO



Printing on PPE

PPE (Overalls) shall be Pantone Green with/without reflective tape and shall be branded as follows:

- Implementer's Logo (printed or embroidered) on the left front pocket location ie over the heart position. (full colour)
- EPWP logo on the right front pocket (printed or embroidered) location (full colour)
- The letters EPWP on the back of the PPE in BLACK
- The program name eg Vuk'uphile is to be printed on the right sleeve of short sleeved apparel and need not be placed on long sleeved apparel.
- Where required, lime green safety vests are to be branded with similar specification above. In this instance the Overalls may not necessarily be branded provided that the use of high visibility vests is mandatory.
- All artwork and PPE samples shall be approved and signed off by the consultant prior to printing/embroidering.



PRO FORMA EPWP CONTRACT OF EMPLOYMENTContractor's
Logo**EXPANDED PUBLIC WORKS PROGRAMME***This contract must be read in conjunction with the standard terms and conditions of employment on EPWP attached herein.***EPWP CONTRACT OF EMPLOYMENT between****Employer Details**

Name	Click or tap here to enter text.	Address	Click or tap here to enter text.
Telephone	Click or tap here to enter text.		
Email	Click or tap here to enter text.		
Contact	Click or tap here to enter text.		

And**Employee Details**

Name	Click or tap here to enter text.	Surname	Click or tap here to enter text.
ID:	Click or tap here to enter text.	Cell	Click or tap here to enter text.
Sex (M/F)	Male ☐ Female ☐	Disability	Yes ☐ No ☐
Primary Language	Click or tap here to enter text.	Physical Address	Click or tap here to enter text.
Other Languages	Click or tap here to enter text.		
Highest Education Level Achieved	Click or tap here to enter text.	Local Municipality	Click or tap here to enter text.
Other qualifications	Click or tap here to enter text.	Ward	Click or tap here to enter text.
Grant Received (Y/N)	Yes ☐ No ☐	Grant type:	

Employment Details

Name of project:	Click or tap here to enter text.		
Job Title:	Click or tap here to enter text.		
Duties:	Click or tap here to enter text.		
Contract Start Date	Click or tap here to enter text.	Contract Finish Date	Click or tap here to enter text.
The wage per task/day is:	R Click or tap here to enter text. / Hour/Day/task (Specifier to select correct rate)		

Special Conditions

You must be aware that this employment contract is a limited term contract and not a permanent job. This employment contract may be terminated for any one of the following reasons: a) The contractor does not get additional contracts from the EPWP. b) Funding for the programme in your area comes to an end. c) Underperformance: first offence – final written warning. Second offence – dismissal.	Payment a) You will be paid a fixed amount stipulated above for completing a fixed amount of work. b) The amount of work required for the agreed rate of pay will vary from task to task. You will be informed at the beginning of each task or group of tasks how much work you are expected to complete per day. c) You will only be paid for work completed. d) Payment during classroom training shall be R /day
Personal Protective Clothing will be supplied to the employee by the employer depending on the work to be performed, and will remain the property of the employee provided that the employee has worked for at least 3 months.	

Acceptance

Employer Name:	Employer Signature:	Employee Name:	Employee Signature:
Witness 1 Name:	Witness 1 Signature:	Witness 2 Name:	Witness 2 Signature:

APPENDIX E – Conditions of Service**1. Introduction**

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

1.2. In this document –

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

2. Terms of Work

- 2.1. Workers on an EPWP are employed on a temporary basis.
- 2.2. A worker may NOT be employed for longer than 24 months in any five-year cycle on an EPWP.
- 2.3. Employment on an EPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

3. Normal Hours of Work

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

4. Meal Breaks

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

5. Special Conditions for Security Guards

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

6. Daily Rest Period

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

7. Weekly Rest Period

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

8. Work on Sundays and Public Holidays

- 8.1. A worker may only work on a Sunday or public holiday to perform emergency or security work.
- 8.2. Work on Sundays is paid at the ordinary rate of pay.
- 8.3. A task-rated worker who works on a public holiday must be paid –
 - a) the worker’s daily task rate, if the worker works for less than four hours;
 - b) double the worker’s daily task rate, if the worker works for more than four hours.
- 8.4. A time-rated worker who works on a public holiday must be paid –
 - a) the worker’s daily rate of pay, if the worker works for less than four hours on the public holiday;
 - b) double the worker’s daily rate of pay, if the worker works for more than four hours on the public holiday.

9. Sick Leave

- 9.1. Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.
- 9.2. A worker who is unable to work on account of illness or injury is entitled to claim one day’s paid sick leave for every full month that the worker has worked in terms of a contract.
- 9.3. A worker may accumulate a maximum of twelve days’ sick leave in a year.
- 9.4. Accumulated sick-leave may not be transferred from one contract to another contract.
- 9.5. An employer must pay a task-rated worker the worker’s daily task rate for a day’s sick leave.
- 9.6. An employer must pay a time-rated worker the worker’s daily rate of pay for a day’s sick leave.
- 9.7. An employer must pay a worker sick pay on the worker’s usual payday.
- 9.8. Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
 - a) absent from work for more than two consecutive days; or
 - b) absent from work on more than two occasions in any eight-week period.
- 9.9. A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- 9.10. A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

Employer	Employee
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10. Maternity Leave

- 10.1. A worker may take up to four consecutive months' unpaid maternity leave.
- 10.2. A worker is not entitled to any payment or employment-related benefits during maternity leave.
- 10.3. A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- 10.4. A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- 10.5. A worker may begin maternity leave –
 - a) four weeks before the expected date of birth; or
 - b) on an earlier date –
 - i. if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
 - ii. if agreed to between employer and worker; or
 - iii. on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.
- 10.6. A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.
- 10.7. A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the EPWP on which she was employed has ended.

11. Family responsibility leave

- 11.1. Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances –
 - a) when the employee's child is born;
 - b) when the employee's child is sick;
 - c) in the event of a death of –
 - i. the employee's spouse or life partner;
 - ii. the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

12. Statement of Conditions

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

13. Keeping Records

- 13.1. Every employer must keep a written record of at least the following –
 - a) the worker's name and position;
 - b) in the case of a task-rated worker, the number of tasks completed by the worker;
 - c) in the case of a time-rated worker, the time worked by the worker;
 - d) payments made to each worker.
- 13.2. The employer must keep this record for a period of at least three years after the completion of the EPWP.

14. Payment

- 14.1. An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
- 14.2. A task-rated worker will only be paid for tasks that have been completed.
- 14.3. An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
- 14.4. A time-rated worker will be paid at the end of each month.
- 14.5. Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
- 14.6. Payment in cash or by cheque must take place –
 - a) at the workplace or at a place agreed to by the worker;
 - b) during the worker's working hours or within fifteen minutes of the start or finish of work;
 - c) in a sealed envelope which becomes the property of the worker.
- 14.7. An employer must give a worker the following information in writing –
 - a) the period for which payment is made;
 - b) the numbers of tasks completed or hours worked;
 - c) the worker's earnings;
 - d) any money deducted from the payment;
 - e) the actual amount paid to the worker.
- 14.8. If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.
- 14.9. If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

15. Deductions

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

16. Health and Safety

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

17. Compensation for Injuries and Diseases

Employer	Employee
----------	----------

- 17.1. It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on an EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- 17.2. A worker must report any work-related injury or occupational disease to their employer or manager.
- 17.3. The employer must report the accident or disease to the Compensation Commissioner.
- 17.4. An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.
- 18. Termination**
- 18.1. The employer may terminate the employment of a worker for good cause after following a fair procedure.
- 18.2. A worker will not receive severance pay on termination.
- 18.3. A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.
- 18.4. A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.
- 18.5. A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.
- 19. Certificate of Service**
- 19.1. On termination of employment, a worker is entitled to a certificate stating –
- a) the worker's full name;
 - b) the name and address of the employer;
 - c) the EPWP on which the worker worked;
 - d) the work performed by the worker;
 - e) any training received by the worker as part of the EPWP;
 - f) the period for which the worker worked on the EPWP;
 - g) any other information agreed on by the employer and worker.
- Either party can terminate this agreement with four weeks written notice. In the case where an employee is illiterate notice may be given by that employee verbally.

Employer

Employee

EPWP DATA COLLECTION TOOL TEMPLATE
(PRO FORMAS OF MICROSOFT EXCEL SPREADSHEETS)

EPWP REGISTRATION FORM		
Field requested	Description if needed	Please complete the sections in white
Project Details		
Profile ID	Generated by the system	
Project Name	The name of the project	
Project Reference Number	Contract number	
Project description	Full description of what is happening in the project (as per the appointment letter) and the community benefiting from the project	
Duration		
Project Start Date	Planned Start date of the particular contract	
Project End Date	Planned End date of the particular contract	
Estimated Budget	Overall Contract budget (excluding professional fees) for Current Financial Year	
Project Location		
Province	In which province is the project implemented?	KZN
District Municipality	Under which District Municipality does this project falls?	
Local Municipality	Under which Local Municipality does this project falls?	
Latitude (in decimal format)	Is generated by the system	
Longitude (in decimal format)	Is generated by the system	
Project Location per site		
Locality name	Where exactly is the project implemented? (Ward name)	
Subplace	Town / Village	
Ward	The project site is located in which ward?	
Government facility	Landmark near the project (Post office/school/clinic/library)	
Spatial Data Type	Geopoint (structure)/ Line (road)/ Polygon(area)	
Site physical address	Physical address of the site office	
Public Body Details		
Public body sphere	In which sphere is the project implemented? (National, Provincial or Municipal)	Provincial
Reporting public body that is the project owner (and will report on the project)	Which Institution or Department that owns / approved this project (Education, Health, City of Tshwane Metro etc.)	KZN Department of Transport
Department in the Public body that is responsible for the project	Which department /unit is responsible for this project? (e.g. Roads & storm water, Education, Community safety etc.)	KZN Department of Transport
Implementing public body type	In which sphere is this project implemented? (Metro,Distr,Mun, National or Provincial Dept.)	Provincial
Public body that will implement the project	Which institution that implements the project?	KZN Department of Transport
Project Implementation		
Is this the project on the municipal IDP	Yes / No	N/A
IDP reference number allocated to the project	The number reflected in your Municipal IDP document	N/A
EPWP Details		
EPWP Sector	The project is implemented in which sector? (Infrastructure, Environment & culture, Non-state or Social)	Infrastructure
EPWP Programme	The project is implemented under which programme?	
EPWP Sub Programme	The project is implemented under which sub-programme?	

EPWP BUSINESS FORM		
Field requested	Description if needed	Please complete the sections in white
Project Details		
Profile ID	<i>Generated by the system</i>	
Project Name	<i>The name of the project</i>	
Project Reference Number	<i>Contract number</i>	
Project description	<i>Full description of what is happening in the project (as per the appointment letter) and the community benefiting from the project</i>	
Duration		
Project Start Date		
Project End Date		
Estimated Budget	<i>Project Budget</i>	
Project Location		
Province		KZN
District Municipality	<i>Under which District Municipality does this projects falls</i>	
Local Municipality	<i>Under which Local Municipality does this projects falls</i>	
Latitude (in decimal format)	<i>GPS coordinates</i>	
Longitude (in decimal format)		
Public Body Details		
Public body sphere	<i>Such as Municipal or Provincial</i>	Provincial
Reporting public body that is the project owner (and will report on the project)	<i>Which Department approved the project in (education, Health etc.)</i>	KZN Department of Transport
Department / Unit in the Public body that is responsible for the project	<i>Which Department budgeted for the project e.g. Education, Health Directorate</i>	KZN Department of Transport
Implementing public body type	<i>Example(Local Municipality, Distr. Mun or Provincial Dept.</i>	Provincial
Public body that will implement the project	<i>Infrastructure, Environment or Social</i>	KZN Department of Transport
Is this project on the Municipal IDP	<i>Municipal projects</i>	N/A
IDP reference number allocated to the project		N/A

EPWP Details		
EPWP Sector	<i>The project is implemented in which sector? (Infrastructure, Environment & culture, Non-state or Social)</i>	Infrastructure
EPWP programme	<i>The project is implemented under which programme?</i>	
EPWP Sub Programme	<i>The project is implemented under which sub-programme?</i>	
Budget Amount-(Allocations for the project duration)		
Funding Body	<i>Which Dept. is funding the project</i>	KZN Department of Transport
Funding Year	<i>Financial year/s for the project</i>	
Total Budget Amount	<i>(Exclude Professional Fees)</i>	
Incentive Grant(e.g. landcare / EPWP grant)	<i>Grant funding received</i>	
Total wages paid for the duration of the projects	<i>What amount will be spent on wages during the duration of the project</i>	
Wage Rate	<i>Daily Wage rate to be paid during productive work</i>	
Stipend Rate	<i>Daily wage rate to be paid during training</i>	
UIF	<i>The amount being paid to UIF (if applicable)</i>	
COIDA	<i>The amount being paid to COIDA(if applicable)</i>	
Training	<i>What amount will be spent on training</i>	
Administration	<i>The Administration costs</i>	
Equipment and materials	<i>Budget for Materials and Equipment</i>	
Other	<i>If other where chosen describe the other Such as Professional fees)</i>	
Describe other		
Project Outputs and Training		
Planned Primary Output	<i>eg walkways, gabions, kerb * channel, km of road constructed</i>	
Description of Planned Primary Output	<i>Describe the project output (end product and not the milestone) (e.g. kms of tar road constructed) Start with the unit of measure such as number of, kms, ha, sqms etc</i>	
Unit of measure of primary output	<i>Eg. m, m², m³, km, no, ha etc</i>	
Planned primary output quantity	<i>Specify the quantity of output planned</i>	
Number of persons to be trained	<i>How many persons are targeted for on job training</i>	

Contact person		
Title	Person responsible for the Project in the Public Body (Project Manager)	
Initials		
First Name		
Surname		
Email		
Tel (Office)		
Fax Number		
Cell Number		
Physical Address 1		
Physical Address 2		
Physical Address 3		
Physical Address 4		
Postal Address 1		
Postal Address 2		
Postal Address 3		
Postal Address 4		
Position of person		

[illegible]

[illegible]

EPWP Monthly Progress Form		
Field requested	Description if needed	Please complete the sections in white
Project Details		
Profile ID	full description of what is happening in the project (as per the appointment letter) and the community benefiting from the project	
Project Name	The name of the project	
Project Reference Number	Contract number	
Project description	Full description of what is happening in the project (as per the appointment letter) and the community benefiting from the project	
Month		
Reporting Month		April
Budget Expenditure		
Cumulative Expenditure Amount	What is the Overall amount spend on this project?	
Current Expenditure Amount	What is the amount spend including all grants for this month?	
Wages	How much paid on wages for this month only?	
UIF	How much paid on UIF for this month only?	
COIDA	How much paid on COIDA for this month only?	
Stipends for training	Amount paid to participants whilst on training (this month only)	
Amount spent on service providers for training	How much paid to service providers for training for this month only?	
Training	Total Cost of training for this month? (number captured on ERS)	
Administration	How much paid on administration for this month only?	
Equipment and materials	How much paid on equipment and materials for this month only?	
Other	How much paid on other?	
Describe other	Be specific e.g. Consulting fees, Transport etc.	
Project output description	Describe the project output (end product and not the milestone) (e.g. kms of tar road constructed) Start with the unit of measure such as number of, kms, ha, sqms etc	
Unit of measure of primary output	Eg. m, m ² , m ³ , km, no, ha etc	
Cumulative primary output achieved	Since the onset of the project	
Quantity Achieved	enter numeric output for this month only	
Percentage achieved	How much work done / achieved in percentages?	
EPWP Branding		
Branding compliant	Yes / No	
Date that the branding was provided	When was the project branded?	
Has a photo of project branding been provided?	Yes / No	
First name of Official Who Branded Project	Official Name	
Surname of Official Who Branded Project	Official Surname	
Phone number of official who erected branding for the project	Official contact number	
Give the public body reference and name, and organisational details of the person that provided branding.	Public body details (reference & name)	

First Name	Initials	Surname	ID number	Date Of Birth	Wage Rate	Total Paid Days	Amount Paid	Work Days	Training Days Paid	Training Days Non Paid	Total Training Days	Training Course ID	Project Profile ID	Month	Year	Beneficiary Code



The Attendance Register for on-site Workers

Reporting month: _____

Mobile No: _____

Project Name: _____

Contract no: _____

Surname: _____

First Name: _____

IDENTITY NUMBER:

[illegible]

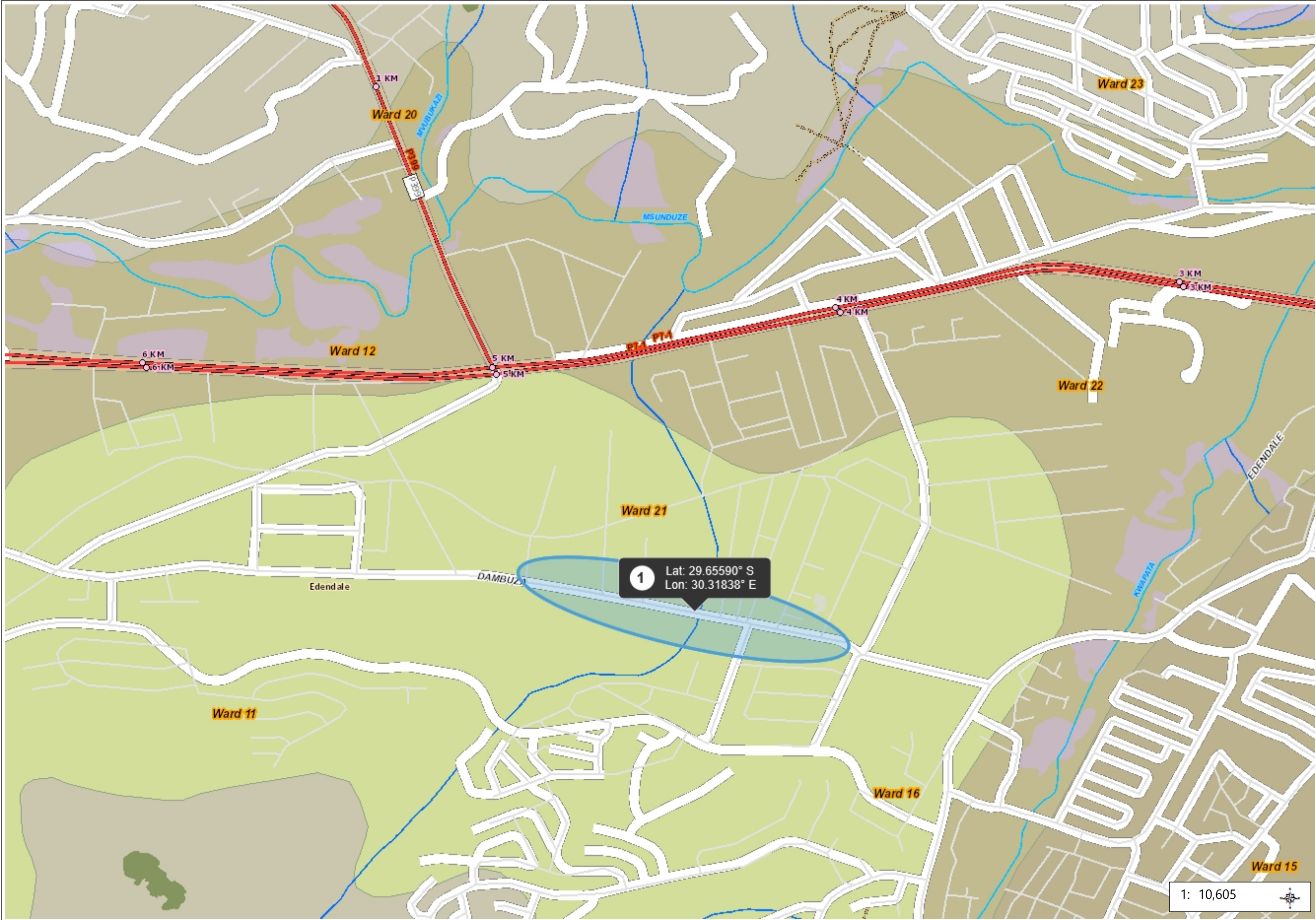
Day	Date	Time In	Signature	Time Out	Signature	Report On Any Formal Training Provided In The Reporting Month
WEEK 1						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 2						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 3						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 4						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 5						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
Total Days worked						

PART C4: SITE INFORMATION

<u>TABLE OF CONTENTS</u>	Page
C4.1 LOCALITY PLAN	C184
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C4.3 CONDITIONS ON SITE: MATERIALS INFORMATION	C186
C4.4 TRAFFIC INFORMATION	C190

C4.1 LOCALITY PLAN

Dambuza Road Locality Map



Legend

Towns

- Capital / City
- Major
- Settlement

DOT Facilities

- Area Offices
- Cost Centre Office
- DOT_General
- Driving License Test Centers
- RTI Stations
- Vehicle Testing Centers
- Weigh Bridges

KM Points

National_Road

- Blacktop
- Concrete

Main

- P, Blacktop
- P, Concrete
- P, Gravel

District

- D, Blacktop
- D, Concrete
- D, Gravel

Local

- L, Blacktop
- L, Concrete
- L, Gravel

Online_Main

Online_District

Streets_1999

OSM Roads 15K

- National Freeway
- Main Road
- Arterial Route
- Secondary Road
- Street
- Other Access
- Under Construction
- Track Footpath

Route Markers

Routes

- Major
- Minor

Rivers_Major

Rivers_Minor

Dams_Water Servitudes

Vegetation Biomes 2016 (EKZI)

- Azonal Forest
- Forest
- Grassland
- Indian Ocean Coastal Belt
- Savanna
- Wetland

Soil Description

-

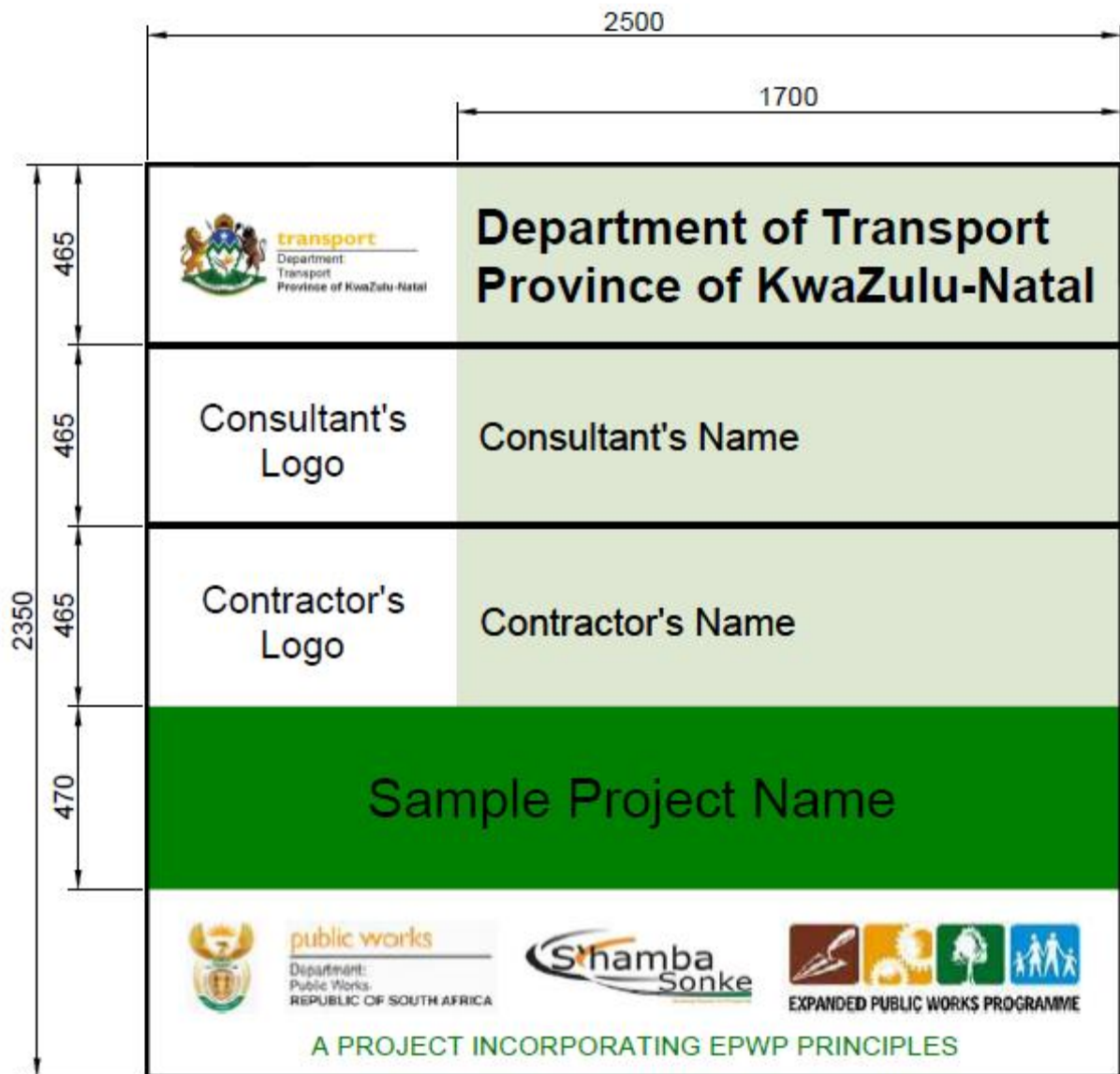
0.5 0 0.27 0.5 Kilometers

GCS_WGS_1984

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C4.2 EXAMPLE OF CONTRACT SIGNBOARD DETAILS**C4.2.1 CONTRACT SIGNBOARD FOR USE WHEN THE NYS PROGRAMME IS NOT REQUIRED:**

Note: The “S’hamba Sonke” logo, as indicated below, shall appear on the signboard for Provincial Road Maintenance Grant (PRMG) contracts only. In all other cases it shall be omitted.



C4.4 CONDITIONS ON SITE: MATERIALS INFORMATION**CONTENTS****PAGE**

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C4.4.1 DISCLAIMER

The information in this document records the results of investigations done and various tests carried out on materials encountered in the existing road. The results are given in good faith and there is no warranty that the results are entirely representative of all the materials that may be encountered, the intention being to give an indication of the materials likely to be encountered.

No responsibility for any consequence arising from variation between the actual material properties and those indicated in this document will be accepted.

The specification and contract drawings shall always overrule this part of the contract documents.

C4.4.2 GENERAL DESCRIPTION OF ROAD

The existing road is gravel surfaced with a nominal width of 8 metres. The overall length is approximately 30 km of which 7,4 km is dealt with in this document.

P700 traverses the hilly to mountainous terrain of rural KwaZulu-Natal from Ulundi in a south-easterly direction towards Empangeni. It crosses the Coal Line at km 28,75, the White Mfolozi River at km 32,5 and the Muniwana River at km 39,840. The route generally follows the alignment of the existing P700 except for a portion that will be realigned across scrub bush lands from the Muniwana River at km 39,9 to km 41,8 to provide a more direct link from Ulundi to Empangeni.

This contract commences at km 32,620 at the south-eastern abutment of the recently constructed White Mfolozi River Bridge. Most of the earthworks have already been completed to formation level from km 32,620 to km 35,000 except for the deep cutting between km 33,600 and km 34,020.

From km 35,0 to km 36,0 the route is located at the top of the watershed from where it descends to the Muniwana River at km 39,850. The average gradient between km 36,8 and km 38,1 is 7% with the steepest portion at 10% occurring between km 36,8 and km 37,3. The gradient flattens between km 38,1 and km 38,7 and then steepens to an average of 4,5% to the Muniwana River. The end point of this contract is at km 40,0 where it will tie into an existing gravel road. The earthworks will however continue to km 40,100.

C4.4.3 BORROW PIT INVESTIGATION

Five test pits were excavated in the weathered granite borrow area at km 35,0 RHS. G5 material was found in the test pits at the crest of the ridge and G8 quality material 100m downhill of the ridge.

Five test pits were excavated in the weathered dolerite borrow area located 4 kilometres south-east of km 39,0. G6 material was found in 4 of the 5 test pits excavated to approximately 2m depth. The average thickness of overburden was 350mm.

Further testing will determine the optimum cementing agent and proportions to be mixed with the natural material to produce C3 quality subbase.

The borrow pit test results are given in Appendix B.

C4.4.4 MATERIAL FOR CONSTRUCTION**C4.4.4.1 Selected subgrade and subbase layers**

Results of tests on material sampled from the cuttings for use in the construction of pavement layers are provided in Appendix A4.

Tests on tillite and sandstone materials excavated in the cuttings from km 32,760 to km 33,020 and from km 34,250 to km 34,550 have proved the material durable, in terms of the Venter test and 10% FACT test, for G9 lower selected subgrade, G7 upper selected subgrade and G6 natural subbase.

Stabilisation tests have been undertaken on tillite materials sampled from the cutting at km 32,880 and km 32,900. It was found that the use of cement rather than lime as the stabilising agent resulted in higher Unconfined Compressive Strengths and Indirect Tensile Strengths. Strengths required for C3 chemically stabilised subbase were achieved by the addition of 3% by mass of cement.

Stabilisation tests on material stockpiled at km 33,620 demonstrated that C3 strengths were achievable by the addition of 1% by mass of lime and 1% by mass of cement.

Material sampled from the cutting at km 34,360 achieved a CBR of 30% at 95% of modified AASHTO density but the CBR swell was in excess of 1% and the material was thus classified as G7. Stabilisation tests on the material demonstrated that the addition of a blend of lime and cement resulted in higher UCS and ITS strengths when compared to the strengths achieved by the addition of only cement or only lime.

It is expected that the following materials for pavement layers can be obtained from the cutting km 33,600 and km 34,020:

- 13 500 m³ intermediate material for LSSG.
- 12 800 m³ hard to intermediate material for USSG. The material may require single stage crushing and additional grid rolling.
- 11 850 m³ hard tillite proven suitable for subbase for crushing.

Alternative sources of layer work materials are the proposed borrow area on the right-hand side of the road near km 35,0 and the additional area located 4 kilometres south-east of km 39,0.

C4.4.4.2 Crushed stone base

The G2 required for the construction of the crushed stone base shall be obtained from commercial sources.

The nearest commercial sources are Lancaster Crushers near Ulundi and Lafarge at Empangeni (Bay Stone/Ninians).

Results of tests done by site laboratories on material supplied from these sources are supplied in Appendix A4.

Test results showed that the gradings of the G2 material from Lancaster Crushers and the G1 material from Lafarge were on the coarse side of the specified grading envelopes. Blending with fines is likely to be required to ensure the material conforms to the standard specifications.

C4.4.4.3 Concrete and surface seal aggregate, gabion stone and stone for erosion protection works

Crushed stone shall be obtained from commercial source. The nearest commercial sources are in Pietermaritzburg.

Results of tests done by site laboratories on material supplied from these sources are supplied in Appendix A4.

Test results showed that the grading of the 19,0mm surfacing stone sampled from Lafarge is oversize with respect to the requirements of Table 4302/8 of the COLTO Standard Specifications.

C4.4.4.4 Natural sand

No specific source of sand was identified. The Contractor will have to make his own arrangements for the procurement of suitable sand for concrete, drainage and other construction purposes from commercial sources.

C4.4.4.5 Water

No specific source of water for construction purposes is identified. The Contractor will have to make his own arrangements in this regard. Water may be available from local rivers and streams but the Contractor will have to make suitable arrangements for access as required as well as for the necessary testing to prove its suitability.

C4.5 TRAFFIC INFORMATION

**ANNEXURE A: GUIDELINES FOR CONSTRUCTION
AND MAINTENANCE PROJECTS DURING COVID-19 LOCKDOWN**

PROJECT SITE OCCUPATIONAL HEALTH AND SAFETY

GUIDELINES FOR CONSTRUCTION AND MAINTENANCE PROJECTS DURING COVID-19 LOCKDOWN

Revision 1/1 July 2020

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1 INTRODUCTION

Coronavirus Disease 2019 (COVID-19) is a respiratory disease caused by the SARS-CoV-2 virus. In order to reduce the impact of COVID-19 on businesses, workers, customers and the public, the KwaZulu-Natal Department of Transport (KZNDOT), within the parameters of the COVID-19 regulatory framework, want to ensure that all those businesses, workers, customers and public it's interacting with are in compliance to the requirements as stipulated to ensure a safe work-environment for all.

On 23 April 2020, President Cyril Ramaphosa addressed the nation and announced that the country would resume economic activity in a phased approach from 1 May 2020. The lockdown levels depicted by Figure 1 below, will be lifted in phases, level 5 the highest and level 1 being the lowest as depicted below:

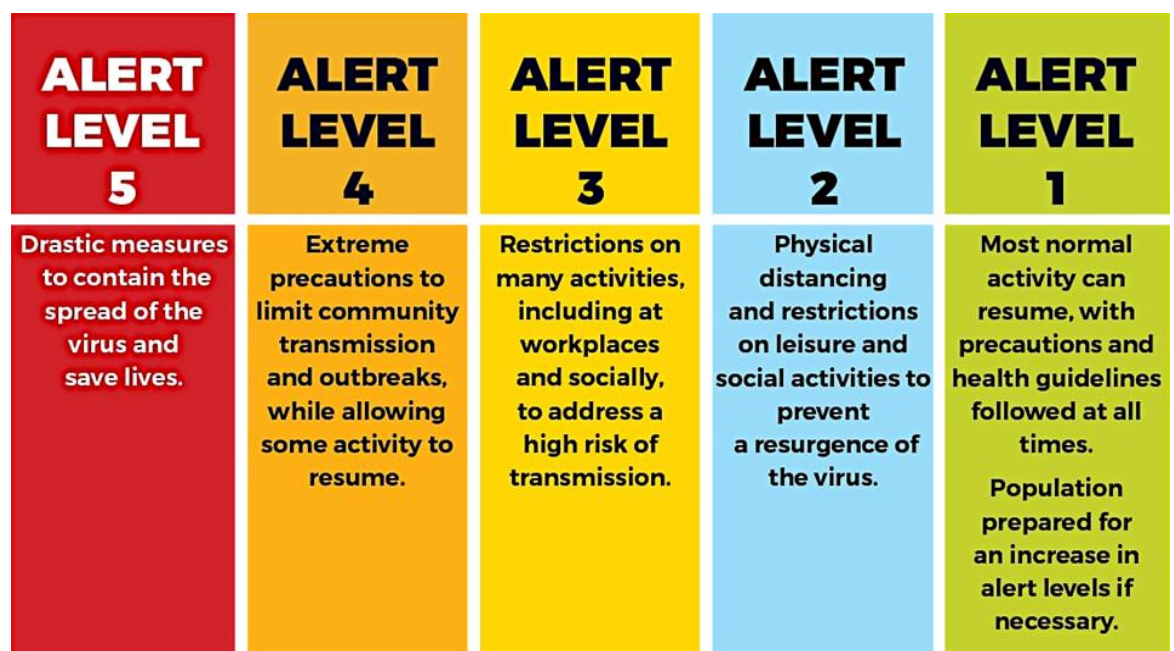


Figure 1: COVID-19 Alert Levels

1.1 BACKGROUND

Occupational Health and Safety are a fundamental segment of the construction industry. Safety must be embedded in all processes, implementing a top down approach, enabling the adoption of a safe and healthy working culture by all. Individual businesses or workplaces must have COVID-19 risk assessments and prevention and mitigation plans in place, and must conduct worker education on COVID-19 and protection measures:

- Identification and protection of vulnerable employees
- Safe transport of employees
- Screening of employees on entering the workplace
- Prevention of viral spread in the workplace
- Hand sanitisers and face masks
- Cleaning of surfaces and shared equipment
- Good ventilation
- Shift arrangements and canteen controls
- Managing sick employees

In addition to the above, monitoring systems must be in place to ensure compliance with safety protocols and to identify infections among employees.

1.2 PURPOSE

This document sets out the key principles and minimum requirements of the KZNDOT that define responsible, healthy and safe operations for road construction related operations working under COVID-19 Lockdown. The present state of the lockdown is geared toward the revival of economic activities and to allow employees involved in permitted services to resume work under certain conditions. This COVID-19 guidance has been developed on the basis of traditional infection prevention and occupational hygiene practices.

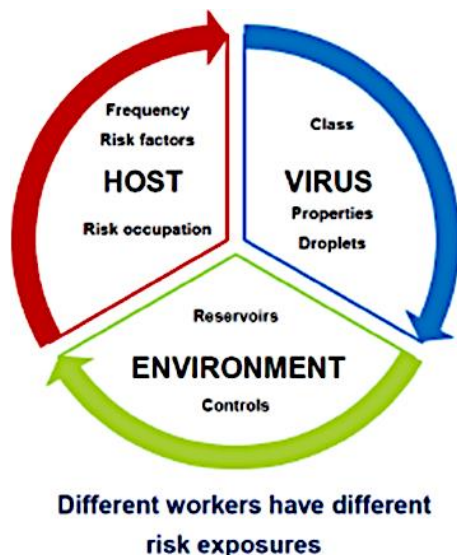
1.3 OBJECTIVES

The aims of this document are to:

- Keep workers and the wider public healthy and safe by preventing the spread of COVID-19.
- Apply relevant guidance from the Department of Health, Department of Employment and Labour and other Government Authorities to the construction environment.
- Encourage a safe and respectful work environment and good communication between all stakeholders.
- Sit alongside existing health and safety controls to ensure workers are safe on site.

Contractors and their employees should use this guidance to help identify risk levels on construction sites and to identify any appropriate control measures to be implemented. Additional guidance may be needed as the conditions of the COVID-19 outbreak change and as new information about the virus, its transmission and impact become available. It focuses on, as well as considerations for, the need for contractors to implement engineering, administrative and work practice controls and personal protective equipment (PPE).

2 RISK ASSESSMENT



The legislation governing workplaces in relation to COVID-19 is the Occupational Health and Safety Act, Act 85 of 1993, as amended, and with the Hazardous Biological Agents Regulations and the Construction Regulation 2014. Section 8(1) of the Occupational Health and Safety Act, Act 85 of 1993, as amended, requires the employer to provide and maintain a working environment that is, to the extent possible reasonably practicable, as amended. Specifically, Section 8(2)(b) requires steps that may be reasonably practicable to eliminate or mitigate any hazard or potential hazard prior to the use of personal protective equipment (PPE).

2.1 BACK TO BASICS

Risk Assessment should be done to determine the **RISK** of **EXPOSURE** and to communicate this to the **WORKERS**.

Figure 2: Risk Exposures

2.2 IMPLEMENTATION OF CONTROL MEASURES

Before the implementation of control measures, current risk assessments need to be reviewed and updated, taking into account the new hazards posed by exposure to COVID-19 in the workplace. This is in accordance with Section 8 (2) (d) of the OHS Act.

With COVID-19, it may not be possible to eliminate the hazard, the most effective protection measures are engineering controls, administrative controls, safe work practices (a type of administrative control), and Personal Protection Equipment.

Measures for protecting workers from exposure to, and infection with, SARS-CoV-2, the virus that causes Coronavirus Disease 2019 (COVID-19), depend on the type of work being performed and exposure risk, including potential for interaction with people with suspected or confirmed COVID-19 and contamination of the work environment.

Contractors should adapt infection control strategies based on a thorough hazard assessment, using appropriate combinations of engineering and administrative controls, safe work practices, and personal protective equipment (PPE) to prevent worker exposures.

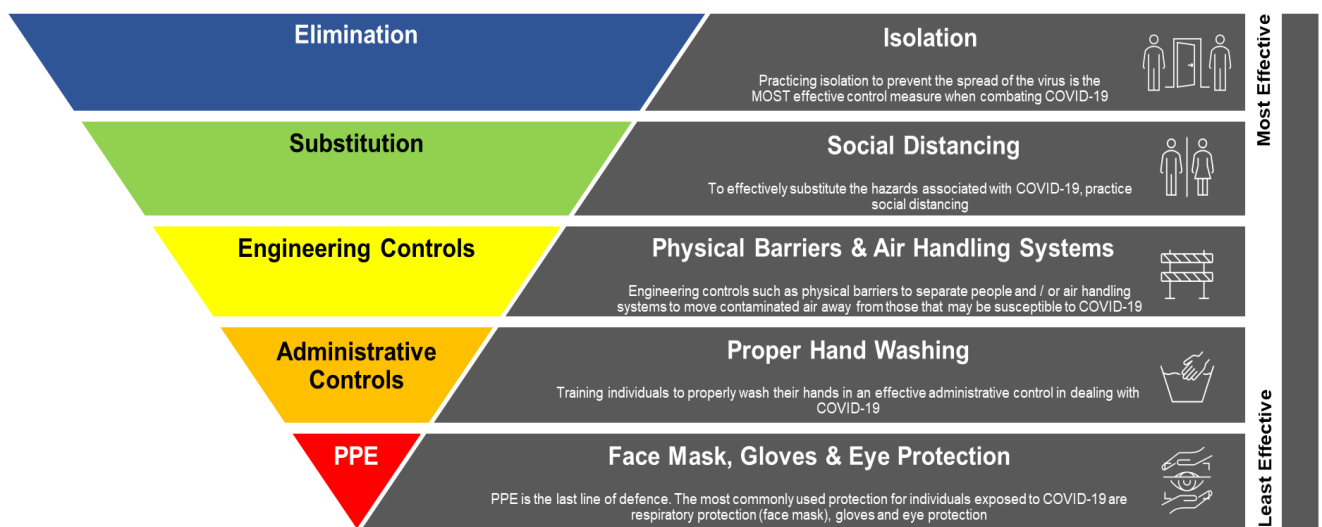


Figure 3: Infection Control Strategies

In preventing occupational exposure to COVID-19 also require Contractors to train workers on elements of infection prevention, including PPE. This would assist Contractors to identify:

- Exposure Levels
- “High Contact” Activities, and
- Vulnerable Workers and Special Measures

Contractors are expected to undertake and champion the principles of constantly focussing on eliminating or reducing the risk of COVID-19 transmission to an acceptable level, engaging meaningfully with their workforce, and making worker health a key priority. A Baseline Risk Assessment is included under Appendix D: COVID-19 Baseline Risk Assessment.

3 SITE OPERATING PROCEDURES

KZNDOT Construction sites operating during the Covid-19 pandemic need to ensure that they protect their workforce and minimise the risk of infection spread. In line with government guidelines on social distancing, this guideline is intended to implement effective steps at all KZNDOT construction sites of any size. These are extraordinary situations, and the KZNDOT intends to abide to the latest COVID-19 advice from national government.

3.1 SELF-ISOLATION

Anyone who meets one of the following criteria should not come to site:

- Has a high temperature or a new persistent cough;
- Is a vulnerable person (by virtue of their age, underlying health condition, clinical condition or pregnancy); or
- Is living with someone in self-isolation or with a vulnerable person.

3.2 IF SOMEONE FALLS ILL

If a worker develops a high temperature or a persistent cough while at work, they should:

- Return home immediately;
- Avoid touching anything; and
- Cough or sneeze into a tissue and put it in a bin, or if they do not have tissues, cough and sneeze into the crook or into the bent elbow.

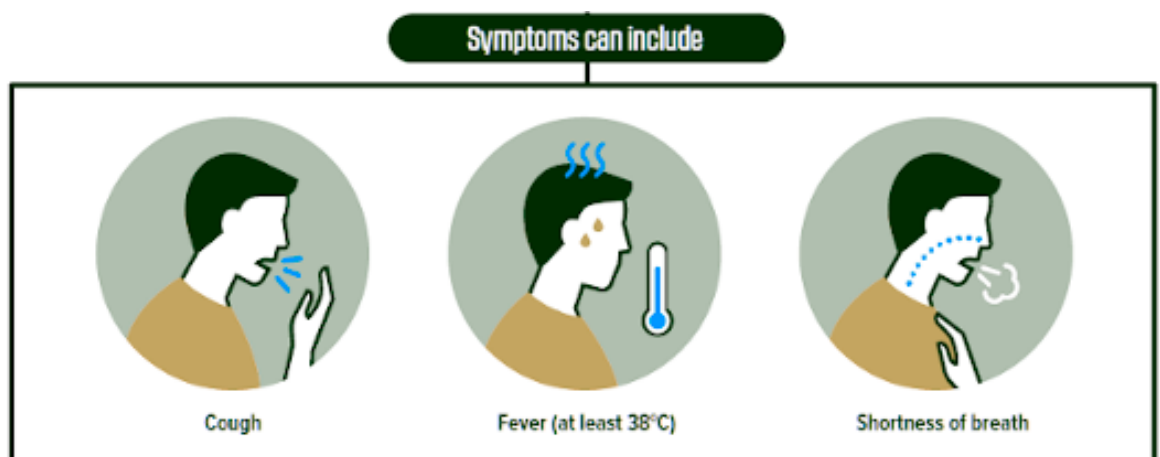


Figure 4: Symptoms of COVID-19

They must self-isolate and not return to work until their period of self-isolation has been completed and his or her negative status has been confirmed.

3.3 TRAVEL TO SITE

Wherever possible workers should travel to site alone using their own transport, and construction sites need to consider:

- Parking arrangements for additional cars, taxis, buses, etc;
- Other means of transport to avoid public transport e.g. cycling;
- They must ensure disinfecting the alternative transport before and after use; and Public Transport Regulations in respect of COVID-19 are adhered to;

- Providing hand cleaning facilities at entrances and exits. This should be soap, water and paper towels (and not fabric towels) wherever possible or hand sanitiser if water is not available; and
- How someone detected vulnerable after screening, taken ill and would get transported home.

3.4 SITE ACCESS POINTS

- Stop all non-essential visitors
- People, be it workers or visitors, without relevant face masks should not be allowed to enter construction sites; and workers should wear face masks at all times.
- Introduce staggered start and finish times to reduce congestion and contact at all times
- Monitor site access points to enable social distancing – you may need to change the number of access points, either increase to reduce congestion or decrease to enable monitoring
- Remove or disable entry systems that require skin contact e.g. fingerprint scanners
- Require all workers to wash or clean their hands before entering or leaving the site or as frequent as possible
- Allow plenty of space (two metres) between people waiting to enter site
- Regularly clean common contact surfaces in Site Office, Access Control and delivery areas e.g. scanners, turnstiles, screens, telephone handsets, desks, particularly during peak flow times
- Reduce the number of people in attendance at site inductions and consider holding them outdoors wherever possible
- Drivers should remain in their vehicles if the load will allow it and must wash or clean their hands before unloading goods and materials.

3.5 HAND WASHING

- Provide additional hand washing facilities to the usual welfare facilities on a large spread out site or significant numbers of personnel on site
- Ensure soap, fresh water and paper towels is always readily available and kept topped up
- Provide hand sanitiser where hand washing facilities are unavailable
- Regularly clean the hand washing facilities and check soap and sanitiser levels
- Provide suitable and enough rubbish bins for hand paper towels with regular removal and disposal.
- Sites will need extra supplies of soap, hand sanitiser and paper towels and these should be securely stored.

3.6 TOILET FACILITIES

- Restrict the number of people using toilet facilities at any one time e.g. use a welfare attendant
- Wash hands before and after using the facilities
- Enhance the cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush handles or buttons
- Portable toilets should be avoided wherever possible, but where in use these should be cleaned and emptied more frequently
- Provide suitable and sufficient rubbish bins for hand towels with regular removal and disposal.

3.7 CANTEENS AND EATING ARRANGEMENTS

Whilst there is a requirement for construction sites to provide a means of heating food and making hot drinks, these are exceptional circumstances and where it is not possible to introduce a means of keeping equipment clean between use, kettles, microwaves etc. must be removed from use.

The workforce should also be required to stay on site once they have entered it and not use local shops.

- Dedicated eating areas should be identified on site to reduce food waste and contamination
- Break times should always be staggered to reduce congestion and contact
- Hand cleaning facilities or hand sanitiser should be available at the entrance of any room where people eat and should be used by workers when entering and leaving the area
- The workforce should be asked to bring pre-prepared meals and refillable drinking bottles from home
- Workers should sit 2 metres apart from each other whilst eating and avoid all contact
- Where catering is provided on site, it should provide pre-prepared and wrapped food only
- Crockery, eating utensils, cups etc. should not be used
- Drinking water should be provided with enhanced cleaning measures of the tap mechanism introduced
- Tables should be cleaned between each use
- All rubbish should be put straight in the bin and not left for someone else to clear up
- All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles, vending machines and payment devices.

3.8 CHANGING FACILITIES, SHOWERS AND DRYING ROOMS

- Always introduce staggered start and finish times to reduce congestion and contact
- Introduce enhanced cleaning of all facilities throughout the day and at the end of each day
- Consider increasing the number or size of facilities available on site if possible
- Based on the size of each facility, determine how many people can use it at any one time to maintain a distance of 1 ½ metres
- Provide suitable and enough rubbish bins in these areas with regular removal and disposal.

3.9 AVOIDING CLOSE WORKING

There will be situations where it is not possible or safe for workers to distance themselves from each other by 1.5 metres.

3.10 GENERAL PRINCIPLES

- Non-essential physical work that requires close contact between workers should not be carried out
- Work requiring skin to skin contact should not be carried out
- Plan all other work to minimise contact between workers
- Re-usable PPE should be thoroughly cleaned after use and not shared between workers
- Single use PPE should be disposed of so that it cannot be reused
- Stairs should be used in preference to lifts or hoists
- Where lifts or hoists must be used:
 - Always lower their capacity to reduce congestion and contact
 - Regularly clean touchpoints, doors, buttons etc.
- Increase ventilation in enclosed spaces
- Regularly clean the inside of vehicle cabs and between use by different operators.

3.11 SITE MEETINGS

- Only absolutely necessary meeting participants should attend
- Attendees should be two metres apart from each other
- Rooms should be well ventilated / windows opened to allow fresh air circulation
- Consider holding meetings in open areas where possible.

3.12 SITE MEETINGS

Enhanced cleaning procedures should be in place across the site, particularly in communal areas and at touch points including:

- Taps and washing facilities
- Toilet flush and seats
- Door handles and push plates
- Handrails on staircases and corridors
- Lift and hoist controls
- Machinery and equipment controls
- Food preparation and eating surfaces
- Telephone equipment
- Keyboards, photocopiers and other office equipment

Rubbish collection and storage points should be increased and emptied regularly throughout and at the end of each day.

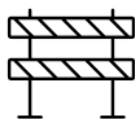
4 CONSTRUCTION PROTOCOLS

The core principle behind this “Construction Protocols” is to protect the health and safety of all workers required to perform duties during the COVID-19 crisis, including related health and safety impacts on operations related to operating under a COVID-19 environment, as well as protecting the wider KwaZulu-Natal population from transmission and spread of the virus.



Before
arriving on
Site

- Each Contractor must have a plan detailing the steps they will take to mitigate risks, including those presented by COVID-19. The details of the plan must be communicated to workers before they start work.
- Before any activity is recommenced the Contractor must ensure that all hazards have been reviewed and appropriately controlled before work activity is commenced after lockdown.
- Where possible, conduct a remote induction before arrival on site, this can be done via video conferencing or by phone.
- If an in-person induction is required, the **Physical Distancing and Hygiene Protocol** must be followed.
- All workers shall undergo a screening process to ensure they are fit for duty by confirming their health status.
- Contractors must understand how workers will travel to and from site and will communicate the **Site Transportation Protocol** to all.
- Ensure all workers understand when additional PPE may be required due to COVID-19 and that workers have access to the correct PPE as per the Department of Employment and Labour guidelines. When required to use face masks or gloves please follow these processes.



Site Entry

- Only relevant personnel to the workplace are to access the site.
- All office employees supporting a project will work remotely, where possible.
- A daily register of workers entering and leaving site must be completed along with a health declaration. Use your existing sign in register or the example Sign-in register.
- Signage reminding workers of the COVID-19 **Physical Distancing and Hygiene Protocol** will be posted at the site entrance and in common areas where appropriate.



Site
Operations

- All work is to be undertaken in such a way as to reduce any possible contact between workers and to promote physical distancing wherever possible, as per the **Physical Distancing and Hygiene Protocol**.
- All visitors to the site, such as necessary delivery workers, will be restricted to one person wherever possible. These workers must follow the **Site Transportation Protocol**.
- All offices and jobsites must implement cleaning measures as per the **Cleaning Protocol**.
- All tools, equipment, plant and vehicles must be used in alignment with the **Cleaning Protocol**.
- Toolbox talks should be held with physical distancing in place as per the **Physical Distancing and Hygiene Protocol**.
- Additional sanitary measures are to be implemented on site to prevent the spread of COVID-19 e.g. hand washing stations, provision of additional hand sanitizer, provision of disinfectant wiping products, as per the **Physical Distancing and Hygiene Protocol**.
- Smokers must follow the **Physical Distancing and Hygiene Protocol**.
- A COVID-19 Response plan must be available and accessible on site.



Leaving Site

- Workers must use the sign-in register to sign out.
- When returning home, workers will need to follow the necessary hygiene measures.
- Each site must be cleaned and sanitised at the end of the working day or end of each shift, as per the **Cleaning Protocol**.
- All waste and disposable PPE must be removed from site and securely disposed of as per the **Cleaning Protocol**.
- Workers must follow the **Site Transportation Protocol**.

4.1 PHYSICAL DISTANCING AND HYGIENE PROTOCOL

Physical distancing, also known as “social distancing”, is about keeping a safe distance from others. For physical distancing, at least one and ½ metre’s separation is required at work, and two metres in uncontrolled environments, like in public. This aligns with World Health Organisation advice. We expect one and ½ metre’s separation between people at work as the minimum and greater separation where it is reasonably practicable to do so. This is important to help protect us from COVID-19, which spreads via droplets from coughing and sneezing.

General Working Arrangements

- Keep team sizes as small as possible.
- Keep a record of who is in each team every day as it is required to assist contact tracing.
- Site teams are encouraged to put forward split/alternating shifts to avoid extensive intermingling to reduce potential of exposure.
- Work site is always to be segregated into zones (or by other methods) as much as possible to keep different teams/trades physically separated.
- Where possible, a one-way system in high-traffic areas, such as lifts, stairwells and scaffolds (Where Applicable).
- Where practical, all office employees supporting a project, work remotely.
- When using a vehicle, the **Cleaning Protocol** needs to be followed.
- When using a vehicle, limit this to one/two person per vehicle if possible.

External Interfaces	• One member of the crew nominated to receive supplies etc. • Keep the engagement with the other person as brief as possible and maintain a two-metre physical distance. • Ask for paperwork to be emailed rather than handed over as much as possible. • If unavoidable, then either wear gloves when handling the item or wash hands before and after handling said items.
Site Entry	• Limit visitors to site wherever possible. • Introduce staggered start and finish times where possible to reduce congestion and contact. • Monitor site access points to enable physical distancing – you may need to change the number of access points, increase to reduce congestion or decrease to enable monitoring. • Where entry systems that require skin contact, the Cleaning Guide must be followed. • Require all workers to wash or clean their hands before entering and leaving the site. • Allow plenty of space 1½ metres between people waiting to enter site. • Regularly clean common contact surfaces in reception, office, access control and delivery areas e.g. scanners, turnstiles, screens, telephone handsets, desks, particularly during peak flow times. • Where possible, conduct a remote induction before arrival on site, this can be done via video conferencing or by phone. If an in-person induction is required, reduce the number of people and hold them outdoors wherever possible. • Delivery drivers should remain in their vehicles if the load will allow it and must wash or clean their hands before unloading goods and materials. • Any sign in registers should be recorded by one person where possible – do not pass material around the group and minimise contact with any screens.
Site Meetings	• Only absolutely necessary meeting participants should attend. • Attendees should be two metres apart from each other • Rooms should be well ventilated / windows opened to allow fresh air circulation. • Hold meetings in open areas where possible. • Meetings are to be held through teleconferencing or videoconferencing where possible.
Avoiding Close Working	• Risk assessments and method statements must be updated to include COVID-19 control measures. • At least 1½ metre's separation is required at work. KZNDOT expect 1½ metre separation between people at work as the minimum and greater separation where it is reasonably practicable to do so. • If it is not possible or safe for workers to distance themselves by one metre for a work activity, the works should not be carried out. • Re-usable PPE should be thoroughly cleaned after use and not shared between workers. • Single use PPE should be disposed of so that it cannot be reused. • Stairs should be used in preference to lifts or hoists. • Where lifts or hoists must be used: • Lower their capacity to reduce congestion. • Regularly clean touchpoints, doors, buttons etc. • Increase ventilation in enclosed spaces

Toilet Facilities	- Physical distancing rules apply to the use of shared facilities, including toilets. - Wash hands before and after using the facilities. - Enhance the cleaning regimes for toilet facilities particularly door handles, locks, toilet flush and sanitary bins. - Provide suitable and sufficient rubbish bins for hand towels with regular removal and disposal.
Eating Measures	- If you need to leave site for any reason, follow site entry procedures on return. - Dedicated eating areas should be identified on site to reduce food waste and contamination. - Break times should be staggered to reduce congestion and contact at all times. - Hand cleaning facilities or hand sanitiser should be available at the entrance of any room where people eat and should be used by workers when entering and leaving the area. - The workforce should be asked to bring pre-prepared meals and refillable drinking bottles from home. - Workers should sit 2 metres apart from each other whilst eating and avoid all contact. - Where catering is provided on site, it should provide pre-prepared and wrapped food only. - Shared crockery, eating utensils, cups etc. should not be used. - Tables should be cleaned between each use. - All rubbish should be put straight in the bin and not left for someone else to clear up. - All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles. - Limit access and use of water fountains. - Consider numbers on site for site facilities as physical distancing may require additional space/facilities.
Changing Facilities, Showers and Drying Rooms	- Introduce staggered start and finish times to reduce congestion and contact at all times. - Introduce enhanced cleaning of all facilities throughout the day and at the end of each day. - Consider increasing the number or size of facilities available on site if possible. - Based on the size of each facility, determine how many people can use it at any one time to maintain a distance of one metre. - Provide suitable and sufficient rubbish bins in these areas with regular removal and disposal.
General Hygiene	- Each worker must sanitise their hands with hand sanitiser or soap and running water before entry onto site, use warm water if available. - Set up a specific place near the entry of the site for handwashing and/ or sanitising. - Any personal items brought to site by workers must be segregated (kept separate from other workers items). - Individual PPE for workers must be kept separate from other workers PPE and cleaned correctly as per the Cleaning Protocol. - All eating and drinking utensils to be cleaned by the user. Have paper towels accessible to dry.
Smoking	- Smokers/vapers must use designated area or do so off-site and butts are to be placed in the designated receptacle. Hands must be washed before and after smoking. - Stand so that smoke or vapor produced is not going into another person's breathing zone.

Hand Washing	• Provide additional hand washing facilities to the usual welfare facilities on large, spread out sites or significant numbers of personnel on site. • Ensure soap and fresh water is readily available and kept topped up at all times. • Provide hand sanitiser where hand washing facilities are unavailable. • Regularly clean the hand washing facilities and check soap and sanitiser levels. • Sites will need extra supplies of soap, hand sanitiser and paper towels and these should be securely stored.
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4.2 SITE TRANSPORTATION PROTOCOL

Employers are required to have an understanding of how workers will travel to and from site.

Workers travel to site		Workers are to travel to the site one person per vehicle where possible.
		Log is to be kept recording who has arrived on site, how they travelled and who they travelled with for contact tracing purposes.
		Workers must travel home in the same vehicle as they arrived in.
		Handwashing protocols to be observed before entering site.
Any travel managed by the employer should ensure that adequate steps can be achieved for this transport which includes:		Allowing for spaces between passengers.
		Hygienic washing of hands before and after the journey.
		Follow Vehicle Cleaning Procedures as per the Cleaning Protocols.
		Restricting equipment and baggage to trailers and or separate parts of the vehicle.
Deliveries to site		Deliveries to site should be delivered by one person only where possible.
		Handwashing protocols to be observed once arrived at site.
		Sign-in register must be completed for persons delivering goods to site.
		1,5 m physical distancing rules to be applied at all times.

4.3 CLEANING PROTOCOL

Construction Sites operating under Coronavirus COVID-19 Lockdown need to ensure they are protecting their workforce and minimising the risk of spread of infection.

Key Cleaning Tips

All construction sites (offices and jobsites included) should implement additional cleaning measures of common areas to help minimise the spread of COVID-19. Consider your work environment and what is frequently used and touched by workers, customers and others. The virus can be spread from person to person or by touching unclean equipment or surfaces. To stop the spread, focus efforts on cleaning areas where the virus is more likely to spread, such as the kitchen and toilet.

- Schedule regular cleaning.
- Use a suitable cleaning product.
- Use disposable cloths, if available.
- Always wear disposable gloves when cleaning. When finished, place used gloves in a rubbish bin.
- Wear disposable gloves while handling soiled items.
- Wash hands immediately after removing gloves or after handling these items.

Physical distancing should also be practiced when cleaning offices and jobsites. Refer to the **Physical Distancing and Hygiene Protocol** for more information.

Disinfecting Cleaning Aids

Cleaning aids, such as cloths or mops, must be germ-free or they'll spread germs to other surfaces. To help prevent the spread of germs:

- Use disposable cloths or paper towels when possible.
- Reusable cloths should be disinfected or washed after each use.
- Wash brushes in a dishwasher regularly or clean with detergent and warm water after each use.
- Use two buckets for mopping - one for detergent and the other for rinsing.
- Mops and buckets should be cleaned and dried after each use.

Site Cleaning

Before leaving the jobsite at the end of the working day or end of each shift, wipe down any tables/surfaces with soapy water or cleaning agents where possible. All workers must be checked out of site and record kept daily.

Common touch points may include:

- All waste and disposable PPE must be securely disposed of.
- All door handles, railings and personal workstation areas are wiped down with a disinfectant, such as disinfectant wipes. Individuals are responsible for cleaning their workstation area with disinfectant wipes.
- Clean all 'high-touch' surfaces such as desks, counters, tabletops, doorknobs, bathroom fixtures, toilets, light switches, phones, and keyboards every day with antiseptic wipes or disinfectant, including bleach solutions.

Cleaning Bathrooms, Toilets and Showers	Clean toilets with a separate set of cleaning equipment (disposable cleaning cloths, mops, etc). Clean sinks frequently if they're used regularly. If your jobsite has a shower: • Clean shower trays frequently, if used regularly. • If a shower has not been used for a while, let it run with hot water before using it. • Keep tiles and grout in good condition. • Clean shower curtains frequently. Common toilet touch points may include: • Keep the U-bend and toilet bowl clean by flushing after each use. • Limescale should be regularly removed using a descaling product. • Keep the toilet seat, handle and rim clean by using a disinfectant.
Cleaning Tools and Equipment	• Clean tools and equipment before and after each day's work with a disinfectant, concentrating on points of contact such as handles. • Wash your hands after handling tools and equipment to prevent the spread of germs. • If possible, don't share tools on-site. If sharing cannot be prevented, take precautions and follow the hand washing guide before and after each use.
Cleaning Vehicles	• Have dedicated drivers when using vehicles to avoid the spread of germs. • Don't share vehicles if possible, if you need to use a shared vehicle then wipe down the common touched areas of the vehicle after each use (steering wheel, handbrake, gear stick, dashboard, handles, etc) and wash hands before and after using the vehicle. • Wipe down the inside and common touched areas of the vehicle before and after each day. • Have one person per vehicle where possible. If you are required to have more than one person then keep as much distance between people as possible, open the windows to keep air circulating and passengers to face towards the window to reduce the spread of germs. • If you need to have multiple people in a vehicle, then where possible, split teams into groups and stay in those groups when you travel together.
Cleaning PPE	• Work clothes to be placed in washing machines and clean reusable PPE. • Read and follow directions on the labels of laundry or clothing and detergent. In general, wash and dry laundry and clothing with the warmest temperatures recommended on the label. • When handling soiled laundry wash your hands afterwards. All clothes and towels should be washed with a laundry product to prevent germs from spreading. • Don't leave laundry in the washing machine – any remaining germs can multiply rapidly.
Specialist Clean	• If a worker is unwell and removed from site, a specialist clean will be completed in the area/ areas identified where the worker was working and has accessed. These areas are to be isolated until a specialist clean has taken place. • All equipment and vehicles used must be cleaned down and disinfected, concentrating on points of contact such as handles, steering wheels etc.

4.4 SCREENING AND MONITORING PROTOCOL

Construction Sites operating under Coronavirus COVID-19 Lockdown need to ensure they are protecting their workforce and minimising the risk of spread of infection. Screening is a method to assess the possibility of employees and visitors who may have symptoms or have been infected with COVID-19. Rigid screening of employees must take place every day before they enter the workplace. This will be the most effective way to control the spread of the virus within the workplace.

Employees should be screened for COVID-19 related symptoms and report such symptoms to a designated person and / or occupational health practitioner prior to entry into the workplace or work area in order for a decision to be made as to the staff member's continued attendance at work.

During Screening	- At the start of a workday/shift and prior to ending the workday/shift, designated persons and / or occupational health practitioner must check with employees whether they have experienced sudden onset of any of the following symptoms: cough, shortness of breath or fever/chills (or $\geq 38^{\circ}\text{C}$ measured temperature if this is available at the worksite), in the past 24 hours as outlined in Daily Symptom Monitoring Tool. - If an employee reports any of the above-mentioned symptoms, they should immediately be provided with a FFP1 surgical mask and referred to the designated staff at the workplace so that arrangements can be made for COVID-19 testing at the closest testing centre. - If employee report any additional symptoms as outlined in the symptom monitoring sheet, s/he should be provided with a surgical mask and referred to the occupational health clinic, family practitioner or primary care clinic for further clinical evaluation and requirement for COVID-19 testing if indicated. - On receiving their results, the employee and/or health professional supporting the employee should notify their workplace so that the employee is managed accordingly. The workplace should proactively take steps to obtain this information to avoid any delays in reporting.
After isolation or quarantine period	- Undergo medical evaluation to confirm that they are fit to work - Wearing of surgical masks at all times while at work for a period of 21 days from the initial test - Implement social distancing measures as appropriate (in the case of health workers avoiding contact with severely immunocompromised patients) - Adherence to hand hygiene, respiratory hygiene, and cough etiquette - Continued self-monitoring for symptoms, and seek medical re-evaluation if respiratory symptoms recur or worsen

"Appendix C: COVID-19 Daily Symptom Monitoring Tool" is a monitoring Tool to track construction workers on a daily basis for two weeks.

ACRONYMS

PPE	Personal Protective Equipment
WHO	World Health Organization
NICD	National Institute of Communicable Diseases
RR	Residual Risk
OHS Act	Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)

KEY TERMS & DEFINITIONS

Contractor	Is defined as a person or company that arranges to supply materials or workers for building or for moving goods.
Extremely Vulnerable Persons	Defined as someone who is solid organ transplant recipients; people with specific cancers: people with cancer who are undergoing active chemotherapy or radical radiotherapy for lung cancer; people with cancers of the blood or bone marrow such as leukaemia, lymphoma or myeloma who are at any stage of treatment; people having immunotherapy or other continuing antibody treatments for cancer; people having other targeted cancer treatments which can affect the immune system, such as protein kinase inhibitors or PARP inhibitors; people who have had bone marrow or stem cell transplants in the last 6 months, or who are still taking immunosuppressive drugs; People with severe respiratory conditions including all cystic fibrosis, severe asthma and severe COPD; People with rare diseases and inborn errors of metabolism that significantly increase the risk of infections (such as SCID, homozygous sickle cell); People on immunosuppression therapies sufficient to significantly increase risk of infection; Women who are pregnant with significant heart disease, congenital or acquired.)
Physical Distancing	Physical distancing, also known as “social distancing”, is about keeping a safe distance from others.
Safe Work Practices	Safe work practices are types of administrative controls that include procedures for safe and proper work used to reduce the duration, frequency, or intensity of exposure to a hazard.
Screening	Screening is a way for health workers to find out if you may have COVID-19 or not. The health worker will ask you questions and scan your forehead to take your temperature.
Workplace	Workplace means any premises or place where a person performs work.

APPENDIX A: SAFE PRACTICES ON SITE

Using Face Masks on Site



Wash Hands First

Always make sure you wash your hands thoroughly before and after touching a mask.



Masks

There are many kinds of masks, depending on the task.



The Right Side

There is a metal clip at the top of the mask.



Placement

Place the metal clip across the top of your nose.



Attach the Mask

Attach the mask by pulling the elastic bands over your ears.



Stretch Down

Stretch the mask down, so that it covers your chin.



Adjust

Bend the metal clip around your nose so that it sits securely.



Taking off the Mask

Pull the elastic bands away from your ears.



Disposal

Always place the used mask in a closed rubbish bin for secure disposal.

Using Face Masks on Site



Any time you are completing a manual task

Use your usual work safety gloves



If you are cleaning any surfaces

Use disposable gloves for this and throw them in the bin when you finish cleaning



Avoid touching your face while wearing gloves



Remove your gloves and then wash your hands prior to eating, drinking or smoking/vaping



Practice good hand hygiene and good cough and sneeze etiquette while wearing gloves

APPENDIX B: SUSPECTED OR CONFIRMED CASE OF COVID-19

If the suspected or confirmed case of COVID-19 is at work



Isolate

Isolate the person from others and provide a disposable surgical mask, if available, for the person to wear.



Inform

Call (Insert No). Follow the advice of health officials.



Transport

Ensure the person has transport to their home or to a medical facility



Clean

Clean the area where the person was working and all places they have been. This may mean evacuating those areas. Use PPE when cleaning. Identify who at the workplace had close contact with the infected person in the 24 hours before that infected person started showing symptoms. Send those people home to isolate. Allow employees to raise concerns.



Identify



Clean

Clean the area where the person was working and all places they have been. This may mean evacuating those areas. Use PPE when cleaning. Review risk management controls relating to COVID-19 and review whether work may need to change. Keep employees up to date on what is happening.



Review

If the suspected or confirmed case of COVID-19 is not at work when diagnosed



Inform

Call (Insert No). Follow the advice of health officials.



Identify

Identify who at the workplace had close contact with the infected person in the 24 hours before that infected person started showing symptoms. Send those people home to isolate. Allow employees to raise concerns. Clean the area where the person was working and all places they have been. This may mean evacuating those areas. Use PPE when cleaning.



Clean



Review

Review risk management controls relating to COVID-19 and review whether work may need to change. Keep employees up to date on what is happening.

APPENDIX C: COVID-19 DAILY SYMPTOM MONITORING TOOL



COVID-19 DAILY SYMPTOM MONITORING TOOL

Details of Worker				Details of Person completing this form		Date completing form	
Identifier	Date of contact	DD/MM/YYYY	Place last contact	Surname	Name	DD/MM/YYYY	
Surname	Name			Role	Facility name		
Date of birth	DD/MM/YYYY	Age (Y)	Sex M ☐ F ☐	Email address	Telephone number		
Healthcare worker	Y ☐ N ☐	If yes, facility name					
Contact number(s)	Email						
Physical address				Next of kin details			
House number	Street	Suburb	Town	Next of Kin name and surname		Next of Kin contact number	
District	Province	Patient traced	Y ☐ N ☐				
Details of confirmed COVID-19 case (Complete only if Applicable)							
Contact type ¹	Close ☐ Casual ☐	Relationship	Name	Surname	Date of Birth	DD/MM/YYYY	

Instructions for completion: Mark "Y" if symptom present and "N" if not. If any symptoms are present collect, contact (Insert No) immediately and make immediate arrangements for the collection of a combined nasopharyngeal and oropharyngeal swab. Refer to COVID-19 Quick Guide on the NICD website for additional details. Days post exposure to case.

DAY	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Date (DD/MM)														
Measured body temp														
Chills	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
Cough	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
Sore throat	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
Shortness of breath	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
Myalgia/body pains	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N
Diarrhoea ³	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N	☐ Y ☐ N

¹ Close contact: A person having had face-to-face contact (≤ 2 metres) or was in a closed environment with a COVID-19 case; this includes, amongst others, all persons living in the same household as a COVID-19 case and, people working closely in the same environment as a case. A healthcare worker or other person providing direct care for a COVID-19 case, while not wearing recommended personal protective equipment or PPE (e.g., gowns, gloves, NIOSH-certified disposable N95 respirator, eye protection). A contact in an aircraft sitting within two seats (in any direction) of the COVID-19 case, travel companions or persons providing care, and crew members serving in the section of the aircraft where the index case was seated. Casual contact: Anyone not meeting the definition for a close contact but with possible exposure. ² Chose from: Spouse, Aunt, Child, Class mate, Colleague, Cousin, Father, Friend, Grandfather, Grandmother, Healthcare worker taking care of, Mother, Nephew, Niece, Other relative, Uncle. ³ Diarrhoea defined as three or more loose stools in a 24-hour period.

APPENDIX D: COVID-19 BASELINE RISK ASSESSMENT

					Likelihood						
					Very Unlikely	Unlikely	Possible	Likely	Very Likely		
					Severity	Negligible	1	2	3	4	5
						Minor	2	4	6	8	10
						Moderate	3	6	9	12	15
Major	4	8	12	16		20					
Extreme	5	10	15	20	25						
Hazard	L	S	Risk	Control Measures	L	S	RR	Persons at Risk			
Exposure from others due to: 1. Living with someone with a confirmed case of COVID-19. 2. Have come into close contact (within 2 metres for 15 minutes or more) with a confirmed case of COVID-19. 3. Being advised by a public health authority that contact with a diagnosed case has occurred.				- To follow government action of self-isolation and only to leave house on the following circumstances: for medical reason; to shop for necessary food supplies; for exercise once per day; and for essential works including those deemed 'key workers' - Any existing individual risk assessments (disability, young persons or new / expectant mothers) to be reviewed - Maintain contact with line management and Human Resources (HR) and to follow company policy / guidance. - Travel is only required for essential travel; reduce the amount of time using public transport and to implement social distancing where possible (2m clearance from persons and not to travel in groups of more than 2 unless it is immediate family) - To continue following ongoing government guidance - Stay at home and only attend hospital in an emergency. Do not attend GP surgery and phone (Insert No) if further advice is required - Company to ensure extremely vulnerable persons are shielding themselves and following their specific medical advice issued to them no later than 29/3/2020 - Always follow good hygiene measures - Avoid all visitors to your home unless they are providing a medical requirement - Do not approach delivery staff, allow packages to be left on the doorstep - Do not take any antibiotics as they do not work against viruses.				Individual Workers			

					Likelihood						
					Very Unlikely	Unlikely	Possible	Likely	Very Likely		
					Severity	Negligible	1	2	3	4	5
						Minor	2	4	6	8	10
						Moderate	3	6	9	12	15
Major	4	8	12	16		20					
Extreme	5	10	15	20	25						
Hazard	L	S	Risk	Control Measures	L	S	RR	Persons at Risk			
Suspected case whilst working on site				If a worker develops a high temperature or a persistent cough while at work, they should: 1. Return home immediately 2. Avoid touching anything 3. Cough or sneeze into a tissue and put it in a bin, or if they do not have tissues, cough and sneeze into the crook of their elbow. 4. They must then follow the guidance on self-isolation and not return to work until their period of self-isolation has been completed.				Individual workers			
General travel including foreign travel				1. Do not travel unless you cannot work from home or deemed a key worker – implement teleconferencing for meetings 2. Where an individual has recently visited these countries, they should self / home isolate themselves until further notice from the government (lockdown measures continue to apply) 3. Please continue to follow any further national government advice provided 4. Where an occupational health (OH) service provider has been appointed, please seek additional advice or concerns through this service 5. All persons to limit their use of public transport. Where travel is essential, please use private single occupancy where possible				Individual workers			
Access / egress to site				Where possible, please consider and implement the following practices: 1. Stop all non-essential visitors 2. Introduce staggered start and finish times to reduce congestion and contact at all times 3. Monitor site access points to enable social distancing – you may need to change the number of access points, either increase to reduce congestion or decrease to enable monitoring 4. Remove or disable entry systems that require skin contact e.g. fingerprint scanners 5. Require all workers to wash or clean their hands before entering or leaving the site				Individual workers			

					Likelihood								
					Very Unlikely					Unlikely	Possible	Likely	Very Likely
					Severity	Negligible	1	2	3	4	5		
						Minor	2	4	6	8	10		
						Moderate	3	6	9	12	15		
						Major	4	8	12	16	20		
Extreme	5	10	15	20		25							
Hazard	L	S	Risk	Control Measures	L	S	RR	Persons at Risk					
				6. Allow plenty of space (two metres) between people waiting to enter site 7. Regularly clean common contact surfaces in reception, office, access control and delivery areas e.g. scanners, turnstiles, screens, telephone handsets, desks, particularly during peak flow times 8. Reduce the number of people in attendance at site inductions and consider holding them outdoors wherever possible 9. Drivers should remain in their vehicles if the load will allow it and must wash or clean their hands before unloading goods and materials.									
Inclement weather – cold temperature allows disease to survive				1. All persons to dress appropriately for the weather 2. Welfare facilities provided to shelter from the elements 3. Maintain good hygiene measures at all times 4. Appropriate respiratory protective equipment (RPE) masks to be considered as last resort however face fit test (FFT) must be completed to ensure mask effectiveness. It is advised to speak to your H&S competent person on these matters and supplies should be reserved for medical staff as it has been documented that supplies have been difficult to procure				Individual workers					
Poor hygiene				1. Wash your hands thoroughly and regularly. Use soap and water for at least 20 seconds. Use alcohol-based hand sanitiser if soap and water is not available and hand washing technique to be adopted as directed 2. Avoid touching your face/eyes/nose/mouth with unwashed hands and cover your cough or sneeze with a tissue then throw it in the bin. 3. Provide additional hand washing facilities to the usual welfare facilities if a large spread out site or significant numbers of personnel on site 4. Regularly clean the hand washing facilities and check soap and sanitiser levels 5. Provide suitable and sufficient rubbish bins for hand towels with regular removal and disposal. 6. Sites will need extra supplies of soap, hand sanitiser and paper towels and these should be securely stored.				Individual workers					

					Likelihood						
					Very Unlikely	Unlikely	Possible	Likely	Very Likely		
					Severity	Negligible	1	2	3	4	5
						Minor	2	4	6	8	10
						Moderate	3	6	9	12	15
						Major	4	8	12	16	20
Extreme	5	10	15	20	25						
Hazard	L	S	Risk	Control Measures			L	S	RR	Persons at Risk	
				7. Restrict the number of people using toilet facilities at any one time e.g. use a welfare attendant. Wash hands before and after using the facilities. Enhance the cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush. Portable toilets should be avoided wherever possible, but where in use these should be cleaned and emptied more frequently.							
Canteen - exposure from large numbers of persons				1. The workforce should also be required to stay on site once they have entered it and not use local shops. 2. Dedicated eating areas should be identified on site to reduce food waste and contamination 3. Break times should be staggered to reduce congestion and contact at all times 4. Hand cleaning facilities or hand sanitiser should be available at the entrance of any room where people eat and should be used by workers when entering and leaving the area 5. The workforce should be asked to bring pre-prepared meals and refillable drinking bottles from home 6. Workers should sit 2 metres apart from each other whilst eating and avoid all contact 7. Where catering is provided on site, it should provide pre-prepared and wrapped food only - Payments should be taken by contactless card wherever possible and Crockery, eating utensils, cups etc. should not be used 8. Drinking water should be provided with enhanced cleaning measures of the tap mechanism introduced 9. Tables should be cleaned between each use 10. All rubbish should be put straight in the bin and not left for someone else to clear up 11. All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles, vending machines and payment devices.						Individual Workers	

					Likelihood									
					Severity		Very Unlikely	Unlikely	Possible	Likely	Very Likely			
							Negligible	1	2	3	4	5		
							Minor	2	4	6	8	10		
							Moderate	3	6	9	12	15		
							Major	4	8	12	16	20		
Extreme	5	10	15	20	25									
Hazard	L	S	Risk	Control Measures							L	S	RR	Persons at Risk
Use of Changing facilities, showers and drying rooms				1. Introduce staggered start and finish times to reduce congestion and contact at all times 2. Introduce enhanced cleaning of all facilities throughout the day and at the end of each day 3. Consider increasing the number or size of facilities available on site if possible 4. Based on the size of each facility, determine how many people can use it at any one time to maintain a distance of two metres 5. Provide suitable and sufficient rubbish bins in these areas with regular removal and disposal.										Individual workers