

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. ZNB02642/00000/00/HOD/INF/25/T : COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION

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]

***NOTE:** Part C1.1 in its entirety must form part of the electronic submission.

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:

C1.1.3: SCHEDULE OF DEVIATIONS

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 1.1 Definitions

SCC 1.1.1.14: *delete* "Commencement Date" *in the definition and substitute* "date of commencement of the Works".

Add the following to the end of Clause 1.1:

"SCC 1.1.1.35 "Construction Manager" means the person approved of in writing by the Employer's Agent, as the Contractor's representative on Site.

SCC 1.1.1.36 "Targeted Enterprise" means an enterprise as defined in PART F: Small Contractor Development of section C3.3 Particular Specifications in Part C3: Scope of Work.

SCC 1.1.1.37 "Targeted Labour" means labour as defined in PART F: Small Contractor Development of section C3.3 Particular Specifications in Part C3: Scope of Work."

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 contract participation by Targeted Enterprises in terms of PART F: Small Contractor Development 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 4.4.2 Subcontractor to be approved

Add the following to Clause 4.4.2:

“The Contractor shall comply with the subcontracting restrictions stated in the Contract Data.”

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. The performance guarantee shall specify an expire date. If the Contractor has not become entitled to receive the Certificate of Completion of the Works 30 days prior to the expire date of the performance guarantee, the Contractor shall extend the validity of the performance guarantee until he reaches the Works completion"

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.
SCC 1.1.1.14	The time for achieving Practical Completion is <u>12 months</u> from the date of commencement of the Works, including non-working days and special non-working days. This duration also includes the procurement of all contracts as part of the Indirect Targeting for Enterprise Development.
1.1.1.26	Pricing Strategy: The Contract is to be a Re-measurement Contract.
1.1.1.15	Name of Employer: Province of KwaZulu-Natal represented by Head of Department: Department of Transport
1.2.1.2	Address of Employer: <div> <div>Physical:</div> <div>Postal:</div> </div> <div> <div>172 Burger Street</div> <div>Private Bag X9043</div> </div> <div> <div>Pietermaritzburg</div> <div>Pietermaritzburg</div> </div> <div> <div>3201</div> <div>3200</div> </div> <div>E-mail: Cornelia.Mothilal@kzntransport.gov.za</div> <div> <div>Telephone No: 033 355 0619</div> <div>Fax No: 033 345 7537</div> </div>
1.1.1.16	Name of Employer's Agent: SKYV Consulting Engineers (Pty) Ltd
1.2.1.2	Address of Employer's Agent: <div> <div>Physical:</div> <div>Postal:</div> </div> <div> <div>39 Vuna Close</div> <div>P.O. Box 1596</div> </div> <div> <div>Umhlanga Ridge</div> <div>Umhlanga Rocks</div> </div> <div> <div>Durban</div> <div>Durban</div> </div> <div> <div>4319</div> <div>4320</div> </div> <div>E-mail: kamesh@skyv.co.za</div> <div> <div>Telephone No: 031 566 1707</div> <div>Fax No: 031 566 2736</div> </div>
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	<p>The contract participation goal for local labour content is <u>6%</u>.</p> <p>The penalty for failing to achieve the monetary value of the above target set by the Employer for local labour content is 5% of the monetary value by which the achieved monetary value falls short of the target monetary value.</p> <p>The contract participation goal for Targeted Enterprises is <u>30%</u>.</p> <p>The successful tenderer must subcontract a minimum of 30% of the value of the Constructions Works to Targeted Enterprises through Contract Participation Goals (CPG) for a bidder that is BEE Level 1 EME or QSE that is more than 51% owned by black person(s) in terms of the requirements of the cidb B.U.I.L.D Programme with respect to Indirect Targeting for Enterprise Development.</p> <p>The implementation of the Indirect Targeting for Enterprise Development shall be as per PART F:SMALL CONTRACTOR DEVELOPMENT of section C3.3 Particular Specifications in Part C3: Scope of Work and the Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, Published in the Government Gazette No. 36190 of 29 January 2013, issued in terms of sections 5(2) of the Construction Industry Development Board Act, 2000(Act no. 38 of 2000).</p>
SCC 4.4.2	<p>The penalty for failing to achieve the monetary value of the above target set by the Employer for contract participation by Targeted Enterprises in terms of PART F: Small Contractor Development 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.</p>
SCC 4.10.1	<p>The Contractor may not subcontract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level of contributor than the Contractor, unless the contract is subcontracted to an EME that has the capability and ability to execute the subcontract.</p> <p>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.</p> <p>The wage rates and conditions of labour employed, 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.</p> <p>The Standard for Skills Development is set at a maximum development support of 0.25/% of the project's contract value as per the cidb B.U.I.L.D Programme.</p> <p>The successful tenderer must employ Learners from TVET colleges and universities by providing them with opportunities for workplace learning through placements, thereby acquiring work experience and young professionals seeking candidacy and registration through work placements.</p> <p>The wage rates and the implementation shall be as per the Standard for Developing Skills through Infrastructure Contracts, Published in the Government Gazette No. 43495 of 3 July 2020, issued in terms of sections 5(2) of the Construction Industry Development Board Act, 2000(Act no. 38 of 2000).</p>

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
	The penalty for failing to achieve the monetary value of the above target set by the Employer for Skills Development in terms of PART G: Contract Skills Development Goals 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
5.	TIME AND RELATED MATTERS
SCC 5.3.1 and 5.3.2	<p>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.</p> <p>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:</p> <ul style="list-style-type: none"> (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); and (vi) Insurance (refer to Clause 8.6); <p>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 also be submitted:</p> <ul style="list-style-type: none"> (vii) 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)]; (viii) 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 (ix) 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)].
5.8.1	<p>The non-working days are Sundays.</p> <p>The special non-working days are:</p> <ul style="list-style-type: none"> (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	<p>The requirements for achieving Practical Completion are as stated in General Conditions of Contract 2015.</p> <p>The Contractor shall submit the following:</p>
SCC 5.14.4	<ul style="list-style-type: none"> (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

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
5.16.3	<p>complete the as-built drawings and records.</p> <p>The latent defects period is 10 years.</p>
<p>6.</p> <p>SCC 6.2.1</p> <p>6.5.1.2.3</p> <p>6.8.2</p> <p>6.8.3</p>	<p>PAYMENT AND RELATED MATTERS</p> <p>The security to be provided by the Contractor shall be:</p> <p>Fixed Performance Guarantee of 8% of the first One Million Rand plus 3,5% of the balance of the Contract Sum. If the Contractor provides the performance guarantee after the date specified in the Contract Data, the acceptance of such performance guarantee shall be to the discretion of the Employer, considering the progress of the project at the time of submission of the performance guarantee.</p> <p>The percentage allowance to cover overhead charges is 10%.</p> <p>The value of payment certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following data.</p> <p>The values of the coefficients for calculating the Contract Price Adjustment Factor are: Compiler to select coefficients and Civil Engineering Material Index according to the work category (Scope of Work) detailed in the Employer's 'Open Tender Document Checklist'.</p> <p>Road works – upgrade (Schedules A, D, F and G):</p> <p>a = 0,2 b = 0,4 c = 0,25 d = 0,15</p> <p>"L", "P", "M" and "F" are defined as follows:</p> <p>"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> <p>"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.</p> <p>"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:</p> <p>Road works (Schedules A, E and F): "Civil engineering material – roads, general (excluding bitumen)"</p> <p>"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.</p> <p>The base month is the month preceding the month of tender closure.</p> <p>Any index calculated by means of a linking factor between an old and new index, shall be rounded to one decimal place.</p> <p>Price adjustments for variations in the cost of bitumen as a special material are</p>

CLAUSE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
	<p>allowed.</p> <p>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.</p>
6.10.1.5	The percentage advance on Plant and materials not yet built into the Permanent Works is 80%.
6.10.3	<p>The percentage retention on the amounts due to the Contractor is 10%.</p> <p>The limit of retention money is 5% of the first One Million Rand plus 1,6% of the balance of the Contract Sum excluding contingencies, contract price adjustment, and VAT.</p> <p>A retention guarantee in lieu of a cash retention is permitted.</p>
8.	RISKS AND RELATED MATTERS
8.6.1.1.2	The value of Plant and materials supplied by the Employer to be included in the insurance sum is <u>nil</u> .
8.6.1.1.3	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> .
8.6.1.2	Special Risks Insurance issued by SASRIA is required.
8.6.1.3	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.	CLAIMS AND DISPUTES
10.5.2	Disputes shall be referred to ad-hoc adjudication.
10.5.3	The number of Adjudication Board members to be appointed shall be one.
10.8.1	Unresolved disputes shall be determined by court proceedings.
	DATA WITH REFERENCE TO C3.3 PARTICULAR SPECIFICATIONS
PART F	SMALL CONTRACTOR DEVELOPMENT
F2.9	<p>The target area for local labour is Jozini Local Municipality / uMkhanyakude District Municipality.</p> <p>The target area for Targeted Enterprises is Jozini Local Municipality / uMkhanyakude District Municipality.</p>

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:												
	<div> <div><u>Physical:</u></div> <div><u>Postal:</u></div> </div> <div> <div>.....</div> <div>.....</div> </div> <div> <div>.....</div> <div>.....</div> </div> <div> <div>.....</div> <div>.....</div> </div> <div> <div>.....</div> <div>.....</div> </div>												
6.	PAYMENT AND RELATED MATTERS												
6.8.3	<p>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.</p> <p>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.</p> <p>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.</p> <p>A change of supplier due to circumstances beyond the control of the Contractor may be considered, subject to the submission of supporting documentation to the Employer's Agent for valuation to calculate the difference between the rate or price of the special material entered in the table below and the equivalent rate or price actually paid by the Contractor, and for approval.</p> <table border="1"> <thead> <tr> <th>SPECIAL MATERIALS</th><th>UNIT</th><th>RATE OR PRICE FOR THE BASE MONTH</th></tr> </thead> <tbody> <tr> <td>35/50 penetration grade bitumen</td><td>ton</td><td>.....</td></tr> <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> </tbody> </table> <p>Signed on behalf of the Tenderer:</p>	SPECIAL MATERIALS	UNIT	RATE OR PRICE FOR THE BASE MONTH	35/50 penetration grade bitumen	ton	50/70 penetration grade bitumen	ton	70/100 penetration grade bitumen	ton
SPECIAL MATERIALS	UNIT	RATE OR PRICE FOR THE BASE MONTH											
35/50 penetration grade bitumen	ton											
50/70 penetration grade bitumen	ton											
70/100 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. ZNB02642/00000/00/HOD/INF/25/T : COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION

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 HEAD: TRANSPORT
PROVINCE OF KWAZULU-NATAL
PRIVATE BAG X9043
PIETERMARITZBURG
3200

CONTRACT NO. _____ FOR _____

ISSUED TO: the **PROVINCE OF KWAZULU-NATAL**, represented by **HEAD: TRANSPORT** (hereinafter referred to as "the Employer")

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

In connection with

CONTRACT NO. ZNB (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.

The contractor shall determine the contract skills participation goals, expressed in Rand, which shall not be less than the **SUB-TOTAL 1** multiplied by a percentage factor given in Table 2 in the Standard for the applicable class of construction works. For this contract, the percentage shall be 0.25%. This is indicated by the percentage factor in the Final Tender Summary section. **Minimum Contract Skills Development Goal (CSDG) sum = Civil Engineering CE (0.25%) x SUB – TOTAL 1** of the tender amounts.

2. DESCRIPTION OF ITEMS IN THE SCHEDULE

The Bill of Quantities has been drawn up generally in accordance with the relevant provisions of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

The short descriptions of the items in the Bill of Quantities are for identification purposes only and the measurement and payment clause of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020. 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 Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020. Item numbers prefixed by the letter PS 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 Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020, 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 Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

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 C1.1.3.6 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 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 initialed 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 C1.1.2 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 regarding the measurement of quantities for payment. Except where specified otherwise, 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 ENHANCED METHODS

Those parts of the Works to be constructed using labour enhanced methods are numbered with the specific COTO, Draft Standard (DS), October 2020 Specifications items in the Bill of Quantities.

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:

C1.3.1 The contractor's general obligations:

C1.3.1.1 Fixed obligations

C1.3.1.2 Value-related obligations

PSC1.3.1.3 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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TENDER SUMMARY	C55

***NOTE:** Part C2.2 in its entirety must form part of the electronic submission.

**PROVINCE OF KWAZULU-NATAL
DEPARTMENT OF TRANSPORT**

CONTRACT NO. ZNB02642/00000/00/HOD/INF/25/T: CONSTRUCTION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION

SCHEDULE A: ROADWORKS

SUMMARY OF SECTIONS

CHAPTER	DESCRIPTION	FROM PAGE	AMOUNT
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C1.3	CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS	C32	R
C1.4	FACILITIES FOR THE ENGINEER	C33	R
C1.5	ACCOMMODATION OF TRAFFIC	C35	R
C2.1	GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES	C37	R
C4.4	COMMERCIAL MATERIALS	C38	R
C5.1	ROADBED	C39	R
C5.2	FILL	C40	R
C5.3	ROAD PAVEMENT LAYERS	C41	R
C5.4	STABILIZATION	C42	R
C6.2	SEGMENTAL BLOCK PAVING LAYERS	C43	R
C8.1	PRIME COAT	C44	R
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C11.9	FINISHING THE ROAD AND ROADS RESERVE AND TREATING OLD ROADS	C46	R
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C20.1	TESTING MATERIAL AND JUDGEMENT OF WORKMANSHIP	C48	R
PSC1.2.11	MAINTENANCE OF ROAD DURING DEFECT LIABILITY PERIOD	C49	R
	TOTAL CARRIED FORWARD TO TENDER SUMMARY		R

Province of KwaZulu-Natal
Department of Transport

Contract No. ZNB02642/00000/00/HOD/INF/25/T

SCHEDULE A: ROADWORKS **SECTION 1.2**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
1.2	GENERAL REQUIREMENTS AND PAYMENTS					
C1.2.1	Environmental Management					
C1.2.1.1	Monitoring of compliance with and reporting on the EMP	Month		12		
C1.2.1.2	Dedicated environmental officer	Month		12		
C1.2.2	Programming and Reporting					
C1.2.2.3	Submission of a scheme 2 initial Programme	L/Sum		1		
C1.2.2.4	Submission of a scheme 2 Full Programme	L/Sum		1		
C1.2.2.5	Reviewing and updating scheme 2 Programme every month	Month		12		
C1.2.2.6	Preparation and submission of all project report	Month		12		
C1.2.3	Routine and maintenance of existing public roads within the site of the works or other public roads outside the site of work which are used as detour					
C1.2.3.1	Grass cutting	ha	LI	6.00		
C1.2.3.2	Drain cleaning	km		15		
C1.2.3.3	Cleaning of culverts	m ³		200		
C1.2.3.9	Grading of temporary gravel deviations and existing roads used as detours	km		15		
C1.2.3.10	Watering of temporary gravel deviations and existing roads used as detours	kl		1 600		
C1.2.3.11	Other road maintenance work ordered by the engineer	P/Sum		1	R500 000.00	R 500 000.00
C1.2.3.12	(b) Handling costs and profit in respect of subitem 1.2.3.11	%		R500 000.00		
C1.2.4	Stakeholder liaison	month		12		
C1.2.5	Safety					
C1.2.5.1	Health & safety plan	L/sum		1		
C1.2.5.2	Implementation of Health & safety plan	Month		12		
C1.2.6	Work adjacent to properties					
C1.2.6.1	Survey of adjacent properties	No		50		
C1.2.6.2	Preventive and/ or mitigation measures	P/Sum		1	R500 000.00	R500 000.00
C1.2.6.3	Handling costs and profit in respect of subitem 1.2.6.2	%		R500 000.00		
C1.2	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS **SECTION 1.2**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
	Brought forward					
C1.2.8	Dayworks					
C1.2.8.1	(a) Unskilled labourer	hr		1		
	(b) Semi-skilled labourer	hr		1		
	(c) Skilled labourer	hr		1		
	(d) Gang leader	hr		1		
	(e) Foreman	hr		1		
	(f) Skilled Artisan	hr		1		
C1.2.8.2	Construction equipment					
	(a) Motor grader (112 kW)	hr		1		
	(b) Vibratory Roller (Bomag 212 or similar)	hr		1		
	(d) Front end loader (60 Kw)	hr		1		
	(e) Tractor loader backhoe 4 x 4 (55 kW)	hr		1		
	(f) Excavator (125 kW)	hr		1		
	(g) Compressor (450 cfm with hoses and tools)	hr		1		
	(h) Other equipment					
	(i) Bulldozer (125 kW)	hr		1		
	(ii) Water pump (75 mm diameter with 50 m hose)	hr		1		
	(iii) Tipper Truck (6 m³)	hr		1		
	(iv) Concrete Mixer (250 l) Springbok	hr		1		
	(v) Pedestrian Roller (700 kg)	hr		1		
C1.2.8.3	Vehicles					
	(a) Light delivery vehicle	km		10000		
	(b) Flatbed truck (8t)	km		10000		
PSC 1.2.10	Community Participation					
	(a) Cost for community participation (PLC & CLO)	P/Sum		1	R 250 000.00	R 250 000.00
	(b) Contractor's handling cost profit and all other charges in respect of item C1.2.8.4(a)	%		R 250 000.00		
C1.2	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS						SECTION 1.3
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
1.3	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS					
C1.3.1	The Contractor's general obligations:					
C1.3.1.1	(a) Fixed obligations	L/sum		1		
C1.3.1.2	(b) Value-related obligations	L/sum		1		
C1.3.1.3	(c) Time-related obligations	month		12		
C1.3.2	Contract sign boards	m ²		12.00		
C1.3	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS **SECTION 1.4**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
1.4	FACILITIES FOR THE ENGINEER					
C1.4.1.1	Offices and conference room:	m ²		48		
C1.4.1.7	Ablution unit	No		4		
C1.4.2	Items measured by area					
C1.4.3	Items measured by numbers					
C1.4.3.1	Office swivel chairs	No.		3		
C1.4.3.2	Office chair	No.		20		
C1.4.3.5	Office desk with 3 drawers (at least one lockable drawer)	No.		6		
C1.4.3.8	Conference table (7.5m x2.0m)	No.		1		
C1.4.3.11	General purpose steel cabinet with shelves lockup	No.		2		
C1.4.3.13	220/250 volt power outlet pug point	No.		2		
C1.4.3.15	Single 1 500mm,58-watt fluorescent tube ceiling light	No.		3		
C1.4.3.17	11 watt compact fluorescent bulb ceiling light	No.		3		
C1.4.3.23	Fire extinguisher 9,0kg dry powder type	No.		1		
C1.4.3.24	Air conditioning unit	No.		2		
C1.4.3.27	Waste paper basket	No		2		
C1.4.3.28	UPS/ Voltage stabiliser (2hrs rating)	No		1		
C1.4.3.29	A3/A4 colour printer, copier, scanner	No		1		
C1.4.3.30	A4 colour printer, copier , scanner	No		1		
C1.4	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS						SECTION 1.4
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
	Brought forward					
C1.4.3.31	Rain guage	No		2		
C1.4.3.32	Maximum/minimum atmospheric temperature gauge	No		2		
C1.4.3.33	Digital thermometer/ for surface temperature measurement	No		2		
C1.4.3.35	3 m aluminium straight edge complete with aluminium measuring wedges	No		2		
C1.4.3.36	Measuring wheel	No		1		
C1.4.3.37	First aid kit	No		1		
C1.4.4.	Prime-cost items & items paid for in a lump sum:					
C1.4.4.5	The provision of internet connectivity and wifi data for Engineer's site staff	PC sum		1	R50 000.00	R50 000.00
C1.4.4.6	Handling costs & profit in respect of subitem C1.4.4.5	%		R50 000.00		
C1.4.4.7	The provision of paper and ink for combination colour printer/copier/scanner	PC Sum		1	R30 000.00	R30 000.00
C1.4.4.8	Handling costs & profit in respect of subitem C1.4.4.8	%		R30 000.00		
C1.4.4.9	The provision of complete 220/250-volt double phase electrical power installation, including all poles insulator wiring switchboards, main connection meter etc	PC sum		1	R50 000.00	R 50 000.00
C1.4.4.10	Handling costs & profit in respect of subitem C1.4.4.9	%		R 50 000.00		
C1.4.5	Services at site offices, laboratories and site accommodation					
C1.4.5.1	Fixed costs	L/Sum		1		
C1.4.5.2	Running costs	Month		12.00		
C1.4.6	Office Staff					
C1.4.6.2	Technical assistant sourced with the area	Month		12		
C1.4.8	Site security measures for the Engineer's facilities					
C1.4.8.1	Supply and installation of all required security measures at the Engineer's site offices and laboratories	L/Sum		1		
C1.4.8.2	Provision of security guards/ watchmen and an armed response service at the Engineer's site offices and laboratories	month		12		
C1.4	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS **SECTION C1.5**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM No	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C1.5	ACCOMMODATION OF TRAFFIC					
C1.5.1	Accommodation of pedestrian and non-motorised traffic	Month	LI	12		
C1.5.2	Accommodation of vehicular traffic	Month		12		
C1.5.3	Liason with Traffic Authorities	Month		12		
C1.5.4	Construction of temporary deviations	P/Sum		1	R 150 000.00	R 150 000.00
C1.5.4.1	Handling cost, profit and all other charges in respect of item C1.5.4	%		R 150 000.00		
C1.5.5	Maintenance of temporary deviations					
C1.5.5.1	Grass cutting	ha		6.00		
C1.5.5.3	Cleaning out culverts	m³		200		
C1.5.5.9	Grading of temporary deviations and existing road used as detour	km		15		
C1.5.5.10	Watering of temporary deviations and existing roads used as detours	kl		1 600		
C1.5.5.11	Other road maintenance work ordered by the engineer	P/Sum		1	R 150 000.00	R 150 000.00
C1.5.5.12	Handling cost, profit and all other charges in respect of item C1.5.5.11	%		150 000		
C1.5.7	Temporary traffic control facilities					
C1.5.7.1	Delineators including mounting bases and ballast					
	(a) Single sided reversible left or right (800mm x 200mm)	No		375		
	b) Double sided reversible left or right (800mm x 200mm)	No		375		
C1.5.7.2	Traffic cones, minimum height 750mm	No		125		
C1.5.7.3	Flagmen	man-shifts	LI	1 050		
C1.5	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION C1.5	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
	Brought forward					
C1.5.7.4	Traffic controllers	man-shifts	LI	525		
C1.5.7.5	Provision of illuminated traffic signs					
	a) Sign mounted flashing amber lights (a pair of two lights mounted on a separate back board)	No		4		
	b) Flashing LED illuminated arrow bard	No		4		
	c) Illuminated road sign – R & TR series (900mm)	No		12		
	d) Illuminated road sign – TW series (1200mm sides)	No		12		
	(e) Mobile variable message sign	No		5		
	(f) Mobile variable message sign with a speed measuring and display capability	month		12		
C1.5.7.6	Maintenance of illuminated traffic signs					
	a) Sign mounted flashing amber lights (a pair of two lights mounted on a separate back board)	Month		12		
	b) Flashing LED illuminated arrow bard	Month		12		
	c) Illuminated road sign – R & TR series (900mm)	Month		12		
	d) Illuminated road sign – TW series (1200mm sides)	Month		12		
	(e) Mobile variable message sign	Month		12		
	(f) Mobile variable message sign with a speed measuring and display capability	Month		12		
C1.5.7.7	Traffic calming devices:					
	(a) 25 mm high x 100 mm wide asphalt rumble strips	m	LI	250		
	(b) 50 mm high x 500 m wide asphalt rumble strips	m	LI	125		
	(c) 150 mm high x 3 m wide asphalt speed control humps	m	LI	125		
C1.5.7.9	Cleaning of traffic control facilities	Month		12		
C1.5.8	Traffic safety officer	Man-month		12		
C1.5.9	Traffic safety vehicle	Month		12		
C1.5.11	Provision of safety equipment for visitors					
C1.5.11.1	Provision of reflective safety vest	No		20		
C1.5.11.2	Provision of hard hats for visitors	No		20		
C1.5.12	Additional traffic accommodation facilities ordered by Engineer					
C1.5.12.1	Provision of additional traffic accommodation facilities ordered by Engineer	P/Sum		1	R 200 000.00	R 200 000.00
C1.5.12.2	Handling cost profit and all other charges in respect of item C1.5.12.1	%		R 200 000.00		
C1.5	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION 2.1	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
2.1	GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES					
C2.1.1	Location, identification and relocation of existing services					
C2.1.1.4	Permanent service relocation or protection work by contractor	PC/Sum		1	R 7 500 000.00	R 7 500 000.00
C2.1.1.5	Handling cost and profit in respect of item C2.1.1.4	%		R 7 500 000.00		
C2.1.2	Existing services detention and verification					
C2.1.2.3	Survey to verify existing service positions	PC/Sum		1	R 187 500.00	R 187 500.00
C2.1.2.4	Handling cost and profit in respect of item C2.1.2.3	%		R 187 500.00		
C2.1.2.5	Using hand excavation to locate, expose and verify	m³		500		
C2.1.3	Obtaining construction or workpermit	L/Sum		1		
C2.1.27	Demolition of existing manholes, access chambers and other service structures consists of:					
C2.1.27.1	Unreinforced concrete	m³	LI	50		
C2.1.27.2	Reinforced concrete	m³	LI	50		
C2.1.27.3	Masonry	m³	LI	50		
C2.1	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS						SECTION C4.4
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C4.4	COMMERCIAL MATERIALS					
C4.4.2	Commercial material identified by the contractor from commercial, private, or other non commercial supplier (commercial source)					
C4.4.2.1	Pavement layer material					
	(a) Type G4 Material	m ³		14 145		
	(b) Type G7 Material	m ³		11 504		
	(c) Type G9 Material	m ³		12 840		
C4.4	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS **SECTION C5.1**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C5.1	ROADBED					
C5.1.1	Roadbed construction and compaction					
C5.1.1.1	Compaction of in-situ material to 90% of Mod AASHTO	m ³		21 827		
C5.1.3	Excavate material to spoil sites designated by the Contractor					
C5.1.3.1	(a) Soft excavation	m ³	LI	42 799		
	(d) Hard excavation other than blasting	m ³		1 250		
	e) Hard excavation by blasting	m ³		1 250		
C5.1.4.	Removal of unsuitable material to spoil					
C5.1.4.2	In layer thicknesses exceeding 200mm					
	(a) Stable material	m ³	LI	600		
	(b) Unstable material	m ³	LI	600		
C5.1.5	In situ treatment of the roadbed in hard material					
C5.1.5.1	(a) In-situ treatment by ripping	m ³	LI	19 260		
	b) In-situ treatment by blasting	m ³	LI	600		
C5.1.6	Roller pass compaction					
C5.1.6.1	Grid roller	m ²	LI	12 664		
C5.1.6.3	Smooth drum vibratory rollers	m ²	LI	12 664		
C5.1	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS						SECTION C5.2
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C5.2	FILL					
C5.2.2	Fill construction					
C5.2.2.1	Normal fill material in compacted layer thickness of 200mm and less					
	a) Compacted to 90%MDD	m ³	LI	25 679		
C5.2.2.4	Rock fill material as per clause A5.2.7.6					
	Rockfill Material	m ³	LI	600		
C5.2.6	Fill material in the shoulder widening					
C5.2.6.1	Fill material in the shoulder widening compacted to 93% MDD	m ³	LI	7 323		
C5.2	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS **SECTION C5.3**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C5.3	ROAD PAVEMENT LAYERS					
C5.3.1	Compiling and implementing M&U plans for the construction of all the pavement layers	No		1		
C5.3.2	Construction of pavement layers					
C5.3.2.1	Construction of layers using conventional construction					
	(a) Lower selected subgrade layer 150mm G9 layer compacted to 93% MDD	m ³	LI	14 145		
	(i) Lower subbase gravel layer (unstabilised), 150mm G7 layer compacted to 95 % of MDD	m ³		11 504		
	(n) Gravel base layer (chemically stabilised), 200mm G4 layer compacted to 97 % of MDD (Chemically Stabilised to C3)	m ³		12 840		
C5.3	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS						SECTION C5.4
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C5.4	STABILIZATION					
C5.4.2	Chemical stabilisation					
C5.4.2.1	Chemical stabilization (200mm layer thickness subbase layer to be stabilised)	m³		14 145		
C5.4.5	Cementitious stabilizing agents for pavement layers					
C5.4.5.2	Additional of cementitious stabilization agents (NPC cement for pavement layer and spreading the agent using bags and labour enhancement methods)					
	(a) Cement (NPC CEM III/A 32.5 N)	t	LI	1 247		
C5.4.10	Provision and application of water for curing	kl		2 065		
C5.4	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS						SECTION C6.2
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C6.2	SEGMENTAL BLOCK PAVING LAYERS					
C6.2.2	Cast in-situ concrete edge and intermediate beams for bus bays (0,23m H x 0,2m W x 60m L)	m³		17		
	Footway & Passenger Waiting Area (concrete surface with 2% minimum slope), 0.075mm thickness	m³		32		
C6.2	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS						SECTION C8.1
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C8.1	PRIME COAT					
C8.1.1	Prime coat:					
C8.1.1.2	(c) MC-30 cut-back bitumen	l	LI	54 229		
C8.1.2	Aggregate for blinding					
C8.1.2.2	River sand	m ³	LI	1 356		
C8.1.3	Extra over item C8.1.1 for applying the prime coat in areas accessible only to hand held equipment	l	LI	1 425		
C8.1	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS **SECTION C10.1**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C10.1	SURFACE TREATMENT					
C10.1.3	Multiple stone seals including a cover spray, if specified using					
C10.1.3.1	20 mm and 10 mm aggregate (Grade 1 and 70/100 Penetration Grade Bitumen)	m ²		56 964		
C10.1.9	Bituminous binder variations					
C10.1.9.1	70/100 Penetration grade bitumen	l		21 445		
C10.1.9.11	Precoating fluid (Petroleum Based)	l		64 336		
C10.1.10	Aggregate variation (Grade 1)					
C10.1.10.3	10 mm aggregate	m ³		300		
C10.1.10.5	20 mm aggregate	m ³		300		
C10.1.11	Application of cover spray					
C10.1.11.3	Diluted Cationic spray-grade emulsion (30 % bitumen and dilution in % emulsion/%water)	l		56 964		
C10.1.13	Precoating of aggregate using a dedicated plant					
C10.1.13.1	Product containing low flashpoint solvent (Petroleum Based) 10mm Aggregate	l		3 000		
C10.1.13.2	Product containing no low flashpoint solvent (Petroleum Based) 20mm Aggregate	l		3 000		
C10.1.17	Aggregate for blinding					
C10.1.17.1	Natural sand	m ³		1 356		
C10.1	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS						SECTION C11.9
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C11.9	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS					
C11.9.1	Finishing the road and road reserve:					
C11.9.1.2	(a) Single carriageway road	km		8.906		
C11.9	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION C13.8	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C13.8	ANCILLARY STRUCTURAL ELEMENTS					
C13.8.5	Steel Handrailings (mentis or similar), fabricated in hot dipped galvanised mild steel to SABS 763 specification	m		420		
P.S.C	Construction of Bus Bays with Shelter as per Drawing SD 0305/C Inclusive of Roadbed, Road Layerworks, Prime, Double Seal, Kerbing, Road Marking and Handrails	No		6		
C13.8	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION C20.1	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C20.1	TESTING MATERIAL AND JUDGEMENT OF WORKMANSHIP					
C20.1.2.2	Employer's contribution to other special tests					
	(a) Test Required by Engineer	PC		1	R 350 000.00	R350 000.00
	b) Handling costs and profit in respect of item C20.1.2.2(a)	%		R 350 000.00		
C20.1	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION PCS1.2.11	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
PCS1.2.11	MAINTENANCE OF ROAD DURING DEFECT LIABILITY PERIOD					
PSC1.2.11	Maintenance of the new road during the defect liability period					
PSC1.2.11.1	(i) Grass cutting	Prov/Sum		R 100 000.00	1	R 100 000.00
PSC1.2.11.1.1	(ii) Handling cost, profit and all other charges in respect of item PSC1.2.11.1 (i)	%		R 100 000.00		
PSC1.2.11.2	(i) Drain cleaning	Prov/Sum		R 100 000.00	1	R 100 000.00
PSC1.2.11.2.1	(ii) Handling cost, profit and all other charges in respect of item PSC1.2.11.2 (i)	%		R 100 000.00		
PSC1.2.11.3	(i) Cleaning out culverts	Prov/Sum		R 100 000.00	1	R 100 000.00
PSC1.2.11.3.1	(ii) Handling costs and profit in respect of item PSC1.2.11.3 (i)	%		R 100 000.00		
PSC1.2.11.4	(i) Repair of Guardrails	Prov/Sum		R 50 000.00	1	R 50 000.00
PSC1.2.11.4.1	(ii) Handling costs and profit in respect of item PSC1.2.11.4 (i)	%		R 50 000.00		
PSC1.2.11.5	(i) Replacement of Road Studs	Prov/Sum		R 50 000.00	1	R 50 000.00
PSC1.2.11.5.1	(ii) Handling costs and profit in respect of item PSC1.2.11.5 (i)	%		R 50 000.00		
PSC1.2.11.6	(i) Road Marking	Prov/Sum		R 50 000.00	1	R 50 000.00
PSC1.2.11.6.1	(ii) Handling costs and profit in respect of item PSC1.2.11.6 (i)	%		R 50 000.00		
PSC1.2.11.7	(i) Repair of Road Signs	Prov/Sum		R 50 000.00	1	R 50 000.00
PSC1.2.11.7.1	(ii) Handling costs and profit in respect of item PSC1.2.11.7 (i)	%		R 50 000.00		
PCS1.2.11	TOTAL CARRIED FORWARD					

**PROVINCE OF KWAZULU-NATAL
DEPARTMENT OF TRANSPORT**

CONTRACT NO. ZNB02642/00000/00/HOD/INF/25/T: CONSTRUCTION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION

Province of KwaZulu-Natal
Department of Transport

Contract No. ZNB02642/00000/00/HOD/INF/25/T

SCHEDULE D: DAYWORKS

SUMMARY OF SECTIONS

COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

SECTION	DESCRIPTION	FROM PAGE	AMOUNT
C1.2.8	Dayworks	C51	
TOTAL CARRIED FORWARD TO SUMMARY (Page C46)			

SCHEDULE D: DAYWORKS **SCHEDULE D**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
C1.2.8	Dayworks					
C1.2.8	Dayworks					
C1.2.8.1	(a) Unskilled labourer	hr		300		
	(b) Semi-skilled labourer	hr		200		
	(c) Skilled labourer	hr		100		
	(d) Gang leader	hr		60		
	(e) Foreman	hr		200		
	(f) Skilled Artisan	hr		200		
C1.2.8.2	Construction equipment					
	(a) Motor grader (112 kW)	hr		100		
	(b) Vibratory Roller (Bomag 212 or similar)	hr		100		
	(d) Front end loader (60 Kw)	hr		100		
	(e) Tractor loader backhoe 4 x 4 (55 kW)	hr		50		
	(f) Excavator (125 kW)	hr		50		
	(g) Compressor (450 cfm with hoses and tools)	hr		100		
	(h) Other equipment					
	(i) Bulldozer (125 kW)	hr		50		
	(ii) Water pump (75 mm diameter with 50 m hose)	hr		100		
	(iii) Tipper Truck (6 m³)	hr		50		
	(iv) Concrete Mixer (250 l) Springbok	hr		100		
	(v) Pedestrian Roller (700 kg)	hr		100		
C1.2.8.3	Vehicles					
	(a) Light delivery vehicle	km		100		
	(b) Flatbed truck (8t)	km		50		
C1.2.8	TOTAL CARRIED FORWARD TO SUMMARY					

**PROVINCE OF KWAZULU-NATAL
DEPARTMENT OF TRANSPORT**

CONTRACT NO. ZNB02642/00000/00/HOD/INF/25/T: CONSTRUCTION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION

Province of KwaZulu-Natal
Department of Transport

Contract No. ZNB02642/00000/00/HOD/INF/25/T

SCHEDULE F: EXPANDED PUBLIC WORKS PROGRAMME

SUMMARY OF SECTIONS

COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

SECTION	DESCRIPTION	FROM PAGE	AMOUNT
F1000	CONTRACT PARTICIPATION GOALS	C53	
TOTAL CARRIED FORWARD TO SUMMARY			

SCHEDULE F: CONTRACT PARTICIPATION GOALS **SCHEDULE F**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM No	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
F1000	CONTRACT PARTICIPATION GOALS					
F10.01	Procurement of Targeted Enterprise subcontractors as described in Part F					
	(a) Contractor's charge for the management and execution of the Targeted Enterprise procurement process:	%				
	(i) Procurement process for totality of all tenders concluded for the appointment of CIDB contractor grading designation 1CE PE Targeted Enterprise subcontractors (1 x individual tenders prescribed, 100 copies of the tender doc required for each individual tender)	No.		12		
	(ii) Procurement process for the totality of all tenders concluded for the appointment of CIDB contractor grading designation 2CE PE Targeted Enterprise subcontractors (2 x individual tenders prescribed, 80 copies of the tender doc required for each individual tender)	No.		6		
	(iii) Procurement process for the totality of all tenders concluded for the appointment of CIDB contractor grading designation 3CE PE Targeted Enterprise subcontractors (3 x individual tenders prescribed, 60 copies of the tender doc required for each individual tender)	No.		4		
	(iv) Procurement process for the totality of all tenders concluded for the appointment of CIDB contractor grading designation 4CE PE Targeted Enterprise subcontractors (zero individual tenders prescribed, 50 copies of the tender doc required for each individual tender)	No.		1		
	(v) Procurement process for the totality of all tenders concluded for the appointment of CIDB contractor grading designation 5CE PE Targeted Enterprise subcontractors (zero individual tenders prescribed, 40 copies of the tender doc required for each individual tender)	No.		1		
	(vi) Procurement process for the totality of all tenders concluded for the appointment of CIDB contractor grading designation 6CE PE Targeted Enterprise subcontractors (zero individual tenders prescribed, 40 copies of the tender doc required for each individual tender)	No.		1		
F1000	TOTAL CARRIED FORWARD					

Province of KwaZulu-Natal
Department of Transport

Contract No. ZNB02642/00000/00/HOD/INF/25/T

SCHEDULE F: CONTRACT PARTICIPATION GOALS					SCHEDULE F	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY	RATE	AMOUNT
Brought forward						
F10.02	Construction Works for Targeted Enterprises				ESTIMATE	
	(a) Payments associated with the construction Works carried out by Targeted Enterprise subcontractors appointed in terms of Part F	P C Sum		1		
	(b) Handling costs and profit in respect of subitem F10.02(a) above	%				
	(c) Supply of materials and small plant to assist Targeted Enterprise subcontractors appointed in terms of Part F	P C Sum		1		
	(d) Handling costs and profit in respect of subitem F10.02(c) above	%				
	(e) Management of Targeted Enterprise subcontractors	Sum		1		
F10.03	Training of learners employed by the main contractor or by the Targeted Enterprise subcontractors:					
	(a) Generic Skills.					
	(i) Training costs	PC Sum		1	R 350 000.00	R 350 000.00
	(ii) Handling costs and profit in respect of subitem F10.03(a)(i)above.	%		R 350 000.00		
	(b) Entrepreneurial skills:					
	(i) Training costs	PC Sum		1	R 400 000.00	R 400 000.00
	(ii) Handling costs and profit in respect of subitem F10.03(b)(i)above.	%		R 400 000.00		
	(c) Construction skills:					
	(i) Training costs	PC Sum		1	R 500 000.00	R 500 000.00
	(ii) Handling costs and profit in respect of subitem F10.03(c)(i)above.	%		R 500 000.00		
	(d) Transportation and accommodation costs of selected leaners only, while receiving off-site training:					
	(i) Transportation and accommodation costs	PC Sum		1	R 125 000.00	R 125 000.00
	(ii) Handling costs and profit in respect of subitem F10.02(d)(i)above.	%		R 125 000.00		
	(e) Transportation and accommodation costs of selected learners only, while receiving off-site training:					
	(i) Transportation and accommodation costs	PC Sum		1	R 100 000.00	R 100 000.00
	(ii) Handling costs and profit in respect of subsubitem F10.03(e)(i) above	%		R 100 000.00		
F1000	TOTAL CARRIED FORWARD TO SUMMARY					

PROVINCE OF KWAZULU-NATAL
DEPARTMENT OF TRANSPORT

CONTRACT NO. ZNB02642/00000/00/HOD/INF/25/T: CONSTRUCTION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION

TENDER SUMMARY

DESCRIPTION	AMOUNT
Totals of Bill of Quantities brought forward:	
Schedule A: Roadworks (b/f from page C30)	R
Schedule D: Dayworks (b/f from page C50)	R
Schedule F: Contract Participation Goals (b/f from page C52)	R
	R
SUBTOTAL 1	R
Add: PART G: CONTRACT SKILLS DEVELOPMENT GOALS – CSDG (0.25% of SUBTOTAL 1) (= R0.00 if CSDG is not applicable)	R
SUBTOTAL 2 = (SUBTOTAL 1 + CSDG)	R
Add: Contingencies (10% of SUBTOTAL 2)	R
SUBTOTAL 3 = (SUBTOTAL 2 + CONTINGENCIES)	R
Add: Contract Price Adjustment - CPA (8% of SUBTOTAL 3)	R
SUBTOTAL 4 = (SUBTOTAL 3 + CPA)	R
Add: VAT (15% of SUBTOTAL 4)	R
TOTAL CARRIED FORWARD TO FORM OF OFFER C1.1.1	R

Signed on behalf of the Tenderer: (Signature)

Date:

Tenderer's Name: (Company Name)

PART C3: SCOPE OF WORK

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C3.1: STANDARD SPECIFICATIONS

The Standard Specifications on which this contract is based are the '**Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020**'.

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 Upgrading Programme. This Contract represents Phase 1B of the upgrading of the of District Road D1841 which accesses directly off the P435 at Ndumo and ends at the intersection of D1842 near eManyiseni. The first section of District Road D1841 from km 0.00 to km 4.50 (Phase 1A) has already been constructed. This contract represents the section of District Road D1841 that commences from km 4.50 and ends at km 10.24 together with its associated access roads that need to be constructed.

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-enhanced construction methods to the maximum extent feasible.

The Contractor shall be required to attend meetings of the local Project Liaison Committee (PLC) from time to time.

The requirements in terms of the CIDB B.U.I.L.D Programme with respect to Indirect Targeting for Enterprise Development are contained in PART F of section C3.3 Particular Specifications. The requirements in terms of the CIDB B.U.I.L.D Programme with respect to Skills Development are contained in PART G of section C3.3 Particular Specifications.

The Contractor shall be required to undertake maintenance activities of the newly constructed road for this contract during the defect liability period, as per the provisions of PSA 1.2.3.15 in the Project Specifications.

1.2 Location of the Works

District Road D1841 is located approximately 15km Northeast of Jozini Dam, in Ndumo within Jozini Local Municipality KZ No. 272. This section of the road serves as an access route to the local communities of the Mnamfu and eManyiseni.

Site co-ordinates:
(GPS coordinates 26° 54' 40.77" S and 32° 12' 46.68" E).

A locality map has been shown in Section C4.1 of the Site information page on page C217.

1.3 Overview of the Works

The project entails the upgrading of District Road D1841 from a gravel to an asphalt surface from Km 4+50 to Km 10+240. Including the relocation of services, the provision of prefabricated stormwater drainage culverts, the construction of bus bays and bus shelters, supply and fitting of guardrails, the construction of the bulk earthworks required for the horizontal and vertical alignment of the upgrading and re-alignment of the existing D1841 single carriageway to a 10,5m wide and 5.74km single carriageway road formation, the provision of surface drainage facilities, and the construction of the upgraded road layerworks and bituminous double seal surfacing including the associated ancillary works. The upgrade also consists of the constructing a 1.5 m wide sidewalk, improvement to accesses as well as the construction of 5 No. access roads with a total length of 1,5km with the adoption of the similar layerworks design.

The use of STOP/GO methods will be required where the road is constructed in half-widths. The existing road

may be used to accommodate two-way traffic along those sections of road where the realignment work takes place away from the carriageway of the existing D1841.

Continuous maintenance of the existing road by the Contractor will be required throughout the contract period in order to keep the road in a safe and serviceable condition for use by public traffic.

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) Provision of office facilities for the Engineer.
- (c) Provision of traffic accommodation facilities, including the use of half-width construction methods with STOP/GO traffic control.
- (d) Provision of survey control and setting out of the Works.
- (e) Relocation of services, including Water and Eskomservices.
- (f) Continuous maintenance of the existing road during the construction period, including patching and edge break repairs.
- (g) Cleaning up existing drains and culvert cross-drainage.
- (h) Excavation in soft and intermediate materials to provide G6 selected subgrade materials where such material classes are encountered.
- (i) Construction of mass earthworks, including rock fill construction.
- (j) Provision of G4 crushed stone base material obtained from commercial sources.
- (k) Construction of existing layerworks for the subbase layer (where applicable), stabilised base layer and shoulders for the 10,5 m wide surfaced road.
- (l) Priming to protect the base layer.
- (m) Construction of double seal surfacing.
- (n) Application of a fine slurry (medium grade) to protect the new double seal road surface over the turning areas at the access road bellmouth positions.
- (o) Construction of Access Roads.
- (p) Construction of road prism drainage, including minor drainage structures and open concrete lined drains, and construction of prefabricated pipe culvert drainage for surface drainage and for access provision where necessary.
- (q) Construction of sidewalks.
- (r) Construction of bus-bays and supply and fit bus shelters.
- (s) Construction of speed humps where necessary.
- (t) Installation of guard rails and handrails.
- (u) Construction of rumble strips.
- (v) Construction of concrete edge beams to formalise access to properties.
- (w) Construction of erosion protection measures, including stone pitching and gabion boxes and mattresses.
- (x) Grass sodding and hydroseeding to protect the cut and fill slopes where required, and to reinstate the vegetation at spoil, stockpile and borrow areas.
- (y) Installation of road signs and road markings.
- (z) Finishing and cleaning up of the road and road reserve.
- (aa) 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.
- (bb) Removal of all site establishment facilities and constructional plant on completion of the Works.
- (cc) Making good of any defects during the Defects Liability Period.

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 description 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.

The Employer requires the Contractor to establish the necessary machinery, equipment, methodology and personnel to carry out the construction of D1841, inclusive of, but not necessarily limited to the main activities mentioned in Section 1.4.

The approximate quantities of each type of work to be carried out in accordance with the contract documents are listed in the Schedule of Quantities on the following tables.

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.

1.5.1 Access to the Site

Access to the Site can be obtained from the recently constructed section of Provincial Road P435 which tees off from Provincial Road P522-2. Throughout the duration of this contract, Main Road P435 will be in use by the general public and will also be shared with other contractors engaged by the Kwazulu-Natal Department of Transport on P435 whose construction activities may affect access from time to time. The Contractor shall therefore be required to liaise on an on-going basis with these other contractors with respect to access related matters throughout the duration of the contract. The general location of the works is shown on the locality plan in Section C4.1 of this document.

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 A4.2.7.1 (f) of the COTO Standard Specifications.

1.5.4 Quantities

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

Description	Source	Approximate quantity
Bulk Earthworks (Cut)	Road Reserve	44 511 m ³
Subbase Layer – G7	Commercial	11 504 m ³
Subbase Layer – G9	Commercial	12 840 m ³
Base Layer – G4	Commercial	14 145 m ³
Double Seal	Commercial	56 964 m ³
Gravel shoulders	Commercial	7 323 m ³
Concrete for V - Drains	Commercial	50 m ³
Chemical Stabilising Agent - Portland cement	Commercial	1 247 tonnes
Prime Coat MC-30 Cut Back Bitumen	Commercial	54 229 litres

1.5.5 Material investigations

Borrow Pits have been exhausted in the area. Materials will be Commercially Sourced. Previous Geotechnical

Investigations are not available at this stage. Testing on site will be required through the contract.

1.5.6 Material sources, spoil and stockpile areas

The G9 and G7 materials for the lower and upper selected layers respectively shall be obtained from Commercial Source

The material for the stabilised base layer (G4) shall be obtained from commercial sources.

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 first 4.5km of Road D1841 has been constructed to surface standards.

D1841 is a lightly trafficked road. The bulk of the traffic is made up of the residents' personal vehicles and local public transport vehicles (mini busses) and heavy motor vehicles. There are currently no records of the traffic volume that is made up by heavy goods vehicles (HGV's) but a low volume of heavy vehicles associated with provision of services and construction of buildings can be expected.

The extent to which temporary deviations can be provided is restricted by the close proximity of the powerlines and water supply pipelines adjacent to D1841 and the environmental requirement that clearing of the indigenous bush within the road reserve must be minimized and destruction of protected tree species must be avoided.

It is therefore not intended to construct extensive lengths of temporary deviations, allowing only for a total 3 kilometres of deviations within the 5.7 kilometres of construction over the existing D1841. The contractor will therefore be required to construct the embankments and selected layers under traffic with stop/go traffic control over intermittent sections with a total length of 5,0 km. It will be advantageous to make use of some of the proposed parallel access roads as temporary deviations.

Due to the very flat topography, traffic accommodation over the compacted earthworks is likely to be a better option than the provision of temporary deviations during the construction of the fills and selected layers. Provision of temporary deviations will however facilitate the installation of the culverts. Due to the very flat topography, the provision of temporary culverts under deviations will probably not be feasible and allowance must be made for splash-through crossings of watercourses.

Where temporary deviations are not feasible, half-width construction will be required for the installation of the culverts, construction of the stabilized base and the surfacing.

A route from the borrow pit that would make use of existing tracks on the left-hand side of P435, past the airstrip, to gain access to D1841 would be preferable to avoid haulage of material along the recently constructed P435.

1.5.8 Accommodation of other contractors

In order to ensure the smooth running of all contracts, the Contractor shall be required to liaise with, cooperate with and accommodate all other contractors working on the site, particularly when such other contractors are working in the same area simultaneously.

1.5.9 Existing services

The following major services are expected to be encountered during the construction of the Works:

- Water Services Underground.
- Electrical Overhead & Underground
- Major Services affecting the Works are to be identified prior to the commencement of each project.

The known service owners are Eskom and UMkhanyakude District Municipality. The Contractor shall liaise with the various service owners in order to establish the location of their services and in order to arrange for the relocation and/or protection of their services where required in terms of this contract.

Stays for the existing electricity poles will be affected by the earthworks foot print and these are to be protected or relocated as instructed by The Engineer.

Water Services will have to be proved prior to commencement of the construction to determine the extent of relocation required on the ground (as Services Records may differ from actual locations)

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 carparks 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 road is located in a high summer rainfall region with a 30 year mean annual precipitation of 800 mm.

1.5.12 Environment

The Contractor's attention is called to clause A1.2.3.3 of Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 and to the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.

1.5.13 Labour

A Project Liaison Committee (PLC) has been established and is a vital means of communication between all parties involved with the project. The composition of the PLC 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 PLC, and this representative will be also required to attend the monthly PLC 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 PLC. The PLC has formed a Labour Committee who shall assist the Contractor with the recruitment of local labourers to ensure an equal distribution of people employed between the various Amakhosi in the area.

1.5.14 Labour-enhanced construction methods

Labour enhanced 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 enhanced 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 enhanced 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 enhanced 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 enhanced construction methods are listed under the labour enhanced item numbers as per COTO -Draft Standard(DS) October 2020 specifications 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 offloaded earthworks materials to the extent scheduled;
- Spreading of offloaded pavement layers materials to the extent scheduled;
- Spreading of stabilising agent;
- Maintenance patching of surfacing;
- Slurry seal surfacing;
- 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 Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 with respect to the care and protection of the Works.

The handing-over of the road reserve for this contract is described in clause A1.2.3 of Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020. 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 chapter 20 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 which may include and/or commercial laboratory facilities.

The Contractor shall carry out at his own cost the required process control testing as specified in terms of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

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 Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 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 (Project Specific)

Possible locations for a campsite shall be pointed out at the clarification meeting. (Project Specific Clarification meetings)

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 A1.3.3 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

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 C1.3.1.3 (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 A1.2.7 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

In addition to any other restrictions accommodated by the Contractor in compiling the construction programme, the following constraints shall be taken into account in the preparation thereof:

- (a) The whole of the Works (and the portions of the Works if completion in portions is required) shall be completed within the time period(s) stated (refer to the Contract Data in section C1.2.2).
- (b) Working days lost due to abnormal rainfall shall be treated as set out in clause A1.2.3.4 (b)
- (c) Allowance shall be made for non-working days and special non-working days (refer to the Contract Data in section C1.2.2).
- (d) Construction activities must comply with all the specified environmental requirements including clause A1.2.3.3 of Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 and the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.
- (e) Construction activities must comply with all the specified health and safety obligations including the requirements of Part D: OHSA 1993 Health and Safety Specification contained in section C3.3 Particular Specifications.
- (f) Strict control of access to and from local public roads shall be required when construction vehicles, plant or equipment leave or enter the site.
- (g) Throughout the contract period traffic must be accommodated through the site and all other contractors engaged on the construction of identified roads must be accommodated.

- (h) The Contractor's programme of work shall take due cognisance of risks by limiting the duration of the exposure of the various construction elements to natural phenomena.

PRELIMINARY CONSTRUCTION PROGRAMME

ACTIVITY	1	2	3	4	5	6	7	8	9	10	11	12
Site Establishment												
Relocation of Services												
Traffic Accommodation												
Clear and Grub												
Earthworks												
Drainage												
Selected Subgrade (Lower)												
Selected Subgrade (Upper)												
Cemented Subbase												
Surfacing												
Ancillary Items												
Finishing Road Reserve												
Road Marking												
Installation of road signs												
Snag list												
De-Establishment												

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.

DESCRIPTION	DRAWING NO.
Key Plan, Locality Plan and Index to Drawings (Sheet 1 of 1)	C39244
Design and Drainage Plan km4,040 - km5,180 (Sheet 5 of 10)	C39249
Design and Drainage Plan km5,100 - km6,260 (Sheet 6 of 10)	C39250
Design and Drainage Plan km6,160 - km7,300 (Sheet 7 of 10)	C39251
Design and Drainage Plan km7,200 - km8,380 (Sheet 8 of 10)	C39252
Design and Drainage Plan km8,280 - km9,500 (Sheet 9 of 10)	C39253
Design and Drainage Plan km9,400 - km10,100 (Sheet 10 of 10)	C39254
Longitudinal Section km4,000 - km6,000 (Sheet 4 of 7)	C39257
Longitudinal Section km6,000 - km8,000 (Sheet 5 of 7)	C39258
Longitudinal Section km8,000 - km10,000 (Sheet 6 of 7)	C39259
Longitudinal Section km10,000 - km10,100 (Sheet 7 of 7)	C39260
Access Road Longitudinal Section km0,118 - km3,086 (Sheet 1 of 4)	C39261
Access Road Longitudinal Section km3,999 - km5,176 (Sheet 2 of 4)	C39262
Access Road Longitudinal Section km5,818 - km7,607 (Sheet 3 of 4)	C39263
Access Road Longitudinal Section km8,371 - km9,825 (Sheet 4 of 4)	C40312
Cross Sections km3,800 - km4,740 (Sheet 6 of 12)	C39269
Cross Sections km4,760 - km5,700 (Sheet 7 of 12)	C39270
Cross Sections km5,720 - km6,660 (Sheet 8 of 12)	C39271
Cross Sections km6,680 - km7,620 (Sheet 9 of 12)	C39272
Cross Sections km7,640 - km8,580 (Sheet 10 of 12)	C39273
Cross Sections km8,600 - km9,540 (Sheet 11 of 12)	C39274
Cross Sections km9,560 - km10,100 (Sheet 12 of 12)	C40313
Box Culverts Cross Sections km4,205 - km9,755 (Sheet 2 of 2)	C39276
Access Road Box Culvert Cross Sections km0,075 - km9,825 (Sheet 1 of 1)	C39277
Quantity Diagram km4,500 - km9,000 (Sheet 2 of 3)	C39279
Quantity Diagram km9,000 - km10,100 (Sheet 3 of 3)	C39280
Road Signage Plan km4,040 - km5,180 (Sheet 5 of 10)	C42413
Road Signage Plan km5,100 - km6,260 (Sheet 6 of 10)	C42414

Road Signage Plan km6,160 - km7,300 (Sheet 7 of 10)	C42415
Road Signage Plan km7,200 - km8,380 (Sheet 8 of 10)	C42416
Road Signage Plan km8,280 - km9,500 (Sheet 9 of 10)	C42417
Road Signage Plan km9,400 - km10,100 (Sheet 10 of 10)	C42418
Relocation Of Services Plan km4,040 - km5,180 (Sheet 5 of 10)	C39285
Relocation Of Services Plan km5,100 - km6,260 (Sheet 6 of 10)	C39286
Relocation Of Services Plan km6,160 - km7,300 (Sheet 7 of 10)	C39287
Relocation Of Services Plan km7,200 - km8,380 (Sheet 8 of 10)	C39288
Relocation Of Services Plan km8,280 - km9,500 (Sheet 9 of 10)	C39289
Relocation Of Services Plan km9,400 - km10,100 (Sheet 10 of 10)	C39290
Standard Details	KZN DoT Standard Details (June 2008)
Setting Out Details: Type B1 and B3 Access	SD 0303/C
Concrete Pipe Culvert Bedding	SD 0401/B
Pipe Culvert Headwall (Masonry)	SD 0406
Precast Concrete Portal Culvert Headwalls (Masonry)	SD 0407
Drainage in Cuttings, Side Drain	SD 0601/C
Gabion Retaining Walls	SD 0901/A
Erection of Metal Signs on Creosoted Poles	SD 1301/A
Positioning of Signs	SD 1302/A
Signposting for Detours and Lane Closures	SD 1303/B
Signposting at Roadworks	SD 1304/A

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 South African Road Authorities (COTO), Draft Standard (DS), October 2020', 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 South African Road Authorities (COTO), Draft Standard (DS), October 2020 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: OHSA 1993 Health and Safety Specification
Part F: Small Contractor Development

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 A1.2.7.1 (Scheme 1) 'Programme of Work' of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 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 A1.2.8 'Workmanship and Quality Control' of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 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 A1.2.3.10 'Notices, Signs and Advertisements' of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020, 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 A1.2.7.3 and Chapter 2 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.
4.17.3	Services that are known to exist on the site are described in clause A1.2.7.3 and Chapter 2 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.
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 D 'OHS 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 A1.2.3.16 'Monthly Site Meetings' of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020. 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 A1.2.3.21 'Water' and A1.4.7.3 'Services' of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

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 A1.2.3.4 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020. 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

There are no requirements for the Contractor to verify compliance with any legislation.

5.11 Submission of reports

The contractor shall submit monthly reports in accordance with the specifications in Part F: 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 Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020, 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 'PS' with a number corresponding to the relevant clause or item number in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

New clauses and payment items not covered by clauses or items in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 have been included here and have also been designated with the prefix 'PS'. Such clauses and items have been given a new number following upon the last number used in the particular chapter referred to in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

CHAPTER 1.2 GENERAL REQUIREMENTS AND PROVISIONS

PART A: SPECIFICATION

PSA1.2.3.4 EXTENSION OF TIME FOR DELAYS BY RAINFALL

Add the following to the end of A1.2.3.4(b) Method 2 (Critical path method with consequential delays):

The value of "n" working days expected delay caused by normal rainy weather as referred to in Method (ii) shall be as given in the table below for each respective calendar month of any year:

Month	Expected delay of "n" working days due to normal rainy weather	Month	Expected delay of "n" working days due to normal rainy weather
January***	5	July	1
February	4	August	1
March	4	September	2
April	3	October	3
May	2	November	4
June	1	December***	5

*** Includes the whole month of December / January.

PSA1.2.3.11 ORDERING OF DAYWORKS

Replace Clause A1.2.3.11 with the following:

PSA1.2.3.11 DAYWORKS

a. Scope

Rates for daywork shall be entered in the under item C1.2.8.1 in accordance with the following specifications.

b. 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.

c. 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.

d. 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 C1.2.8 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.

e. Construction Equipment

Where daywork is ordered, the tendered rates for construction equipment in C1.2.8 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.

f. 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.

g. 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.

The payment items under C1.2.8 in the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020 will be applicable.

PSA1.2.3.15 Routine maintenance

Add the following to Clause 1.2.3.15:

Where the Contractor has been appointed by the Employer as part of the contract to carry out routine maintenance activities over the newly constructed section of the road during the defects liability period, the Contractor shall be required to identify all the maintenance activities required timely and shall submit this to the Employer for approval in writing before undertaking the work. This routine maintenance responsibility shall include only the maintenance of the newly constructed road, and shall include maintenance of road furniture, fixtures and the like and shall typically comprise of grass cutting, the clearing and maintenance of drainage systems, repair of guardrails, repair of signs, replacement of road studs and road marking.

This routine maintenance shall exclude any repairs of defects in the works. Repairs of defects in the works shall remain the responsibility of the Contractor as per the contractual obligations.

Add the following new payment item.

PSC1.2 MEASUREMENT AND PAYMENT

Item	Description	Unit
PSC1.2.11	Maintenance of the new road during the defect liability period:	
PSC1.2.11.1	(i) Grass cutting	Prov sum
	(ii) Handling costs and profit in respect of item PSC1.2.11.1(i)	%
PSC1.2.11.2	(i) Drain cleaning	Prov sum
	(ii) Handling costs and profit in respect of item PSC1.2.11.2(i)	%
PSC1.2.11.3	(i) Cleaning out culverts	Prov sum
	(ii) Handling costs and profit in respect of item PSC1.2.11.2(i)	%
PSC1.2.11.4	(i) Repair of Guardrails	Prov sum
	(ii) Handling costs and profit in respect of item PSC1.2.11.2(i)	%
PSC1.2.11.5	(i) Replacement of Road Studs	Prov sum
	(ii) Handling costs and profit in respect of item PSC1.2.11.2(i)	%
PSC1.2.11.6	(i) Road Marking	Prov sum
	(ii) Handling costs and profit in respect of item PSC1.2.11.2(i)	%
PSC1.2.11.7	(i) Repair of Road Signs	Prov sum
	(ii) Handling costs and profit in respect of item PSC1.2.11.2(i)	%

Payment will only be made under items PSC1.2.11.1 to PSC1.2.11.7 when the relevant item of routine maintenance work has been submitted by the Contractor to the Employer for approval and the Employer has confirmed in writing the scope, quantity and/or frequency of work that is to be carried out.

The provisional sum allowed under item PSC1.2.11.1 shall provide for grass cutting. The contract rate shall include full compensation for tools, transport and labour required for cutting and removing

grass in restricted and steep access areas with hand tools in addition to mowing and removing grass in more accessible areas.

The provisional sum allowed under item PSC1.2.11.2 shall provide for drain cleaning. The rate shall be based on the kilometre of side or median drain cleaned. Each drain shall be measured separately. The contract rate shall include full compensation for the removal of all silt, mud, gravel, rocks and any other obstructions in the drain as well as for loading and hauling the removed material to spoil regardless of the haul distance.

The provisional sum allowed under item PSC1.2.11.3 shall provide for cleaning of culverts. The contract rate shall include full compensation for the removal of all silt, mud, gravel, rocks and any other obstructions from inside the culvert or from the culvert entrance and exit as well as for loading and hauling the removed material to spoil regardless of the haul distance.

The provisional sum allowed under item PSC1.2.11.4 shall provide for the repair of guardrails. The contract rate shall include maintenance and repairs to any part of the guardrail including the timber posts, end wings, bullnoses, end treatments, bridge adapters and reflectors. The tendered rates shall include full compensation for furnishing all materials and labour for erecting and galvanizing the guardrails, complete with posts, spacer blocks, bolts, nuts, washers and reinforcing plates, and excavating holes in all classes of material, concrete, backfilling and removing any surplus material. It shall also include full compensation for incidentals in respect of supplying and erecting guardrails, end treatments, and turned down sections. The rate shall also include reflective plates to guardrails and drilling and blasting of holes

The provisional sum allowed under item PSC1.2.11.5 shall provide for the replacement of road studs. The rate shall include full compensation for establishing specialist teams and equipment, and for procuring and furnishing all the necessary material, labour and equipment, and for fixing and maintenance as specified. The road studs to be installed shall match that of the specifications in under payment item C11.7.7.

The provisional sum allowed under item PSC1.2.11.6 shall provide for the reapplication of road marking.

The unit of measurement for applying the roadmarking material for the lettering, symbols, transverse lines, islands and arrestor bed markings shall be the square metre, and the quantity to be paid for shall be the actual surface area of the lettering, symbols, transverse lines, islands and arrestor bed markings, completed in accordance with the specifications and on instructions of the Engineer.

The rate for applying the road marking material shall include full compensation for establishing specialist teams and equipment, and for procuring and furnishing all material, including the retro-reflective beads and all necessary equipment, and for applying, protecting and maintenance as specified, including the setting out of lettering, symbols, transverse lines, islands and arrestor bed markings.

The provisional sum allowed under item PSC1.2.11.7 shall provide for the reinstatement or replacement of regulatory or warning road signs. The rate for item PSC1.2.11.7 shall include full compensation for procuring and furnishing all the materials, and for manufacturing and supplying the completed road signboard, including amongst others the supporting framework, reinforcement, cross bracing, struts, fixing brackets, angle-irons, channel profiles, galvanizing (if specified), painting, retro-reflective or semi-matt black lettering, symbols, numbers, arrows, emblems and borders, for attaching the road signboard to a road sign support structure and for all materials, equipment, labour, supervision, nuts, bolts, transport, handling, etc necessary for the manufacture, completion, delivery, installation of the road sign board complete as specified, the removal and disposal of all vegetation obstructing the motorists' view of the new or replaced sign board, and shall include payment for road sign supports.

All the provisional sum under items PSC1.2.11.1 TO PSC1.2.11.7 shall be in accordance with the General Conditions of Contract applicable to Provisional Sums.

The Handling Costs and Profits tendered percentage under subitem PSC1.2.11.1 to PSC 1.2.11.7 (ii)

is a percentage of the total amount of expenditure approved by the Employer's Agent under the provisional sum subitems PSC1.2.11.1(i) to PSC 1.2.11.7 (i) and shall include full compensation for attendance by the Contractor, for the handling costs of the Contractor, and for the profit in connection with payments made by the Contractor with respect to the provision of each maintenance activity as indicated in the schedule.

PSA1.2.3.18 Stakeholder liaison

Add the following to Clause A1.2.3.18:

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.

A new pay item is included in Chapter 1.2 of the schedule of quantities relating to the payment of the PLC on a provisional sum basis. Payment under this item shall be made only for the period for which the duties of the PLC are required, and not necessarily for the full duration of the contract.

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 labourers 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 Chapter 1.2 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.

Add the following new Clause A1.2.3.24:

PSA1.2.3.24 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 Employer's Agent 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 Employer's Agent against any claims, damages and / or costs that may arise in this regard.

Add the following new payment item.

PSC1.2 MEASUREMENT AND PAYMENT

Item	Unit
PSC1.2.10 Community Participation	
(a) Cost for community Participation (PLC and CLO).....	Prime Cost Sum
(b) Handling costs and profit in respect of sub-item PSC1.2.10(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 Employer's Agent under sub-item PSC1.2.10(a), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the provision of a Community Liaison Officer."

C1.3 CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS

PART C: MEASUREMENT AND PAYMENT

PSC1.3.1.3 Time-related obligations

Add the following at the end of clause C1.3.1, Under Item C1.3.1.3

"The amount payable to the contractor for time-related general obligations arising from extensions of time granted in accordance with Clause 5.12.1 and Clause 5.12.2 of the GCC 2015, shall be calculated as follows:

- (i) The Contractor shall apply for the 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 number of days extension of time calculated in accordance with Clause 5.1 of the GCC 2015, finally granted shall then be added to the due completion date of the contract by the Engineer, commencing on the first working day after the day of the original due completion date. Non-working days and special non-working days as defined in the contract data shall not be counted as working days in calculating the extended completion date.
- (iii) The number of calendar days extension of time granted from the original completion date to the extended completion date as calculated in (ii) above shall then be calculated, commencing on the first calendar day after the day of the original completion date.

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

$$\begin{aligned} &\text{No. of months extension of time granted} \\ &= [(\text{No. of calendar days extension of time granted} / 365)] \times 12 \end{aligned}$$

- (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 general obligations under item PSC1.3.1.3 and in accordance with Clause 5.12.3 of the GCC 2015 as a result of the extensions 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 C1.3, C1.4 and C1.5 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 extended period. Where such items were provided for a portion of the extended 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 completion date divided by the number of calendar days as calculated in (iii) above for the extension of time granted."

CHAPTER 11.3 GUIDE BLOCKS AND KILOMETRE MARKER

Add the following new payment item.

PSC11.3 MEASUREMENT AND PAYMENT

Item	Unit
PSC11.3.4 Repainting of Kilometre Post	Number (No)

The unit of measurement shall be the number of Kilometre posts painted.

The tendered rate shall include full compensation for all labour and material and painting, as may be necessary for completing the work in accordance with the details shown on the drawings (SD1003/B).

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	C85
PART D: OHSA 1993 HEALTH AND SAFETY SPECIFICATION	C91
PART F: SMALL CONTRACTOR DEVELOPMENT	C124
PART G: CONTRACT SKILLS DEVELOPMENT GOAL.....	C163

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, and
- 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 C1.2.1 of the Bill of Quantities for the contractor's general obligations, risks and liabilities in accordance with the environmental management specification.

C3.3 PARTICULAR SPECIFICATIONS

PART D: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

PART D: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

D1. 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.

D2. DEFINITIONS

For the purpose of this contract the following shall apply:

D2.1 **"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.

D2.2 **"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.

D2.3 **"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.

D2.4 **"Employer's Agent"** where used in this specification, means the Employer's Agent as defined in the General Conditions of Contract 2015.

D3. EMPLOYER'S BASELINE RISK ASSESSMENT

D3.1 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.

D3.2 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).

RISK ASSESSMENT MATRIX

RISK LEVEL (R) Likelihood (L) x Severity (S)		SEVERITY OF HAZARD (S)				
		Negligible 1	Slight 2	Moderate 3	High 4	Very high 5
LIKELIHOOD OF OCCURRENCE OF HAZARD (L)	Very unlikely 1	LOW 1	LOW 2	LOW 3	LOW 4	MEDIUM 5
	Unlikely 2	LOW 2	LOW 4	LOW 6	MEDIUM 8	MEDIUM 10
	Possible 3	LOW 3	LOW 6	MEDIUM 9	MEDIUM 12	HIGH 15
	Likely 4	LOW 4	MEDIUM 8	MEDIUM 12	HIGH 16	HIGH 20
	Very likely 5	MEDIUM 5	MEDIUM 10	HIGH 15	HIGH 20	HIGH 25

The Risk Assessment Matrix above provides guidance in determining the risk level, based on the product of the likelihood and severity of the hazard associated with the task.

For example:

Unlikely x slight	= 2 x 2	= 4	= LOW
Possible x moderate	= 3 x 3	= 9	= MEDIUM
Likely x high	= 4 x 4	= 16	= HIGH

RISK LEVEL – ACTION REQUIRED

LOW	<p>The task may proceed without any further action being required other than basic induction and, where necessary, specific training.</p> <p>The task should be reviewed, however, in order to establish whether the risk level can be further reduced.</p>
MEDIUM	<p>The task may proceed only after appropriate consultation with specialist personnel and the safety team.</p> <p>Where possible, the task should be further refined and/or further control measures should be implemented in order to reduce the risk level prior to the task commencing.</p>
HIGH	<p>The task must not proceed.</p> <p>The task must be further refined and/or further control measures must be implemented in order to reduce the risk. Such further refinements and control measures must be re-assessed for adequacy prior to the task commencing.</p>

RISK EVALUATION

Likelihood of occurrence (L): How often is the hazard likely to occur?

Consider the task frequency, duration and hours of work, the method of work, the training and competence of the employees involved, and the number of employees involved.

Severity of hazard (S): How serious would the effects of the hazard be should it occur?

Consider the physical, chemical, biological and ergonomic effects on persons should the hazard occur.

Risk level (R): The risk level associated with the task is the numerical value obtained by calculating the product of the Likelihood and severity of the hazard associated with the task: $\text{Risk level (R)} = \text{Likelihood (L)} \times \text{Severity (S)}$

Residual risk: This is the risk level of the portion of the risk that still remains after risk mitigation actions have been implemented.

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 - Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
RISK CLUSTER	RISK No.	ACTIVITY	HAZARD / RISK	L	S	R	MITIGATION ACTIONS	TIME LINE	L	S	R
Site establishment	1	Establishment on site of facilities for both the Contractor and the Engineer, operation and maintenance of the facilities during the contract period, and removal of the facilities on completion - adherence to regulations	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Adhere to all promulgated regulations, including but not limited to the General Safety Regulations, Environmental Regulations for Workplaces, Electrical Installation Regulations, Electrical Machinery Regulations, Facilities Regulations, National Building Regulations, General Machinery Regulations and Driven Machinery Regulations. Use only appropriately qualified competent personnel for the installation, commissioning, maintenance and removal of all electrical, LP gas, water and sewerage services, for the erection of structures and for the mechanical and electrical maintenance of plant, machinery and power tools on site.	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 - Contract No. ZNB02642/00000/00/HOD/INF/25/T)												
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK			
Site establishment	2	Establishment on site of facilities for both the Contractor and the Engineer, operation and maintenance of the facilities during the contract period, and removal of the facilities on completion - construction activities	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Implement a fall protection plan, and implement procedures to be followed with respect to ladder work, scaffolding work, and work from fall risk positions generally.	Implement prior to start of construction activities then review continually.	2	3	6	
							Supervise all loading and offloading operations. Supervise all excavation operations and all lifting and lowering operations at excavations, provide adequate shoring, bracing, safeguarding and drainage to all excavations, provide adequate safe access to and from excavations for personnel, conduct inspections of excavations in accordance with the stipulated requirements, supervise all construction activities within and adjacent to excavations. Supervise all erection operations for structures and facilities.					

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 - Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
Site establishment	3	Establishment on site of facilities for both the Contractor and the Engineer, operation and maintenance of the facilities during the contract period, and removal of the facilities on completion	Construction activities/ conditions leading to an accident.	3	4	12	Maintain plant and vehicles, power tools, hand tools, welding equipment and other equipment in good working order.	Implement prior to start of construction activities then review continually.	2	3	6
		- use of plant and vehicles, power tools, hand tools, welding equipment and other equipment	Risk of personal injury/ permanent disability/ death.				Use only trained, competent, medically fit drivers, operators, mechanics, electricians, welders and other personnel.				
Site establishment	4	Establishment on site of facilities for both the Contractor and the Engineer, operation and maintenance of the facilities during the contract period, and removal of the facilities on completion	Construction activities/ conditions leading to an accident.	3	3	9	Induct personnel with regard to the use of the facilities and equipment provided, and the procedures to be followed in the event of maintenance work being required to such facilities and equipment.	Implement prior to start of construction activities then review continually.	2	2	4
		- use of facilities and equipment, and supervision of facilities	Risk of personal injury/ permanent disability/ death.				Appoint only trained, competent, medically fit personnel as supervisors for areas such as workshops, general storage areas, and fuel and hazardous material storage areas.				

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
RISK CLUSTER	RISK No.	ACTIVITY	HAZARD / RISK	L	S	R	MITIGATION ACTIONS	TIME LINE	L	S	R
Traffic accommodation	1	Public vehicular and pedestrian traffic travelling on D1841 during the construction of the Works	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures.	Implement prior to start of construction activities then review continually.	2	3	6
Traffic accommodation	2	Construction vehicular and pedestrian traffic travelling on D1841 during the construction of the Works	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures. Implement appropriate road safety rules for drivers, plant operators and all other construction personnel.	Implement prior to start of construction activities then review continually.	2	3	6
Traffic accommodation	3	Construction traffic entering or leaving half-width construction zones	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures. Implement appropriate road safety rules for drivers and plant operators.	Implement prior to start of construction activities then review continually.	2	3	6
Traffic accommodation	4	Construction traffic entering or leaving the Works at public or private access roads	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent	3	4	12	Plan then implement appropriate traffic accommodation measures. Implement appropriate road safety rules for	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
			disability/ death.				drivers and plant operators.				
Traffic accommodation	5	Construction activities taking place adjacent to the trafficked road	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures. Confine the construction activities of construction vehicles, plant and personnel to the delineated work areas outside of the trafficked road.	Implement prior to start of construction activities then review continually.	2	3	6
Traffic accommodation	6	Half-width construction zones operating under STOP/GO traffic control between sunrise and sunset	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures. Train all traffic control personnel and flagmen.	Implement prior to start of construction activities then review continually.	2	3	6
Traffic accommodation	7	Half-width construction road closure zones operating under traffic signal traffic control between sunset and sunrise	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures. Provide floodlighting on the approaches to the road closure zones. Train all traffic control personnel and flagmen.	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
Traffic accommodation	8	Construction activities taking place in terrain with potentially restricted sight distance and limited overtaking opportunities	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures.	Implement prior to start of construction activities then review continually.	2	3	6
							Ensure that adequate advance warning is provided at the approaches to all half-width construction road closures and to all other areas where construction activities are taking place requiring advance warning.				
Traffic accommodation	9	Potential presence of livestock along D1841 within the road reserve, including along the carriageway and shoulders	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures. Traffic accommodation plan shall specifically include appropriate measures to be implemented in order to remove any cattle found within the road reserve.	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
RISK CLUSTER	RISK No.	ACTIVITY	HAZARD / RISK	L	S	R	MITIGATION ACTIONS	TIME LINE	L	S	R
Roadworks	1	Construction of patching, pipe culverts, layerworks surfacing and road marking taking place along the surfaced carriageway of D1841 directly adjacent to the trafficked road	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures. Confine the construction activities of construction vehicles, plant and personnel to the delineated work areas outside of the trafficked road.	Implement prior to start of construction activities then review continually.	2	3	6
Roadworks	2	Construction activities such as clearing and grubbing, blasting, cut and fill widening, subsoil, pipe culvert and surface drainage construction, gabion construction, guardrail and road sign erection, and grassing taking place along the shoulders of D1841 directly adjacent to the trafficked road	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures. Confine the construction activities of construction vehicles, plant and personnel to the delineated work areas outside of the trafficked road.	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
Roadworks	3	Operation on site of heavy civil engineering plant and vehicles	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Maintain plant and vehicles in good working order. Use only trained competent, medically fit drivers and operators. Provide adequate clear working space and protective apparel.	Implement prior to start of construction activities then review continually.	2	3	6
Roadworks	4	Operation on site of small self-propelled, hand-operated compaction equipment and concrete saws, power saws, drills, brush cutters, pumps and other power tools, hand sprayers for bitumen, welding equipment, and nuclear gauges for laboratory compaction measurement	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Maintain such small plant, power tools, hand sprayers, welding equipment and nuclear gauges in good working order. Use only trained competent, medically fit operators and welders. Provide adequate clear working space and protective apparel. Adhere to all regulations governing the use of nuclear gauges.	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
Roadworks	5	Operation on site of pneumatic drilling and breaking tools, compressed air cleaning equipment, and water jetting equipment (if required)	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Maintain such tools and equipment in good working order. Use only trained, competent, medically fit operators. Provide adequate clear working space and protective apparel.	Implement prior to start of construction activities then review continually.	2	3	6
Roadworks	6	Use of unpowered hand tools, including picks, mallets, hoes, axes, machetes, slashers, chisels, hammers, saws and shears	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	3	9	Maintain such equipment in good working order. Use only trained competent, medically fit personnel. Provide adequate clear working space and protective apparel.	Implement prior to start of construction activities then review continually.	2	2	4
Roadworks	7	Working with hot applied patching and surfacing materials	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	3	9	Maintain all related plant and equipment in good working order. Use only trained competent, medically fit personnel. Provide adequate clear	Implement prior to start of construction activities then review continually.	2	2	4

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
							working space and protective apparel.				
Roadworks	8	Working with flammable materials/ hazardous materials such as fuels, oils, LP gas and bitumen products, adhesives, road marking paints, bitumen paints, cleaning products, herbicides and ant poison (if required)	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Maintain all related equipment and storage facilities in good working order. Use only trained competent, medically fit personnel. Provide adequate clear working space and protective apparel.	Implement prior to start of construction activities then review continually.	2	3	6
Roadworks	9	Handling of materials generally, including aggregates, gabion handstone, concrete pipes, bitumen emulsions, cement, creosoted poles, and steel products such as gabion baskets, road signs and	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	3	9	Supervise all loading and offloading operations and provide appropriate protective apparel for persons handling materials.	Implement prior to start of construction activities then review continually.	2	2	4

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
		guardrails									
Roadworks	10	Rock blasting, including working with drill rigs and other drilling equipment, and working with explosives	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Maintain all related plant and equipment in good working order. Use only trained competent, medically fit personnel. Provide adequate clear working space and protective apparel. Adhere to all regulations governing the use of explosives. Plan all blasting activities carefully, including the control of traffic before and after each blast, and the evacuation of persons and animals from the area prior to blasting.	Implement prior to start of construction activities then review continually.	2	3	6
Roadworks	11	Excavations, including trench excavations for subsoil and pipe culvert drainage.	Construction activities/ conditions leading to an accident.	3	4	12	Induct all personnel with respect to safety issues at excavations and the fall protection plan. Supervise all excavation	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)										
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES			RESIDUAL RISK
		and cut and fill widening excavations	Risk of personal injury/ permanent disability/ death.				operations and provide appropriate protective apparel for persons working at or within excavations. Provide adequate shoring, bracing, safeguarding and drainage to all excavations. Provide adequate safe access to and from excavations for personnel. Conduct inspections of excavations in accordance with the stipulated requirements. Supervise all lifting and lowering operations at excavations. Supervise all construction activities within and adjacent to the excavations. Provide cleared, safeguarded half-width road closure zones at the bases of cuttings to arrest loose rock rolling down from the level of the excavation platform.			

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES			RESIDUAL RISK	
Roadworks	12	Crushing and screening	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Maintain all related plant and equipment in good working order. Use only trained competent, medically fit personnel. Provide adequate clear working space and protective apparel. Adhere to all regulations governing the use of crushing and screening plant.	Implement prior to start of construction activities then review continually.	2	3	6
Roadworks	13	Bulk mixing plant	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Maintain all related plant and equipment in good working order. Use only trained competent, medically fit personnel. Provide adequate clear working space and protective apparel. Adhere to all regulations governing the use of bulk mixing plant.	Implement prior to start of construction activities then review continually.	2	3	6
Roadworks	14	Relocation of services	Construction activities/ conditions	3	4	12	Induct all personnel with respect to the location of and safety issues pertaining to the various affected services. All affected services to be identified, located	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
			leading to an accident. Risk of personal injury/ permanent disability/ death.				and clearly marked in conjunction with the service owners. All assistance with services relocation work to be limited to agreed elements of the civils work only, and to be rendered only under the close supervision of the service owners. Service owners to remain responsible at all times for all occupations of live electrical, telecommunications and bulk water supply services, and for all technical aspects related to the relocation work required.				
	Roadworks	15	Working below overhead powerlines Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Provide strict supervision for all activities taking place near or under the powerlines, particularly work involving excavators, mobile crushing plant, tipper truck loading and	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)										
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK	
							discharging operations, cranes, and pressure spraying activities such as binder spraying, hydroseeding, and water jetting (if required).			

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
Roadworks	16	Fall protection during activities such as traffic control floodlight erection, maintenance, and dismantling, road sign erection and dismantling, gabion construction, and work on steep cut slopes	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Implement fall protection plan. Use only trained competent, medically fit personnel. Provide adequate protective apparel. Provide adequate fall prevention or fall arrest equipment.	Implement prior to start of construction activities then review continually.	2	3	6
Roadworks	17	Laboratory sampling and testing	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	3	9	Plan then implement appropriate traffic accommodation measures. Use only trained, competent, medically fit personnel for sample collection and field testing, and for carrying out the testing work using the laboratory compression machines, ovens, burners, etc.	Implement prior to start of construction activities then review continually.	2	2	4

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
Roadworks	18	Working in mountainous terrain	Construction activities/ conditions leading to an accident. Risk of personal injury/ permanent disability/ death.	3	4	12	Plan then implement appropriate traffic accommodation measures. Maintain plant and vehicles in good working order. Use only trained competent, medically fit drivers and operators. Regularly emphasise aspects of driver and operator training related to the required daily checks on vehicle roadworthiness, the transportation of heavy loads on steep slopes, and good driving practice in conditions with generally restricted sight distance and overtaking opportunities, and in misty conditions.	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
RISK CLUSTER	RISK No.	ACTIVITY	HAZARD / RISK	L	S	R	MITIGATION ACTIONS	TIME LINE	L	S	R
General	1	General activities on site	Hazards related to local fauna and flora and insects (snakes, monkeys, dogs, feral cats, rodents, thorns, nettles, bees, wasps, spiders, ticks, mosquitoes, etcetera). Risk of personal injury/ permanent disability/ death.	3	3	9	Induct employees with regard to such potential dangers, particularly prior to activities such as bush clearing and handling of stockpiled materials. Induct employees with regard to the danger of related common diseases (e.g., rabies, tick bite fever, etcetera). Keep contact details for emergency services prominently displayed in the site office.	Implement prior to start of construction activities then review continually.	2	2	4
General	2	General activities on site	Hazards related to fire, including veld and bush fires in the areas surrounding D1841. Risk of personal injury/ permanent disability/ death.	3	4	12	Induct employees with regard to potential fire dangers and the procedures to be followed in the event of a fire. Keep contact details for emergency services prominently displayed in the site office.	Implement prior to start of construction activities then review continually.	2	3	6

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES		RESIDUAL RISK		
General	3	General activities on site	Hazards related to exposure to natural phenomena such as heat, cold, rain, wind, hail and lightning. Risk of personal injury/ permanent disability/ death.	3	3	9	Induct employees with regard to the potential health risks such as headaches, nausea, dehydration, heat exhaustion, fainting, hypothermia, concussion, electrical shock and burns, and associated increased fall risk. Keep contact details for emergency services prominently displayed in the site office.	Implement prior to start of construction activities then review continually.	2	2	4
General	4	General activities on site	Hazards related to employees not wearing the required protective apparel. Risk of personal injury/ permanent disability/ death.	3	3	9	Ensure that employees have been issued with the appropriate protective apparel required, and replace such apparel if damaged. Train supervisors to ensure that the required protective apparel is indeed being worn by employees when the task is executed. Induct employees with regard to the potential dangers associated with not wearing the required protective apparel. Institute disciplinary action against employees who fail	Implement prior to start of construction activities then review continually.	2	2	4

SITE SPECIFIC BASELINE RISK ASSESSMENT (D1841 – Contract No. ZNB02642/00000/00/HOD/INF/25/T)											
SITE SPECIFIC RISKS				QUALITATIVE RISK ASSESSMENT			RISK STRATEGIES			RESIDUAL RISK	
							to wear the protective apparel issued.				

D4. 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.

D5. 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.

D6. 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.

D7. APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

D7.1 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.

D7.2 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).

D7.3 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.

D8. APPOINTMENT OF SAFETY PERSONNEL

D8.1 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.

D8.2 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.

D8.3 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.

D8.4 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.

D8.5 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.

D8.6 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.

D9. 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.

D10. 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.

D11. 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 C1.2.5 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 C1.2.5 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 C1.2.5 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 C1.2.5 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:

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.....

- (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:

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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: SMALL CONTRACTOR DEVELOPMENT

PART F: SMALL CONTRACTOR DEVELOPMENT

F1. SCOPE

This part provides the procedures that relate to the Contractor implementing the CIDB B.U.I.L.D Standard for Indirect Targeting for Enterprise Development through construction Works Contracts, the Employer's policies and initiatives, enabling the Employer to realise its social and development objectives through the participation of Targeted Enterprises and Labour in the construction of the Works. The approach adopted enables the delivery of a wide range of social and economic deliverables, including the employment of local resources, employment opportunities for labour enhanced works, business opportunities, enterprise support and development programmes, and skills development.

The participation of Targeted Enterprises and Labour, measured in monetary terms, is specified as a contract participation goal by the Employer, for the Contractor to achieve.

The Contractor shall:

- Subcontract a minimum of 30% of the scope of works to targeted enterprises;
- Perform needs analysis on the targeted enterprise to identify developmental goals;
- Provide internal mentorship support to improve the targeted enterprise/s performance;
- Develop a project specific enterprise development plan to improve the targeted enterprise/s performance in the identified developmental areas to the CIDB Competence Standard for Contractors Gazette No. 41237, 10 November 2017
- Monitor and report the progress of the agreed development areas with the targeted enterprise/s
- Submit a project completion report to the Employer's representative for each targeted enterprise.

F2. DEFINITIONS

Unless inconsistent with the context, in these specifications the following terms, words or expressions shall have the meanings hereby assigned to them:

F2.1 **"Black People"** has the meaning assigned to it in section 1 of the Broad-Based Black Economic Empowerment Act, 2003 (Act No 53 of 2003), and the Broad-Based Black Economic Empowerment Amended Act, 2013 (Act No 46 of 2013).

F2.2 **"Contract Participation"** means a process whereby the Employer sets a target to achieve its social and development objectives through the participation of Targeted Enterprises and Labour in the construction of the Works.

F2.3 **"Contract Participation Goal (CPG)"** means the value of goods, services and works for which the Contractor contracts Targeted Enterprises and Labour exclusive of any value added tax which the law requires the Employer to pay to the Contractor, expressed as a percentage of the Contract Price (adjusted to exclude penalties and value added tax).

F2.4 **"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, 2003 (Act No 53 of 2003).

F2.5 **"Military Veteran"** has the meaning assigned to it in section 1 of the Military Veterans Act, 2011 (Act No 18 of 2011).

F2.6 **"people with disabilities"** has the meaning assigned to it in section 1 of the Employment Equity Act, 1998 (Act No 55 of 1998).

F2.7 **"Project Management Team (PMT)"** means a team established at the commencement of the contract, comprising a representative from each of the Employer, the Employer's Agent and the Contractor, that will be responsible for various functions related to the implementation of the Contract Participation process.

F2.8 **"QSE"** means a qualifying small 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, 2003 (Act No 53 of 2003).

F2.9 **“Target Area”** means the geographic area stated in the Contract Data.

F2.10 **“Targeted Enterprise”** means an entity to which the Contractor subcontracts a percentage of the contract value as a condition of contract and which is:

- (i) an EME or QSE which is at least 51% owned by black people;
- (ii) an EME or QSE which is at least 51% owned by black people who are youth;
- (iii) an EME or QSE which is at least 51% owned by black people who are women;
- (iv) an EME or QSE which is at least 51% owned by black people with disabilities; or
- (v) an EME or QSE which is at least 51% owned by black people who are military veterans.

F2.11 **“Targeted Labour”** means individuals, employed by the Contractor and subcontractors in the performance of the contract, who permanently reside in the target area or who are recognised as being residents of the target area on the basis of identification and association with and recognition by the residents of the target area, and excludes any labour employed by suppliers and manufacturers.

F2.12 **“Youth”** means persons between the ages of 18 and 35.

F3. CONTRACT PARTICIPATION

F3.1 Objective

In order for the Employer to realise its social and development objectives, the Contractor is required to provide business and labour opportunities through the participation of Targeted Enterprises and Labour in the construction of the Works. The participation of Targeted Enterprises and Labour, measured in monetary terms, is specified by the Employer as a contract participation goal, for the Contractor to achieve.

F3.2 Contract Participation process

The Contractor shall engage Targeted Enterprises and Labour in the performance of the contract to the extent that the total monetary value of such engagements exclusive of any value added tax, expressed as a percentage of the Contract Price (adjusted to exclude penalties and value added tax), is not less than the Contract Participation Goal specified in the contract.

F3.2.1 Contract Participation plan

The Contractor shall submit to the Employer's Agent details of his plan to achieve the Contract Participation Goal with his initial programme in terms of which he will carry out the Works. The Contract Participation plan shall be submitted with all subsequent adjusted programmes. The tender process for the procurement of Targeted Enterprise subcontractors shall be indicated on the programme.

The Contract Participation plan shall indicate the expected delivery dates of goods provided by Targeted Enterprises, and the commencement and completion dates of work and services to be performed by all the Targeted Enterprises and Labour engaged on the contract for the purpose of securing credits towards the Contract Participation Goal.

The information contained in the Contract Participation plan facilitates, in the first instance, the monitoring by the Employer's Agent of the performance of the Contractor in terms of his Contract Participation Goal obligations and, in the second instance, the making of any adjustments by the Contractor to compensate for quantitative underruns, the elimination of items contracted to Targeted Enterprises or Labour, or any other reason beyond the Contractor's control which may be acceptable to the Employer

F3.2.2 Targeted Enterprises

The Contractor shall engage Targeted Enterprises comprising subcontractors and suppliers directly or indirectly in the performance of the contract. Prior to such Targeted Enterprises being engaged, the Contractor shall submit to the Employer's Agent documentation in a form approved by the Employer's Agent, to confirm that the enterprise satisfies the eligibility criteria for recognition as a targeted enterprise.

The Contractor shall enter into written contractual agreements with all the Targeted Enterprises, in a form approved by the Employer's Agent. Copies of such agreements and the written acceptance thereof shall be submitted to the Employer's Agent.

In the case of Targeted Enterprise subcontractors, only those subcontractors procured through a tender process as specified in clause G6 Tender Process for Targeted Enterprise Subcontractor Procurement, shall qualify to have their contribution count towards the Contract Participation Goal.

The Contractor may not subcontract more than 25% of the Contract Price to Targeted Enterprises whose B-BBEE status level of contributor is lower than the Contractor's.

F3.2.3 Targeted Labour

The Contractor shall engage Targeted Labour directly or indirectly in the performance of the contract. It is a requirement of the contract that such Targeted Labour be engaged by means of a written contract, in a form approved by the Employer's Agent.

F3.3 Contract Participation Goal

The Contract Participation Goal comprises two targets, namely subcontracting of the Works to Targeted Enterprises, and employment of Targeted Labour. The Contract Participation Goal targets are stated as a percentage unit of measure in the Contract Data, for the Contractor to achieve to the extent that the total monetary value of such subcontracting and employment engagements exclusive of any value added tax, expressed as a percentage of the Contract Price (adjusted to exclude penalties and value added tax), are each not less than the respective Contract Participation Goal target stated in the contract.

F3.3.1 Monthly submission of supporting documentation

The Contractor shall prepare and submit on a monthly basis to the Employer's Agent in a form approved by the Employer's Agent, the following:

- (i) a brief report which describes the commercially useful functions performed by the Targeted Enterprises and Labour in the performance of the contract, both during the interim period and on a cumulative basis;
- (ii) a schedule reflecting the estimated total value of the contracts, the cumulative value of the contracts, and the value of goods provided, and work and services performed over the period for which payment is claimed with respect to each and every Targeted Enterprise; and
- (iii) a schedule which lists the names, identity numbers, gender, trade/occupation, period of employment, employment number and the like, as directed by the Employer's Agent, together with the respective wage rates payable in respect of Targeted Labour, including the monetary value of wages paid both on a cumulative basis and over the period for which payment is claimed.
- (iv) Project interim reports in the specified format (ED105P) detailing interim value of the CPG that was achieved. Such a report shall also contain a monthly progress report, compiled by the employer's representative and the contractor, detailing an assessment of the enterprise development support provided.

- (v) Project completion report, in the specified format (ED101P), to the Employer's Representative for acceptance within 15 days of achieving practical completion. The report shall include the value of the CPG that was certified in accordance with the contract, cidb registration numbers of each and every targeted enterprise and the value of the subcontracted works or the participation parameter of the joint venture entered into; and
- (vi) Enterprise development declaration (ED104P).

Should random inspections conducted by the Employer's Agent on Targeted Enterprise and Labour activities indicate that such Targeted Enterprises and Labour are not performing in accordance with the requirements of the contract, the Contractor shall provide, in addition to the monthly reporting requirements, separate weekly resource returns and any other relevant information with respect to such Targeted Enterprises and Labour in a form approved by the Employer's Agent.

F3.3.2 Contract Participation Goal credits

F3.3.2.1 Granting of credits

The Employer's Agent shall certify the value of the credits counted towards the Contract Participation Goal whenever a claim for payment is issued to the Employer, and shall notify the Contractor of the amount. The value of the credits counted shall not include any expenditure on Goods and Labour which forms part of the monetary value of the contributions made by Targeted Enterprise subcontractors.

Credits towards the Contract Participation Goal shall be granted by converting the value of the following (including contract price adjustment and rise/fall on special materials, but excluding value added tax) to a percentage of the Contract Price (adjusted to exclude penalties and value added tax), as relevant:

- (i) subcontracting CPG:
 - the total monetary value of the contributions made by Targeted Enterprise subcontractors in fulfilling contractual obligations; and
 - expenditure on Goods required for the contract, which are obtained from Targeted Enterprise suppliers.
- (ii) employment CPG:
 - the total monetary value of wages paid to Targeted Labour.

F3.3.2.2 Denial of credits

No credits shall be granted should the Contractor make a direct payment to a supplier or manufacturer on behalf of a Targeted Enterprise when such payment is recovered by making deductions from payments to the Targeted Enterprise in connection with the contract; or should the Contractor fail to enter into a written agreement with the relevant Targeted Enterprise.

In addition, credits claimed towards the Contract Participation Goal shall be denied where written contractual agreements contain any of the following:

- (i) a right to set off in favour of the employing Contractor not provided for by law;
- (ii) authoritarian rights given to the employing Contractor or his agent, with no recourse to independent adjudication in the event of a dispute arising;
- (iii) payment procedures based on a pay-when-paid system;

- (iv) a dispute resolution process which does not include inexpensive alternative dispute resolution procedures, such as mediation or adjudication, but which only makes use of formal proceedings such as arbitration or litigation; or
- (v) conditions which are more onerous than those which exist in the main contract.

Credits shall be denied should Targeted Enterprises not adhere to statutory labour practices or fail to perform commercially useful functions.

F3.3.3 Contract Participation Goal evaluation

The Contractor shall, upon completion of each individual Targeted Enterprise's contract, issue a completion certificate and certify the amount paid to such Targeted Enterprises. The Contractor shall submit the certificates, counter-certified by the relevant Targeted Enterprises, to the Employer's Agent for record-keeping purposes. The Contractor shall furnish justification to the Employer's Agent whenever it is not possible to obtain such counter-certification.

The Contractor shall, upon termination of the services of the individuals classed as Targeted Labour engaged in activities relating to the performance of the contract, certify the amount paid to such individuals and submit the certificate, counter-certified by the relevant individual, to the Employer's Agent for record-keeping purposes. The Contractor shall furnish justification to the Employer's Agent whenever it is not possible to obtain such counter-certification.

On completion of the contract, the Employer's Agent shall determine the final credits to be granted towards the Contract Participation Goal targets, by converting the value of credits (including contract price adjustment and rise/fall on special materials, but excluding value added tax) to a percentage of the Contract Price (adjusted to exclude penalties and value added tax)

F3.3.4 Sanctions

In the event that the Contractor fails to substantiate that any failure to achieve any of the Contract Participation Goal targets, is due to quantitative underruns, the elimination of items contracted to Targeted Enterprises, 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 subcontracting financial penalty shall be calculated as follows:

$$P = 0,05 \times [(D - D_o)/100] \times C_A$$

where

- D is the Contract Participation Goal percentage
- D_o is the Contract Participation Goal percentage which the Employer's Agent certifies, based on the credits passed, as being achieved upon completion of the contract
- C_A contract amount which is the Contract Price (adjusted to exclude penalties and value added tax)
- P is the monetary value of penalty payable

The evaluation of the Contractor's achievement of the Contract Participation Goal for the subcontracting of the Works to Targeted Enterprises, shall be undertaken monthly by the Employer's Agent based on the accumulative achievements in comparison to the programmed utilisation of Targeted Enterprises, 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.

F4. DUTIES OF THE EMPLOYER AND ENGINEER

The Employer, Engineer, and the Contractor, or their representatives, are parties to the Project Liaison Committee and are co-responsible for successful project Stakeholder and Community liaison. The Employer and the Engineer also play a supporting role in the successful implementation of the Employer's Targeted Labour and Targeted Enterprise utilisation and development goals.

To implement the Employer's Targeted Labour and Targeted Enterprise goals, the Employer and the Engineer shall provide support to the Contractor by executing the following duties:

- (i) Make recommendations to the Contractor in the identification and structuring of the work packages to be subcontracted to Targeted Enterprises, and agree to the scope and extent of the work packages.
- (ii) Verify that the Targeted Enterprise Database(s), have been updated prior to the letting of every new set of subcontracts.
- (iii) Endorse all Databases, and approve tender procedures, tender documents, tender submission requirements and adjudication processes for the subcontracting of Targeted Enterprises.
- (iv) Review all tender adjudication reports and monitor that the criteria and procedures applied by the Contractor to subcontract work to Targeted Enterprises are executed in a fair and transparent manner, and are in accordance with the Employer's standards.
- (v) Endorse subcontract agreements and ensure that the conditions of subcontracting with Targeted Enterprises are fair and transparent and within the prescripts of the Contract requirements.
- (vi) Monitor the management of Targeted Enterprise subcontracts and ensure that conditions such as the application of penalties and the termination of contracts, are applied in a fair and transparent manner and within the prescripts of the agreement.
- (vii) Verify that the Labour Database(s) from which Targeted Labour will be employed is updated prior to every new Labour intake.
- (viii) Monitor that the criteria and procedures applied by the Contractor to employ Targeted Labour are executed in a fair and transparent manner, and is within the Contract requirements.
- (ix) Monitor that the conditions of employment of Targeted Labour are applied in a fair and transparent manner and within the prescripts of the current and relevant Labour legislation.
- (x) Make recommendations to the Contractor in the identification of the training requirements of Targeted Enterprises and Targeted Labour and approve the proposed training programmes.
- (xi) Monitor that training programmes and support programmes, which the Contractor committed to, are implemented and executed as intended.

F5. SPECIFIC WORK TO BE CARRIED OUT BY TARGETED ENTERPRISE SUBCONTRACTORS

F5.1 Subcontract scope of work

It is a requirement of the contract that only those Targeted Enterprise subcontractors procured through a tender process by the Contractor, shall qualify to have their contribution count towards the Contract Participation Goal.

For this particular contract, the following listed work has been identified in terms of this Particular

Specification, PART F, as suitable for execution by Targeted Enterprise subcontractors in order to assist the Contractor in achieving the Contract Participation Goal:

- (i) Clearing and grubbing.
- (ii) Construction and clearing of drains.
- (iii) Installation of prefabricated culverts including inlet and outlet structures.
- (iv) Concrete channelling and concrete linings for open drains.
- (v) Pitching, stonework and protection against erosion.
- (vi) Construction of gabions.
- (vii) Erection of guardrails.
- (viii) Erection of road signs.
- (ix) Landscaping.
- (x) Finishing the road and road reserve.
- (xi) Other work identified by the Employer to be executed in the community area.

The work to be carried out by Targeted Enterprise subcontractors is not limited to the work listed above, and the Contractor may need to engage Targeted Enterprises and Labour on other aspects of the Works in order to achieve the Contract Participation Goal.

F5.2 Subcontract work packages

The work activities shall be grouped into varying sizes of work packages according to the CIDB contractor grading designation and class of construction works. The typical scope of work may include the following class of construction works and specialist works:

- (i) Class of construction works – Civil Engineering (CE); and
- (ii) Specialist Works:
 - Asphalt works (SB);
 - Demolition and blasting (SE);
 - Piling (SJ);
 - Road marking and signage (SK); and
 - Structural steelwork fabrication and erection (SL).

For this contract the minimum number of prescribed work packages for execution by Targeted Enterprise subcontractors is indicated in table F1/1 according to the CIDB contractor grading designation and the scope of work according to the Chapters of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

Provision is made for each of the work packages to include Chapter 1.3 Contractor's Establishment on Site and General Obligations to cover the costs of the Targeted Enterprise subcontractors' own establishment and general obligations.

TABLE F1/1: PRESCRIBED MINIMUM NUMBER OF WORK PACKAGES ACCORDING TO CIDB CONTRACTOR GRADING DESIGNATION TO BE DETERMINED IN CONJUNCTION WITH THE PMT							
CHAPTER	DESCRIPTION	TARGETED ENTERPRISE SUBCONTRACTOR CIDB CONTRACTOR GRADING DESIGNATION					
		1 Max: R0,5 m	2 Max: R1 m	3 Max: R3 m	4 Max: R6 m	5 Max: R10 m	6 Max: R20 m
1	CIDB Grade 1CE	X(12)					
2	CIDB Grade 2CE		X(6)				
3	CIDB Grade 3CE			X(4)			
4	CIDB Grade 4CE				X(1)		
5	CIDB Grade 5CE					X(1)	
6	CIDB Grade 6CE						X(1)
	MINIMUM TOTAL NUMBER OF TARGETED ENTERPRISE SUBCONTRACTORS PRESCRIBED FOR EACH CIDB CONTRACTOR GRADING DESIGNATION	14	8	4	2	2	1

NOTE:

All work packages must include Chapter 1.3

X(1) denotes "one" prescribed subcontract work package according to the respective CIDB contractor grading designation and the scope of work according to the Chapter of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

For subcontractors with a higher CIDB contractor grading designation, it may be possible for the work package to comprise more than one chapter which is shown as "X" in the above table. The minimum total number of targeted enterprise subcontractors prescribed for each CIDB contractor grading designation is listed in the above table.

F5.3 Subcontract bill of quantities

The items of work identified for execution by Targeted Enterprise subcontractors is shown in the bill of quantities at the end of Part F: Small Contractor Development. The quantities of work shown for each item of work, is the anticipated work to be subcontracted, and the Contractor is not required to tender rates and prices for these items of work.

Payment of the works executed by Targeted Enterprise subcontractors will be made under the provisional sum allowed for in clause F10 Measurement and Payment and included in Schedule F: Small Contractor Development in Section C2.2 Bill of Quantities.

F6. TENDER PROCESS FOR TARGETED ENTERPRISE SUBCONTRACTOR PROCUREMENT

F6.1 Subcontract scope of work

The Contractor shall refer to Table F1/1 for the work packages identified to be subcontracted, the bill of quantities contained in these Particular Specifications, and to any other construction activities required to execute the Works in terms of the contract, to determine how he intends to unbundle or package specific subcontracts for execution by Targeted Enterprise subcontractors, and shall present his proposal to the Employer and Employer's Agent for approval.

F6.2 Compilation of subcontract tenders

The Contractor shall be responsible for compiling the tender documents that will enable him to engage the Targeted Enterprise subcontractors for the various work packages, according to the contractor grading designation and class of construction works or specialist works. The Contractor shall compile each subcontract tender document in such a manner that it shall facilitate the achievement of all objectives and principles pertaining to the development of the Targeted Enterprise subcontractors.

The tender documentation shall comply with the Employer's standards, including its standard conditions of tender. The following returnable schedules shall form part of the tender document for submission by tenderers:

- (i) certificate of registration of the tenderer in the required CIDB contractor grading designation, confirming the tenderer's registration Status as "Active" at the closing date of tender submission;
- (ii) tax compliance status report;
- (iii) B-BBEE verification certificate or sworn affidavit;
- (iv) proof of registration on the Central Supplier Database; and
- (v) compliance with the COID Act.

The tender documents shall also contain the proposed subcontract agreement in accordance with clause F8.1.

The draft tender documents shall be subject to approval by the Employer and Employer's Agent. The Contractor may then proceed with the preparation of tender documents for the work packages.

F6.3 Tender process

The Contractor shall be responsible for advertising the tenders for the work packages, and inviting tenders from Targeted Enterprise subcontractors in consultation with the Employer and Employer's Agent and the local PLC.

The Employer shall identify the number of work packages which are to be executed by Targeted Enterprise subcontractors from specific designated groups.

The Contractor shall conduct a compulsory briefing session for tenderers, attended by the Employer and Employer's Agent, to explain the Works required and the tender process to the Targeted Enterprise subcontractors.

Tenders for the subcontracted works must close at a stipulated time and date. Tenders shall be placed in a suitable formal Tender Box, located at the Contractor's site office. The tender opening shall be conducted by the Project Management Team.

F6.4 Tender evaluation

The Project Management Team shall evaluate the tenders according to the Employer's standards. The Contractor shall prepare the tender adjudication report for each subcontract, and submit it to the Project Management Team for review prior to award of each subcontract.

F6.5 Allocation of subcontract work packages

The Project Management Team shall identify responsive tenders received for the various work packages from Targeted Enterprises in the following designated groups:

- (i) an EME or QSE which is at least 51% owned by black people;
- (ii) an EME or QSE which is at least 51% owned by black people who are youth;
- (iii) an EME or QSE which is at least 51% owned by black people who are women;
- (iv) an EME or QSE which is at least 51% owned by black people with disabilities; or
- (v) an EME or QSE which is at least 51% owned by black people who are military veterans.

The selection of subcontract work packages shall then be made, in consultation with the Employer in accordance with the provisions of clause 4.4.4 of the General Conditions of Contract 2015, in order to comply with the Employer's targeted procurement objectives.

F6.6 Award of subcontract work packages

Following the selection of the Targeted Enterprise subcontractors for the various work packages in consultation with the Employer in accordance with clause 4.4.4 of the General Conditions of Contract 2015, the Employer's Agent shall provide written confirmation of the Targeted Enterprise subcontractor selected for each work package, to the Contractor. The Contractor shall award each work package to the respective Targeted Enterprise subcontractor.

F7. GENERAL RESPONSIBILITIES OF THE CONTRACTOR TOWARDS TARGETED ENTERPRISES

F7.1 Obligations

The Contractor shall ensure that he complies with the following obligations:

- (i) institute a quality assurance system;
- (ii) provide adequate training, coaching, guidance, mentoring and assistance to Targeted Enterprises;
- (iii) provide financial support and other assistance to ensure that Targeted Enterprises are able to meet their obligations and commitments with respect to their subcontracts, including acquisition of labour, construction equipment and materials;
- (iv) ensure that the contract participation goals and objectives are achieved; and
- (v) make provision for Targeted Enterprises to be established within the Contractor's own camp facilities, and be responsible for the provision of site offices, common camp

facilities, medical, security, safety, electricity, water, sewage services, waste disposal and all other camp services.

- (vi) be responsible for developing subcontractors in accordance with the cidb Standard for Indirect Targeting for Enterprise Development.
- (vii) be responsible for the appointment of the Enterprise Development Coordinator.

F7.2 Subcontracts

In the subcontracts arranged by the Contractor involving Targeted Enterprises, the following shall apply:

- (i) the appointment of Targeted Enterprises by the Contractor shall be made in accordance with the provisions of clause 4.4 of the General Conditions of Contract 2015; and
- (ii) no provision or requirements set out in the specifications shall be deemed to relieve the Contractor of any liability or obligation under the contract, and in accordance with the provisions of clause 4.4.3 of the General Conditions of Contract 2015, the Contractor shall be liable for the acts, defaults and negligence of any Targeted Enterprise, his agents or employees as fully as if they were the acts, defaults or negligence of the Contractor.

F8. MANAGEMENT OF TARGETED ENTERPRISE SUBCONTRACTS

The Contractor shall conclude the subcontract agreements and provide the necessary management support to the Targeted Enterprises. Failure by a Targeted Enterprise to comply with the terms and conditions of the subcontract agreement shall result in penalties being applied or the subcontract terminated.

F8.1 Compilation of subcontract conclusion agreement

- (a) The Contractor in liaison with the Employer and Employer's Agent shall be responsible for the conclusion of each subcontract agreement. The agreement shall be in accordance with the provisions of clause 4.4 of the General Conditions of Contract 2015 and shall be consistent with the terms and conditions in this contract. The agreement shall be subject to approval by the Employer and Employer's Agent.
- (b) The terms and conditions of the subcontract agreement shall also specify the following:
 - (i) an entitlement of the Targeted Enterprise to receive such training as is contemplated in this contract;
 - (ii) an obligation on the Targeted Enterprise to participate and co-operate in such training as is provided for in this contract;
 - (iii) the allowable sources from which workers may be drawn in terms of the contract;
 - (iv) the terms and conditions relating to the recruitment, employment and remuneration of workers engaged on the contract;
 - (v) the training to be provided to the workers; and
 - (vi) the terms and conditions relating to payment of the Targeted Enterprise. Such terms and conditions shall also include a clause stipulating that payment to a Targeted Enterprise for work done shall be made within 30 days of submission of the invoice by the Targeted Enterprise to the Contractor. In the event of failure by the Contractor to make the payment by the due date, he shall pay to the Targeted Enterprise interest, at the prime overdraft rate charged by the Targeted Enterprise's bank, compounded monthly, on all overdue payments from the date on which the same should have been paid to the date when payment is effected, without prejudice to the Targeted Enterprise's other rights under the contract or by law.

F8.2 Quality of work and performance of the Targeted Enterprise

- (a) The Contractor shall closely monitor and supervise all Targeted Enterprises and shall train, mentor, guide and assist each Targeted Enterprise in all aspects of management, execution and completion of his subcontract. This shall typically include assistance with planning of the works, sourcing and ordering of materials, labour relations, monthly measurements and invoicing procedures. The extent and level of such training, mentoring, guidance and assistance to be provided by the Contractor shall be commensurate with the basic level of subcontract applicable and shall be directed at enabling the Targeted Enterprise to achieve the successful execution and completion of their subcontract.
- (b) The Contractor shall closely monitor and supervise all Targeted Enterprises and shall give reasonable warning to the Targeted Enterprise when any contravention of the terms and conditions of the subcontract has occurred or appears likely to occur. The Contractor shall, whenever feasible, give the Targeted Enterprise reasonable opportunity to make good any such contravention, or to avoid such contravention, and shall render all reasonable assistance to the Targeted Enterprise in this regard.

F8.3 Dispute avoidance and resolution procedures

- (a) When taking any disciplinary action or imposing a penalty as provided for in the subcontract, the Contractor shall explain fully to the Targeted Enterprise that such actions are provided for in the subcontract. If such action is contemplated this shall be discussed with the Employer's Agent before any action is taken.
- (b) If the Targeted Enterprise, in the opinion of the Employer's Agent, fails to comply with any of the criteria listed below, the Employer's Agent shall issue a written warning to the Contractor, stating all the areas of non-compliance. A copy of the letter of warning shall be forwarded to the Employer. The criteria are as follows:
 - (i) acceptable standard of work as set out in the specifications;
 - (ii) progress in accordance with the time constraints in the Targeted Enterprise's contract;
 - (iii) punctual and full payment of the workforce and suppliers;
 - (iv) site safety; and
 - (v) accommodation of traffic.
- (c) The Targeted Enterprise shall have 21 days from the date of receipt of the letter of warning by the Contractor to address and rectify the issues raised by the Employer's Agent, with the exception of the above subclauses (b)(iv) and (v) for which the reaction time shall be in accordance with the relevant specifications for those aspects of the Works but shall not be longer than 24 hours. Failure by the Targeted Enterprise to comply with the deadline set, will be sufficient grounds for the Contractor to apply a penalty, or terminate the subcontract provided that the Employer's Agent is satisfied that the Contractor has made every effort to correct the performance of the Targeted Enterprise.
- (d) The Targeted Enterprise shall have the right to dispute any ruling given or deemed to have been given by the Contractor, Employer's Agent or Employer. Provided that, unless the Targeted Enterprise shall, within 21 days after his receipt of a ruling or after a ruling shall have been deemed to have been given, give written notice (hereinafter referred to as a Dispute Notice) to the Contractor, referring to this clause, disputing the validity or correctness of the whole or a specified part of the ruling, he shall have no further right to dispute that ruling or the part thereof not disputed in the said notice.

F9. TRAINING, COACHING, GUIDANCE AND MENTORING

F9.1 Obligations

This section provides details of the Contractor's obligations of implementing the National Skills Development Strategy. This strategy sets priorities for the skills development of workers. The Sector

Education and Training Authorities (SETA) and provincial offices of the Department of Labour will play key roles in transforming the vision of the strategy into reality.

Supervision is included as part of the contractor's general obligations for the administration and management of the Targeted Enterprises. However, training, coaching, guidance and mentoring are not included as part of the Contractor's general obligations unless specific provision to that effect has been made in the project specifications.

The Contractor shall, from the commencement of the contract, provide a structured development programme designed to improve the entrepreneurial and basic business management skills of identified Targeted Enterprises and hired labour, as well as to improve their specific task skills (construction skills) commensurate with the applicable levels of subcontract that will enable the Targeted Enterprises to achieve the successful execution and completion of their subcontracts. The ultimate objective of training, coaching, guidance and mentoring is to develop the Targeted Enterprises as far as their potential allows.

F9.2 Definitions

F9.2.1 Training

Training refers to the process of teaching a learner – usually in a classroom or simulated work environment situation. Training usually takes place with one teacher/trainer and several learners. Principles and theory are taught. Demonstrations are given. Assignments are then set to ensure that the learner is able to apply what has been taught. Training is done by a specialist in the subject, who is also qualified to train.

Example: Use of a dumpy level

Training would involve the theory of how a dumpy level works and how to calculate levels. A demonstration of how to set up and read a level could be given.

F9.2.2 Coaching

Coaching refers to hands-on training and is mostly on a one-on-one basis of tangible and measurable skills. It is typically on-site training, or learning-on-the-job. Coaching is training by the process of “watch-do-correct-practice”. The coach does the task while the learner watches and asks questions. Then the learner does the same task while the coach watches. The learner is corrected until the coach feels that he has the gained competence in the function. The learner is then left to practise the task or skill, which the coach oversees. Coaching is imparting a skill – usually manual or physical. A coach is usually a person doing the same type of work on a higher or more competent level, or a person who has a mastery of the skill/task. While training gives the theory or shows/explains the principles, coaching helps the learner become competent and master a skill. A coach is often in the direct reporting line, i.e. someone in authority. Coaching could be part of the management function and would make the job run more smoothly.

Example: Use of a dumpy level

Coaching would involve taking the learner onto site, setting up a dumpy level, reading levels. Then the coach would get the learner to do the job, while the coach checked the setting up and reading. Once the learner understands and can do the tasks, the coach checks periodically to ensure the learner is still doing the job properly.

The desired outcome of coaching is for the learner to “fit-the-mould”, and to do things the same way and to the same standard as the coach.

F9.2.3 Guidance

Guidance is anticipating where one might go wrong, or where one is doing a task in a complicated, inefficient or ineffective way, and giving advice as to how to achieve a better result. Guidance is mostly

given by a person in the direct reporting line, but can be given by anyone. Guidance is not imparting skills, but suggesting ways to improve performance.

Example: Use of a dumpy level

A person who knows how to use a dumpy level would be given guidance as to where he would next set up the level to limit the number of set-ups. Guidance could be an extension of coaching.

F9.2.4 Mentoring

Mentoring is developing a person on a long-term career path. It is mostly about imparting skills that are often intangible and non-measurable. A mentor is seldom anyone in the direct reporting line – although he could be a person several levels higher in that reporting line. Mentoring is more about developing a relationship and taking a personal interest in an individual. A mentor looks out for that individual and gives him advice that cannot be found in a book or in the normal course of business. The sort of issues a mentor discusses with the protégé include company politics, how to pick up work before others get wind of it, how to position one's company to get a better competitive advantage, how to tender such that the tender is lowest but the profit is as good as or better than the next person, how to determine and assess risk. Mentoring helps the protégé think strategically, sharpen entrepreneurial skills and grow – both personally and in terms of the company. A mentor helps the protégé to develop insight and shrewdness. It is more about business skills to survive long-term than the technical, tactical or day-to-day activities of doing business.

The desired outcome of mentoring is for the protégé to develop his own style, i.e., to shape his own "mould".

F9.2.5 Supervision

Supervision is instruction regarding the work to be performed, and ensuring it is carried out to specification and to the satisfaction of the supervisor. It is not instruction on how the work is to be performed, but rather on what work has to be performed, and usually has specific time frames.

F9.3 Assessment of Targeted Enterprise potential

It is the responsibility of the Contractor to determine the level of development required by each Targeted Enterprise. This will require that the Contractor determine the level at which the Targeted Enterprise can operate competently and determine the skills already acquired by the Targeted Enterprise in terms of training and on-the-job experience. In some circumstances Adult Basic Education Training (ABET) will need to be started before any formal training can commence. The assessment of each appointed Targeted Enterprise is to be produced by the Contractor for discussion with the Employer and Employer's Agent at a meeting following the appointment of the Targeted Enterprise.

F9.4 Development Plan

Within a month of the meeting with the Employer and Employer's Agent on the Targeted Enterprise assessments, the Contractor is to present a development plan, specific to each Targeted Enterprise. The development plan is to be reviewed by the Employer and Employer's Agent for appropriateness before being implemented.

The development plan is to include the following:

- (i) specify the development needs of each Targeted Enterprise contracting entity – the systems the entity lacks;
- (ii) specify the development needs of the individuals comprising the entity – the skills the individuals within the entity lack;
- (iii) the level to which that activity will be developed within the period of the contract;
- (iv) whether training, coaching, guidance and/or mentoring is to be given in each activity; and
- (v) the person/s responsible for each activity.

F9.5 Identification and general training of potential Targeted Enterprises

- (a) The progression of training, coaching and mentorship may need to start with the identification and general training of identified Targeted Enterprises and hired labour, and should end with their acquisition of sufficient management skills that will equip them to compete confidently for subcontract work beyond the duration of this contract. In addition, generic skills shall be taught where the need for these has been identified as being necessary amongst Targeted Enterprise workforces and hired labour.
- (b) Before commencing with any structured training, the Contractor shall submit his intended programme to the Employer and Employer's Agent for approval of its subject content and proposed trainers, and the Contractor shall, if so, instructed by the Employer and Employer's Agent, alter or amend the programme and/or course content.

The Contractor shall be responsible for the provision of everything necessary for the delivery of the various training workshops and modules including:

- (i) provision of a suitable fully serviced training venue facility;
- (ii) procurement of suitable accredited trainers;
- (iii) provision, in conjunction with the accredited trainers, of all the necessary training materials, including stationery and study materials; and
- (iv) transportation of the learners to and from the training venue facility (it is therefore in the Contractor's interest that the training venue facility be provided on the site in order to reduce these transportation costs).

Payment to the Contractor for carrying out the training function shall be effected through the pay items provided in this PART F.

F9.6 Activities

The tasks for each of the activities making up the development plan include material, equipment and general tasks, for training on technical, contractual, financial, human resources, legislative and general administrative functions.

The Construction Manager, site clerk and HR Manager will train/coach or mentor the above listed functions as part of on-site training.

F9.7 Portfolio of Evidence

The Contractor is to develop and/or maintain a portfolio of evidence for each Targeted Enterprise. The Portfolio of Evidence is a collection of proof of the training, coaching, guidance and mentoring inputs provided to the Targeted Enterprise and is similar to a log book used by technical students completing experiential training. It is a living document which records the development progress of the Targeted Enterprise and will need to be updated continually throughout the duration of the contract. It remains the property of the Targeted Enterprise who must take it to their next contract.

The Portfolio of Evidence should include the following documentation:

- (i) the development path designed for each Targeted Enterprise;
- (ii) the training courses completed by the Targeted Enterprise;
- (iii) the hours of guidance, coaching and mentoring received for each activity listed in the development plan;
- (iv) a list of outcomes achieved at each level for each activity;
- (v) six-monthly progress reports on the development provided (inputs) versus the actual progress made (output) by the Targeted Enterprise; and
- (vi) a list of competencies.

F9.8 Training Requirements

Only qualified trainers employed by training agencies that are accredited by the relevant Sector

Education and Training Authorities (SETA), or other institutions recognised by the Department of Labour shall deliver any training. "Accredited training" refers to both the trainers as well as to the training material. Certificates affirming the successful participation in the various courses shall be presented to each attendant.

The Contractor shall facilitate in the delivery of training by instructing and motivating the hired labour and relevant Targeted Enterprises regarding attendance and participation. All training shall take place within normal working hours, or as agreed with the trainees.

F9.9 Development training

The Contractor will arrange training to support the development of the Targeted Enterprise. This training must be provided by training providers accredited with the relevant SETA pertaining to the course material being presented. The training will take place at hours agreed with the trainees, possibly on a part time basis after hours.

The following training courses are recommended to support the development programme detailed in the contract document:

- (i) NQF Level 2: Construction Contractor - Business owner and administration officer;
- (ii) Tender training NQF Level 3 – Business owner / Technical expert;
- (iii) Computer literacy training - Business owner and admin officer – Microsoft Windows, email, Microsoft Word and Microsoft Excel;
- (iv) General bookkeeping relevant to construction - Business owner and admin officer;
- (v) Tendering NQF Level 4 and 5 – Business owner / Technical expert; and
- (vi) Construction supervision (Roadworks) NQF Level 4 – Business owner / Technical expert.

F9.10 Safety Training

The Targeted Enterprise's safety representative is to be fully trained in all aspects of safety and his duties in this regard. The owner of the Targeted Enterprise is to be trained on his responsibilities regarding safety regulations.

F9.11 Construction skills training

The focus of training provided on the contract should be to support the development of the Targeted Enterprise subcontractor. Construction skills training will only be approved by the Employer's Agent when appropriate.

The Targeted Enterprise, their workforce and hired labour that are selected will be entitled to receive structured training that will improve on-task skills necessary for the execution and successful completion of the works. The Contractor, in conjunction with the Employer's Agent, shall monitor the progress of the hired labour and each Targeted Enterprise closely and shall identify those who, in their collective opinion, will benefit from structured construction skills training as may be provided for in the contract, and where required by the Employer's Agent shall make recommendations in this regard. The final list of candidates shall be decided between the Contractor and the Employer's Agent, and those selected shall receive formal construction skills training in a programmed and progressive manner throughout the duration of the contract.

The training programme shall offer complete courses that could comprise some or all of the following modules:

- (i) Use and maintenance of hand tools;
- (ii) Operation of equipment;

- (iii) Manufacture and installation of minor precast concrete units;
- (iv) Erect, dismantle and maintain formwork;
- (v) Basic concrete skills;
- (vi) Excavation, backfill and compaction;
- (vii) Bricklaying; and
- (viii) Erosion protection using stone pitching, gabions or renos.

F9.12 Training venue facility

The training venue facility to be provided by the Contractor shall be constructed, furnished and fully serviced for the duration of the contract in accordance with Chapter 1.4 of the Standard Specifications for Road and Bridge Works for South African Road Authorities (COTO), Draft Standard (DS), October 2020.

In order to minimise the cost of transporting the learners for training, the facility shall be located in secure premises on the Site, or in close proximity thereto.

This facility shall be used to deliver all training requirements associated with the project. The Training Facility, all the finishings, fixtures and furniture for the facility shall become the sole property of the Employer and shall be relocated by the Contractor to a location as directed by the Employer at the end of the Contract.

The facility shall accommodate a class of up to 25 learners and shall comprise the following:

(a)	Lecture room (interior area)	=	48 m ²
(b)	Ablutions (male)	=	6 m ²
(c)	Ablutions (female)	=	6 m ²
(d)	Chairs for learners (individual chairs, with backs)	=	25 off
(e)	Desk area for 25 learners (500 mm width)	=	12,5 m ²
(f)	Chairs for trainers and management (individual chairs, with backs)	=	5 off
(g)	Table area for trainers and management	=	3 m ²
(h)	220/250 volt power points	=	6 off
(i)	Double 80 watt fluorescent light fittings complete with ballast and tubes	=	6 off
(j)	Single incandescent light fittings complete with 100 watt globes	=	4 off
(k)	Wash hand basins complete with taps and drains	=	4 off
(l)	Fire extinguishers, 9,0 kg, all-purpose dry powder type, complete, mounted on wall with brackets	=	2 off
(m)	Air conditioning units with 2,2 kW minimum capacity, mounted and with own power connection	=	4 off
(n)	Voltage stabilizers	=	2 off
(o)	Floodlights complete with poles and 500 watt minimum globes and controlled by photocells	=	2 off
(p)	White boards (3 m x 1,5 m)	=	1 off
(q)	Venetian blinds	=	12 m ²

The minimum specifications for the structure of the training facilities shall be of minimum park homes with minimum floors of 18mm thick exterior grade timber floor boards on steel cross bearers. The Walls shall be of minimum 50mm thick polystyrene/high density foam core with insulation properties (U-value = 0.6W/M² °C) and minimum 0.5mm white pre-painted galvanized Chromadek sheets on both sides. The roof shall be constructed from 50mm Polystyrene (EPS) core composite panel with Standard Chromadek on the ceiling side and an IBR Chromadek Roof of min 0.5mm thickness pre painted on the outside.

At the end of the Contract, the facilities shall be handed over to the Employer fully serviced, functional, clean and in a neat manner.

F9.13 Enterprise Development Co-ordinator

The contractor shall appoint an Enterprise Development Co-Ordinator who shall:

- a) develop a project specific Enterprise Development plan to improve the targeted enterprise's performance in the identified developmental areas and shall allocate resources to monitor progress in relation to improved performance; and
- b) shall, submit to the employer's representative a monthly enterprise development report (Performa – ED105P) which documents all mentoring activities that have taken place during that month and the progress made in improving the targeted enterprise's performance in the agreed developmental areas, countersigned by the targeted enterprise.

Competence Criteria for an Enterprise Development Co-ordinator

The enterprise development co-ordinator shall have the following competencies:

- 1.1 Minimum experience of 5 years in the construction industry at Managerial level as a Site Agent, Contracts Manager, Site Manager, Construction Manager, Business Development Manager or Enterprise Development Manager.
- 1.2 Minimum experience of 2 years in training and development in Building or Construction; and
- 1.3 National Diploma or B Degree in the Built Environment or Business Management

F10. MEASUREMENT AND PAYMENT

Item	Unit
F10.01 Procurement of Targeted Enterprises:	
(a) Management and execution of Targeted Enterprise procurement process:	
(i) Procurement process for the appointment of CIDB contractor grading designation 1 Targeted Enterprise subcontractor (100 copies of the tender document required for each individual tender) number (No)	
(ii) Procurement process for the appointment of CIDB contractor grading designation 2 Targeted Enterprise subcontractor (80 copies of the tender document required for each individual tender)..... number (No)	
(iii) Procurement process for the appointment of CIDB contractor grading designation 3 Targeted Enterprise subcontractor (60 copies of the tender document required for each individual tender)..... number (No)	
(iv) Procurement process for the appointment of CIDB contractor grading designation 4 Targeted Enterprise subcontractor (50 copies of the tender document required for each individual tender)..... number (No)	
(v) Procurement process for the appointment of CIDB contractor grading designation 5 Targeted Enterprise	

- subcontractor (40 copies of the tender document required for each individual tender)..... number (No)
- (vi) Procurement process for the appointment of CIDB contractor grading designation 6 Targeted Enterprise subcontractor (40 copies of the tender document required for each individual tender)..... number (No)

The unit of measurement shall be the number of individual subcontract agreements concluded with Targeted Enterprise subcontractors according to the CIDB contractor grading designation for all classes of construction works, in accordance with the procurement process described in this PART F.

Each tendered rate shall be in full compensation for the management and execution of the Targeted Enterprise procurement process in the relevant CIDB contractor grading designation scheduled, including for the compilation, printing, binding and issue of the tender documents for each tender, for the advertising of each tender, for the provision of the venue and the conducting of each compulsory briefing session for tenderers, for the conducting of each tender opening process, for the adjudication of the tenders received for each tender, for the preparation of each tender adjudication report and the review thereof in conjunction with the Employer and Employer's Agent, for the award of each tender and for the conclusion of the subcontract agreement with each successful Targeted Enterprise subcontractor tenderer.

Item	Unit
F10.02 Construction Works for Targeted Enterprise subcontractors:	
(a) Payments associated with the construction Works carried out by Targeted Enterprise subcontractors provisional sum (Prov sum)	
(b) Handling costs and profit in respect of subitem F10.02(a)percentage (%)	
(c) Supply of materials and small construction equipment to assist Targeted Enterprise subcontractors..... provisional sum (Prov sum)	
(d) Handling costs and profit in respect of subitem F10.02(c)percentage (%)	
(e) Management of the Targeted Enterprise subcontractors	
(i) Needs Analysis and Enterprise Development Plan per Targeted EnterpriseNumber (No)	
(ii) Monitoring and Interim reporting per Targeted EnterprisePer Quarter	
(iii) Project Completion report per Targeted EnterpriseNumber (No)	
(iv) Skills Development Co-Ordinator (No/month)	

Expenditure under subitems F10.02(a) and (c) shall be in accordance with clause 6.6 of the General Conditions of Contract 2015.

The provisional sum for subitem F10.02(a) is provided to cover the total cost of the construction Works carried out by the Targeted Enterprises subcontractors. This is based on the current works as certified

by the Employer's Agent. For subsequent payments by the Employer to the Contractor, the Contractor shall be required to submit proof of payment to the Targeted Enterprise subcontractors in separate payments for each Targeted Enterprise subcontractor, for the previous invoice of the work done and certified by the Employers Agent in accordance with PART F of the Particular Specifications.

The tendered percentage for subitem F10.02(b) is the percentage of the amount actually spent under subitem F10.02(a), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the construction Works carried out by the Targeted Enterprise subcontractors.

The provisional sum for subitem F10.02(c) is provided to cover the total cost of the materials and small construction equipment supplied by the Contractor to assist the Targeted Enterprise subcontractors based on proof of payment made by the Contractor, as certified by the Employer's Agent, in separate payments for each Targeted Enterprise subcontractor in accordance with PART F of the Particular Specifications.

The tendered percentage for subitem F10.02(d) is the percentage of the amount actually spent under subitem F10.02(c), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the supply of materials and small construction equipment by the Contractor to assist the Targeted Enterprise subcontractors.

The unit of measure for subitem F10.02(e)(i) shall be the Number of Needs analysis and enterprise development plan per Targeted Enterprise. Only one (1) plan will be developed per Targeted Enterprise. The rate shall include full compensation for the development of the Needs Analysis Plan to the satisfaction of the Employer, meeting all the CIDB requirements and shall including any consultations undertaken by the contractor in the development of the plans.

The unit of measure for subitem F10.02(e)(ii) shall be Per Quarter of Monitoring and Interim Reporting per Targeted Enterprise. Payment shall only be made for the period the appointed Targeted Enterprise subcontractors are on site in the execution of the works. The tendered rate shall include full compensation for the conclusion of all the subcontract agreements and the management of all Targeted Enterprise subcontractors, including for the provision of the necessary management support, coaching, guidance and mentoring to the Targeted Enterprise subcontractors.

The unit of measure for subitem F10.02(e)(iii) shall be the Number of Project Completion Reports Completed per Targeted Enterprise. Only one (1) report will be developed per Targeted Enterprise. The rate shall include full compensation for the development of the Completion Report to the satisfaction of the Employer, meeting all the CIDB requirements and shall including any consultations undertaken by the contractor in the development of the report.

The Skills Development Co-Ordinator under subitem F10.02(e)(iv) shall be compensated as per the Number (No) of Targeted Sub Contractors currently employed and actively working on site only for the month. The rate shall include full compensation for all costs associated with developing a project specific Enterprise Development plan and submitting to the employer's representative a monthly enterprise development report (Performa – ED105P) all as per the provisions of F9.13. This rate shall also include any travelling, incidentals, communication costs and any other costs deemed as a requirement for the Skills Development Co-Ordinator to execute their duties. No other claims may be made anywhere else which shall be associated with the Skills Development Co-Ordinator.

Item	Unit
F10.03 Training of Targeted Enterprise subcontractors:	
(a) Generic skills:	
(i) Training costs provisional sum (Prov sum)	
(ii) Handling costs and profit in respect of subitem F10.03(a)(i).....percentage (%)	

- (b) Entrepreneurial skills:
 - (i) Training costs provisional sum (Prov sum)
 - (ii) Handling costs and profit in respect of subitem F10.03(b)(i)percentage (%)
- (c) Construction skills:
 - (i) Training costs provisional sum (Prov sum)
 - (ii) Handling costs and profit in respect of subitem F10.03(c)(i)percentage (%)
- (d) Transportation and accommodation costs of selected learners only, while receiving off-site training:
 - (i) Transportation and accommodation costs provisional sum (Prov sum)
 - (ii) Handling costs and profit in respect of subitem F10.03(d)(i)percentage (%)

Expenditure under subitems F10.03(a)(i), (b)(i), (c)(i) and (d)(i) shall be in accordance with clause 6.6 of the General Conditions of Contract 2015.

The provisional sum for each of subitems F10.03(a)(i), (b)(i) and (c)(i) is provided to cover the total costs of the required training in generic skills, entrepreneurial skills and construction skills respectively, including for the procurement of the services of the accredited trainers and their delivery of the training courses to the learners employed by Targeted Enterprise subcontractors, the provision of all training materials including all stationery and study materials, and the wages of the learners for the duration of the courses. The payment of wages to learners in terms of subitems F10.03(a)(i), (b)(i) and (c)(i) will only be made to those learners who attend and successfully complete each course of the approved training programme. Payment shall not be made to learners who, once selected, do not attend or only partially complete structured training courses.

The Contractor's own personnel shall be permitted to attend the training courses provided for the learners employed by the Targeted Enterprise subcontractors only to the extent that the venue and its facilities can efficiently and comfortably accommodate the additional number of learners. All additional costs relating to such attendance by the Contractor's own personnel shall be carried by the Contractor and shall not be considered for payment in terms of item F10.03, including for any additional costs related to the accredited trainers and their delivery of the training courses, the provision of additional training materials, and the wages of the learners from the Contractor's own personnel for the duration of the courses.

The tendered percentage for each of subitems F10.03(a)(ii), (b)(ii) and (c)(ii) is the percentage of the amount actually spent under each of subitems F10.03(a)(i), (b)(i) and (c)(i) respectively, and shall include full compensation for the handling costs of the Contractor, and the profit in connection with the provision of the training in generic skills, entrepreneurial skills and construction skills respectively, including for the costs of record keeping and reporting with respect to the training received by each learner, and the costs of the compilation of the portfolio of evidence with respect to each Targeted Enterprise subcontractor.

The provisional sum for subitem F10.03(d)(i) is provided to cover all costs related to the transportation and accommodation costs of selected learners only, while receiving off-site training, where such learners have been specifically selected in conjunction with the Employer's Agent to receive such off-site training and where such training cannot be delivered using the training venue facility provided by the Contractor.

The tendered percentage for subitem F10.03(d)(ii) is the percentage of the amount actually spent under subitem F10.03(d)(i), and shall include full compensation for the handling costs of the Contractor, and the profit in connection with the transportation and accommodation costs of selected learners only, while receiving off-site training.

Item	Unit
F10.04 Provision of the training venue facility, including the cost of transporting the learners to and from this facility lump sum (Sum)	

The tendered lump sum for subitem F10.04 shall include full compensation for the provision of the training venue facility complete and serviced as specified, including for the provision of power, water, sewerage and cleaning services for the duration of the contract, for lighting, power points and voltage stabilizers, for air conditioning, blinds, fire extinguishers, floodlights, furniture and whiteboards, for the provision of security at the facility, for all other costs necessary to maintain the facility for the duration of the contract, and for the removal of the facility on completion of the contract to a site as directed by the Employer. The training facility shall be bought and not rented. The facility shall become the sole property of the Employer and shall be transported to a final location by the Contractor as directed by the Employer at the end of the Contract.

The tendered lump sum shall also include full compensation for transporting the learners on each day of training from their place of work to this training venue facility, and back again after the training for the day has been delivered by the accredited trainers.

Payment of the lump sum shall be made in three instalments as follows:

The first instalment, 50% of the lump sum, shall be paid after the Contractor has met all his obligations regarding the provision of the training venue facility, complete and serviced as specified, and the facility has been successfully commissioned for use.

The second instalment, 35% of the lump sum, shall be paid when 75% of the training courses proposed in accordance with the Contractor's approved structured training programme have been delivered to the learners by the accredited trainers.

The third and final instalment, 15% of the lump sum, shall be paid when all training has been concluded and the facility has been removed from the site, transported to the final location as directed by the Employer and fully re-erected where the facility may have been dismantled for transportation purposes.

BILL OF QUANTITIES

PART F: SMALL CONTRACTOR DEVELOPMENT

CONSTRUCTION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION

ZNB02642/00000/00/HOD/INF/25/T

Province of KwaZulu-Natal
Department of Transport

Contract No. ZNB02642/00000/00/HOD/INF/25/T

SCHEDULE A: ROADWORKS					SECTION C1.3	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY		
C1.3	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS					
B13.01	The Contractor's general obligations:					
	(a) Fixed obligations	Sum		1		
	(c) Time-related obligations	month		12		
C1.3	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION C1.5	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY		
C1.5	ACCOMMODATION OF TRAFFIC					
C1.5.7	Temporary traffic control facilities					
C1.5.7.1	Delineators including mounting bases and ballast					
	(a) Single sided reversible left or right (800mm x 200mm)	No	LI	375		
	b) Double sided reversible left or right (800mm x 200mm)	No	LI	375		
C1.5.7.2	Traffic cones, minimum height 750mm	No	LI	125		
C1.5.7.3	Flagmen	man-day	LI	1 050		
C1.5.7.4	Traffic controllers	man-shift	LI	525		
C1.5	TOTAL CARRIED FORWARD TO SUMMARY					

Province of KwaZulu-Natal
Department of Transport

Contract No. ZNB02642/00000/00/HOD/INF/25/T

SCHEDULE A: ROADWORKS					SECTION 1.6	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY		
1.6	CLEARING AND GRUBBING					
C1.6.1	Clearing					
C1.6.1.1	Clearing with machines and some hand labour where necessary	ha		1.78		
C1.6.1.2	Clearing with hand labour only when labour enhanced work is specified	ha	LI	1		
C1.6.3.1	Removal and grubbing of large trees and tree stumps					
	a) Girth equal to or exceed 1m up to 2m	No	LI	20		
	b) Girth equal to or exceed 2m up to 3m	No	LI	2		
C1.6.3.3	Girth exceeding 3m	No	LI	1		
C1.6	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION 1.7	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY		
1.7	LOADING & HAULING					
C1.7.2	Hauling					
C1.7.2.1	Material for use in the works and off loading it on site of the works					
	a) Soil, gravel, crushed stone and pavement layer	m³-km	LI	40 000		
	b) Boulders and hard material	m³-km	LI	500		
C1.7	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS **SECTION C3.1**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY		
C3.1	<u>DRAINS</u>					
C3.1.1	<u>Excavation for open drains:</u>					
C3.1.1.4	Excavating soft material situated on 0m to 1.5m below the surface level using labour enhanced construction method including spoil	m ²	LI	4 453		
C3.1.3.3	Using labour enhanced construction methods					
	a) Manholes, inlet and outlet structures	No	LI	32		
	c) Concrete and other lined side drains	m ³	LI	32		
C3.1.4	Excavation and disposal of material for subsoil drainage system					
C3.1.4.1	Excavating in all material situated within the following depth ranges below the surface					
	a) 0m to 1.5m	m ³	LI	3 125		
C3.1.4.4	Extra over sub-item C3.1.4.1 for excavation in hard and boulder material irrespective of depth	m ³	LI	625		
C3.1.5	Impermeable backfilling to subsoil drainage					
C3.1.5.1	Un-stabilised natural gravel obtained from approved source on the site	m ³	LI	1 875		
C3.1.7	Natural permeable material in subsoil drainage system (approved crushed stone)					
C3.1.7.2	Crushed stone obtained from commercial sources 19mm stone	m ³	LI	940		
C3.1.8	Natural permeable material subsoil drainage					
C3.1.8.2	Natural sand from commercial source	m ³	LI	940		
C3.1.9	Pipes in subsoil drainage systems					
C3.1.9.1	U-PVC pipes and fittings , normal duty, complete with coupling 100mm dia (slotted pipe)	m	LI	1 250		
C3.1.11	Geotextile	m ²	LI	3 750		
C3.1.13.1	Outlet structures	No	LI	13		
C3.1.13.2	Inspection boxes	No	LI	13		
C3.1.13.3	Junction boxes	No	LI	13		
C3.1.13.4	Cleaning eyes	No	LI	13		
C3.1.14	Caps for subsoil drainpipes					
C3.1.14.1	Concrete Caps	No	LI	13		
C3.1.22	Test flushing of subsoil drain pipe systems	No	LI	13		
C3.1	TOTAL CARRIED FORWARD TO SUMMARY					

Province of KwaZulu-Natal
Department of Transport

Contract No. ZNB02642/00000/00/HOD/INF/25/T

SCHEDULE A: ROADWORKS **SECTION C3.2**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY		
C3.2	<u>CULVERTS</u>					
C3.2.1	Excavation for culvert structures:					
C3.2.1.1	Excavating in all material situated within the following depth ranges below the surface level:					
	(i) 0 m up to 1,5 m	m³	LI	1 114		
	(ii) 1,5 m up to 3,0 m	m³	LI	100		
C3.2.1.2	Excavating soft material 0m to 1,5m below the surface level using labour enhanced construction methods or instructed by hand under Clause A3.2.7.2d)	m³	LI	557		
C3.2.1.4	Extra over sub item C3.2.1.1 for excavation in hard or boulder material irrespective of depth	m³	LI	100		
C3.2.2	Backfilling:					
C3.2.2.1	(a) Using the excavated material	m³	LI	368		
C3.2.2.2	Using imported selected material:					
	a) From commercial sources (River sand)	m³	LI	263		
C3.2.3	Concrete pipe culverts	m³				
C3.2.3.2	On class C bedding (Ogee pipe and 600mm diameter	m	LI	50		
C3.2.3.3	On class C bedding (Ogee pipe and 900mm diameter	m	LI	176		
C3.2.5	Rectangular culverts with prefabricated elements					
C3.2.5.1	Prefabricated portal culverts wall and roof combination (900mm x 600mm)	m	LI	214		
C3.2.5.1	Prefabricated portal culverts wall and roof combination (600mm x 600mm)	m	LI	79		
C3.2.5.1	Prefabricated portal culverts wall and roof combination (600mm x 450mm)	m	LI	311		
C3.2.5.1	Prefabricated portal culverts wall and roof combination (1200mm x 600mm)	m	LI	264		
C3.2.7	Cast in situ concrete and formwork					
C3.2.7.2	In Class A bedding screeds concrete backfill and the encasing for pipes including formwork 20/19MPa)	m³	LI	36		
C3.2.10.3	Mild tensile steel	t	LI	2.00		
	High tensile steel	t	LI	4.00		
C3.2.10.3	Welded steel fabric ref 193	kg	LI	300		
C3.2.16	Brickwork					
C3.2.16.2	230mm thick	m²	LI	300.00		
C3.2.19	Accessories					
C3.2.19.1	Manhole frames	No	LI	25.00		
C3.2.19.4	Manhole covers or gratings	No	LI	25.00		
C3.2.19.6	Inlet channel gratings	No	LI	25		
C3.2.24	Compaction of bedding for inlet and outlet manholes and catchpits					
C3.2.24.1	Preparation and compaction of in situ bedding material to 90% of MDD	m³	LI	263		
C3.2	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION C3.3	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY		
C3.3	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS					
C3.3.1	Prefabricated kerbing					
C3.3.1.1	a) Type 6 : SABS 927-1969	m	LI	360		
C3.3.6	Concrete chutes					
C3.3.6.2	Cast in situ concrete chutes (SD0605/A, Class 20/19MPa, U2 surface finish	m	LI	125		
C3.3.7.3	Stone pitching Chutes					
C3.3.7.1	b) Grouted stone pitching	m ²	LI	250		
C3.3.15	Energy dissipaters in outlet structures					
C3.3.15.1	Precast concrete blocks in outlet structures (SD0603/1)	No		125		
C3.3.15.2	Stones set in outlet structure(SD0603/1)	m ²		125		
C3.3	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS **SECTION C4.2**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD
1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY		
C4.2	CUTS					
C4.2.3	Excavating of material in cuttings and material obtained from					
C4.2.3.1	Soft Excavation	m ³		5 000		
C4.2.3.4	Hard excavation (other than blasting)	m ³		1 250		
C4.2.3.5	Hard excavation (by blasting)	m ³		1 250		
C4.2.4	Excavating material in the box cuts and material obtained from					
C4.2.4.1	Soft excavation	m ³		44 511		
C4.2.6	Widening of existing cuttings					
C4.2.6.4	Hard excavation (other than blasting)	m ³		1 250.0		
C4.2.7	Removal of unsuitable stable cut material to spoil					
C4.2.7.2	In layer thicknesses exceeding 200mm	m ³		1 250.0		
C4.2.9	Excavating material to spoil in sites designated by the contractor material obtained from					
C4.2.9.1	Soft material	m ³		44 511		
C4.2	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION C11.1	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY		
C11.1	PITCHING STONEMWORK, CAST IN SITU CONCRETE FOR PROTECTION AGAINST					
11.1.2	Stone Pitching					
C11.1.2.1	Plain stone pitching					
	(a) Stone Pitching	m²		62		
C11.1.2.3	Gouted stone pitching on a concrete bed	m²	LI	62		
C11.1	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION C11.2	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY		
C11.2	GABIONS					
C11.2.1	Foundation trench excavation & backfilling:					
11.2.1.1	Excavating in all material situated with the following depth ranges below the surface level					
	0m to 1.5m	m³	LI	496.0		
11.2.1.2	Extra over sub item 11.1.2.1 for excavation in hard	m³	LI	50.0		
11.2.2	Surface preparation for bedding the gabions	m²	LI	496.0		
11.2.3	Gabions:					
	(a) Galvanised gabion boxes:					
11.2.3.1	(i) 2,0m long x 1,0m wide x 1,0m deep (mesh size 80mm x 100mm, with 2,7mm OD frame wire & 2,2mm OD mesh wire)	m³	LI	352.0		
11.2.3.3	(i) 6,0 m long x 2,0 m wide x 0,3m thick	m³	LI	65		
11.2.4	Filter fabric:					
	(b) Grade B	m²	LI	1 020		
C11.2	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION C11.3	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY		
C11.3	GUIDE BLOCKS AND KILOMETRE MARKERS					
C11.3.2	Kilometre markers mounted on the concrete reinforce pipe (600mm x600mm diameter)	No	LI	6.0		
PSC11.3.4	Repainting of kilometer post	No	LI	6.0		
C11.3	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS					SECTION C11.4	
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.						
ITEM No	DESCRIPTION	UNIT	LI	QUANTITY		
C11.4	ROAD RESTRAINT SYSTEM					
11.4.1	Erecting of guardrails at 3.81m spacing					
11.4.1.1	Complete galvanized system complaint SANS1350	m	LI	2 500		
11.4.4	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		750		
11.4.1.2	End treatments:					
	(a) End wings	No	LI	30		
	(b) Bull Nose	No	LI	30		
	c) Bridge adapters to SANS	No	LI	8		
	e) End treatment	No	LI	20		
11.4.5	Additional guardrail posts:					
11.4.6	Reflective plates	No.	LI	300		
11.4.7	Remove existing guardrail	No.	LI	50		
11.4.9	Re-erection of guardrails with recovered or provided material	m	LI	100		
C11.4	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS **SECTION C11.6**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM No	DESCRIPTION	UNIT	LI	QUANTITY		
C11.6	ROAD SIGNS					
11.6.1	Road sign boards with painted or coloured semi-matt background. Symbols, lettering & borders in semi-matt black or in Class I retro-reflective material, where sign board is constructed from:					
11.6.1.1	Aluminium sheet 2.0mm thick					
	(a) Area 0 to 0,5 m ²	m ²	LI	30		
	(b) Area exceeding 0,5 m ² but not 2,0 m ²	m ²	LI	30		
	(c) Area exceeding 2,0 m ² but not 10 m ²	m ²		15		
11.6.1.7	Regulatory sign permanent					
	(a) 600mm diameter sign material background and symbol retro-reflective class	No.	LI	52		
	(b) 900mm diameter sign material background and symbol retro-reflective class	No.	LI	21		
	(c) 1200mm diameter sign material background and symbol retro-reflective class	No.	LI	21		
C11.6.3	Road sign supports (overhead road sign structures excluded)					
C11.6.3.1	Steel tubing (diameter and wall thickness indicated)	t		0.2		
C11.6.5	Excavation and backfilling for road sign supports					
C11.6.5.1	Excavating soft material and backfilling	m ³		30		
C11.6.5.3	Extra over item C11.6.5.1 and 2 for cement-treated soil backfill	m ³		15		
C11.6.10	Disposing of road signs with a surface area of					
C11.6.10.1	Area 0 to 0,5 m ²	m ²		6		
C11.6.10.2	Area exceeding 0,5 m ² but not 2,0 m ²	m ²		6		
C11.6.10.3	Exceeding 2,0 m ² but not 10 m ²	m ²		3		
C11.6	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE 1/SCHEDULE A: ROADWORKS **SECTION C11.7**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY		
C11.7	ROAD MARKINGS					
11.7.1	Road marking					
11.7.1.1	White lines broken					
	(a) 100 mm wide	km		17.812		
	(b) 200 mm wide	km		17.812		
	(c) 300 mm wide	km		5.74		
C11.7.1.2	Yellow lines unbroken (100 mm wide)	km		5.74		
C11.7.1.4	White lettering and symbols	m ²		100		
C11.7.1.5	Yellow lettering and symbols	m ²		100		
C11.7.1.15	Labour enhanced hand operated pressure applied machine white lines broken	m ²		280		
C11.7.1.16	Labour enhanced hand operated pressure applied machine yellow lines unbroken	m ²		1150		
C11.7.1.18	Labour enhanced hand operated pressure applied machine white lettering and symbols	m ²		100		
C11.7.1.19	Labour enhanced hand operated pressure applied machine yellow lettering and symbols	m ²		10		
11.7.5	Variation in rate application					
11.7.5.1	White paint	l		100		
11.7.5.2	Yellow paint	l		100		
11.7.7	Road studs					
11.7.7.1	Permanent road studs compliant to SANS 1442 (a) 100 mm x 100 mm x 20 mm high, plastic stick-on type with 43-bead glass reflectors (bi-directional Stimsonite, any colour)	No	LI	1060		
11.7.8	Setting out and premarking the lines (excluding traffic-island markings, lettering and symbols)	km		17.5		
11.7.9	Re-establishing the painting unit at the end of the maintenance period	No	LI	1		
C11.7	TOTAL CARRIED FORWARD TO SUMMARY					

SCHEDULE A: ROADWORKS **SECTION C11.8**
COMPLETION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION.

ITEM NO	DESCRIPTION	UNIT	LI	QUANTITY		
C11.8	LANDSCAPING AND PLANTING PLANTS					
C11.8.3	Preparing the areas for grassing					
C11.8.3.1	Ripping	ha		2		
C11.8.3.2	Scarifying for loosening topsoil	ha		2		
C11.8.3.3	Topsoiling within the road reserve where the following materials are used					
	(b) Topsoil obtained from commercial sources by the Contractor	m³		100		
C11.8.3.5	Providing and applying chemical fertilisers and/or soil-improvement material					
	(b) Superphosphate	t		2		
C11.8.4	Grassing					
C11.8.4.1	The planting of grass cuttings	ha		2		
C11.8.4.2	Sodding by using the following types of sods					
	(a) Nursery sods	m²		20000		
	(b) Veld sods	m²		20000		
C11.8.10	Unspecified work for landscaping	P/Sum		1		
C11.8	TOTAL CARRIED FORWARD TO SUMMARY					

C3.3 PARTICULAR SPECIFICATIONS

PART G: CIDB CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)

**PART G: CIDB CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)
BILL OF QUANTITIES**

CONSTRUCTION OF PARTLY CONSTRUCTED ROAD, PRISM, DRAINAGE, LAYERWORKS AND SURFACING ON DISTRICT ROAD 1841, KM 4.50 TO KM 10.24 IN THE EMPANGENI REGION

ZNB02642/00000/00/HOD/INF/25/T

SCHEDULE G: CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)

						SECTION G
ITEM	DESCRIPTION	LI	UNIT	QTY	RATE	AMOUNT R
Total Brought Forward From Summary (Pg C54) For CSDG – 0.25% of SUBTOTAL 1)						
G	CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)					
G7.01	(a) Employment of Learners employed under Method 1:					
	(i) Provision for stipends		Number	3		
	(ii) Provision for additional Costs		Number	3		
	(b) Employment of Learners employed under Method 2:					
	(i) Provision for stipends		Number	3		
	(ii) Provision for additional Costs		Number	3		
	(c) Employment of Learners employed under Method 3					
	(i) Provision for stipends		Number	3		
	(ii) Provisions for mentorship		Number	3		
	(iii) Provisions for additional Costs		Number	3		
	(d) Employment of Learners employed under Method 4					
	(i) Provision for stipends		Number	3		
	(ii) Provisions for mentorship		Number	3		
	(iii) Provisions for additional Costs		Number	3		

PART G: CIDB CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)

G1. SCOPE

This part provides the specifications with regard to the following:

- (a) The Contract Skills Development Goals as per the Standard for developing skills through infrastructure contracts, 2020 as gazetted in the Government Gazette No. 43495, 3 July 2020.

The below specifications are intended as a guide and are to be read in conjunction with the above-mentioned standards for the implementation of the programme.

G2. STANDARD FOR DEVELOPING SKILLS THROUGH INFRASTRUCTURE CONTRACTS

The South African government requires that its considerable expenditure on the delivery, maintenance and operation of infrastructure (fixed assets that are constructed or result from construction operations) contribute to an increase in the number of people who have part or full occupational qualifications registered on the NQF or professional designations awarded by professional bodies or statutory councils.

The CIDB B.U.I.L.D Standard for developing skills through infrastructure contracts has been prepared to leverage contributions towards the increase of the pool of qualified skilled people, and where required professionally registered, through training on professional services, services, design and build or engineering and construction works contracts associated with such expenditure. This standard establishes a minimum contract skills development goal which is to be achieved in the performance of a contract in relation to the provision of different types of workplace opportunities linked to work associated with a contract which culminate in or lead to:

- a) a part or full occupational qualification registered on the National Qualification Framework;
- b) a trade qualification leading to a listed trade (GG No. 35625, 31 August 2012);
- c) a national diploma registered on the National Qualification Framework; and
- d) registration in a professional category by one of the professional bodies listed in Table 1 below.

Table 1: Categories of registration

PROFESSION	CATEGORY OF REGISTRATION	ACT
Construction project management	Construction Project Manager	Project and Construction Management Professions Act of 2000 (Act No. 48 of 2000)
Engineering	Engineer, Engineering Technologist, Engineering Technician or Certificated Engineer	Engineering Profession Act of 2000 (Act No. 46 of 2000)

The Contractor shall be responsible for achieving the contract skills development goal and are provided with a number of methods for measuring their achievements. They may, if need be, devolve their obligations onto subcontractors.

G3. REQUIREMENTS

G3.1 CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)

G3.1.1 The contractor shall attain or exceed the contract skills development goal OF 0.25% in the performance of the contract or the execution of an order.

G3.1.2 Where required in terms of the contract, a specified proportion of the learners and candidates

shall be selected from persons in the employ of the state who meet the relevant eligibility criteria for the relevant programme.

G3.1.3 Where required in terms of the contract or order, the employer shall advise the contractor of the types of training to be undertaken by the learners and candidates based on the needs and requirements of the candidate's qualifications.

G3.2 ACHIEVING THE CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)

G3.2.1 The contractor shall achieve the measurable contract skills development goal by providing opportunities to learners requiring structured workplace learning using one or a combination of any of the following in relation to work directly related to the contract

Method 1: structured workplace learning opportunities for learners towards the attainment of a part or a full occupational qualification;

Method 2: structured workplace learning opportunities for apprentices or other artisan learners towards the attainment of a trade qualification leading to a listed trade (GG No. 35625, 31 August 2012) subject to at least 60% of the artisan learners being holders of public TVET college qualifications;

Method 3: work integrated learning opportunities for University of Technology or Comprehensive University students completing their national diplomas;

Method 4: structured workplace learning opportunities for candidates towards registration in a professional category by a statutory council listed in Table 1 above.

G3.2.2 Employed learners may not account for more than 33 percent of the contract skills development goal.

G3.2.3 Not more than one method may be applied to any individual concurrently in the calculation of the contract skills development goal.

G3.3 CONTRACT SKILLS DEVELOPMENT GOAL CREDITS

G3.3.1 Contract skills development credits will not be awarded for learners enrolled as beneficiaries of other funded or subsidised programmes.

G3.3.2 In the case of engineering and construction works, design and build and services contracts:

- a) The contract skills development goals shall be granted by multiplying the number of people employed by the contractors and placed for continuous training opportunities in a three-month period by the notional values contained in Table 3 as published in the Standard for developing skills through infrastructure contracts, 2020 as gazetted in the Government Gazette No. 43495, 3 July 2020, or as revised in a Gazette notice.
- b) The contractor may source beneficiaries of the contract skills development goal from the cidb Skills Development Agency (SDA).
- c) All beneficiaries of the Standard must be registered with the cidb SDA.

G3.4 DENIAL OF CREDITS

Credits towards the contract skills development goal shall be denied should:

- a) the opportunities not be provided on site or the opportunities cannot be directly linked to the contract;
- b) Failure to register all beneficiaries of the Standard be with the cidb SDA;
- c) Failure to submit a copy of the final contract compliance training report within 15 days of practical completion;

- d) the following not be provided:
 - 1) the required contract compliance baseline plan, an interim contract compliance report or a final contract compliance report;
 - 2) the required mentorship plan for a candidate not be provided;
 - 3) the required training plan for learners not be provided;
 - 4) the training reports covering a period not be provided;
 - 5) the required records, specified documents and signatures not be provided;
 - 6) the structured mentorship is found not to be in accordance with the requirements of the applicable professional body, statutory council or qualifying authority;
 - 7) the structured workplace learning is found not to be in accordance with the curriculum requirements of the part qualification or occupational qualification or prescription for professional registration for which the learner is registered;
- e) conditions of employment and rates of allowances for learners not be in accordance with legislative provisions; and
- f) the contractor does not maintain the required training records, or an audit reveals that there is insufficient information to substantiate claims for credits.
- g) the contractor claims credits for learners enrolled as beneficiaries on programmes that are funded or subsidised from another source.
- h) the contractor fails to provide sufficient evidence of disciplinary actions taken against a learner who fails to present their interim reports or credentials for assessment when they have had sufficient structured work experience or structured mentorship to do so.

G4 COMPLIANCE WITH REQUIREMENTS

G 4.1 GENERAL

G 4.1.1 The contractor shall submit to the employer's representative:

- a) within 30 days of the contract coming into effect or the issuing of an order, a contract compliance baseline training plan taking into account the skills mix and type of workers that are to be engaged;
- interim contract compliance training reports at intervals which do not exceed 3 months; and
- b) a final contract compliance training report within 15 days of reaching practical completion of the construction works.

G4.1.2 The information contained in the final contract compliance training report shall include the contract skills development goal achieved (in Rands or in hours) in the performance of the contract and a breakdown of the goal achieved in respect of the following:

- a) the name and contact details of the SDA,
- b) the skills mix and skills types achieved on the contract; and
- c) the names, ID numbers and period of employment of each learner and
- d) candidate.

G4.1.3 The contractor shall keep records of the hours worked and registration particulars towards compliance with this standard. The contractor shall allow the employer's representative to inspect or audit such training records at any time.

G4.1.4 The employer's representative shall undertake suitable random audits on records to confirm compliance with requirements.

G4.1.5 The learners shall be directly employed by the contractor or SDA. The contractor shall enter into a contract agreement with the cidb SDAs, training provider or skills development facilitator of their choice participating in the implementation of this standard to:

- a) prepare training plans for registered learners, including details of the scope of experiential

- work to be covered and expected outcomes;
- b) register learners with the appropriate Sector Education and Training Authority established in terms of the Skills Development Act of 2008 (Act 37 of 2008);
- c) manage learner registration with appropriate trade testing authorities as well as preparation for the trade test;
- d) liaise with the supervisor to monitor onsite training progress of learners;
- e) liaise with the supervisor to arrange for summative assessments at appropriate stages of the training; and
- f) liaise with the supervisor to prepare reports for the employer or employer's representative.

G4.2 STRUCTURED WORKPLACE LEARNING OPPORTUNITIES FOR LEARNERS

G4.2.1 Structured workplace learning opportunities shall be aligned to the curriculum requirements set for the particular part or full occupational qualification or professional designation for which the learner is registered.

G4.2.2 A responsible supervisor will be appointed to allocate learning tasks, under the guidance of a competent person, to learners in line with their training plans.

G4.2.3 Mentoring associated with structured workplace learning for artisan learners shall be undertaken by an artisan in the applicable trade with a minimum of 3 years of trade specific experience. The number of artisan learners mentored by a single mentor shall, unless otherwise permitted by the National Artisan Moderation Body, not exceed 4 at any one time.

G4.2.4 Supervision associated with structured workplace learning for learners leading to a part or full occupational qualification other than artisan learners shall be undertaken by a person qualified in the applicable discipline with a minimum of 3 years of post qualification experience.

G4.2.5 The contractor shall submit to the employer's representative, in respect of each learner:
a) within one month of commencing work directly related to the contract or order, a workplace training plan together with name of the learner's mentor and supervisor;

- b) within one month of commencing work directly related to the contract or order:
 - 1) proof of registration as a learner with the relevant SETA where applicable; and
 - 2) a copy of the mentorship agreement entered into with the learner or the company mentorship agreement entered into with the relevant qualified agency;

- c) within two weeks of updating a workplace training plan, the revised workplace training plan;
- d) a quarterly progress report and a final report at the end of the structured mentorship period including a log of exposure and interactions with the mentor in sufficient detail to demonstrate compliance with requirements, signed off by the mentor, the supervisor and the learner.

G4.2.6 Learners shall be required by the mentor to complete training reports required by the relevant qualifying authority whenever a substantial activity or training period has been completed.

G4.2.7 The mentor and supervisor shall sign off all reports and logbooks to allow the learner to move to other projects or employment and continue the path towards a qualification.

G4.3 STRUCTURED WORKPLACE LEARNING FOR CANDIDATES

G4.3.1 Mentoring associated with structured workplace learning for candidates shall be in accordance with the prescripts of the relevant professional body or statutory council.

G4.3.2 The contractor shall:

- a) appoint a supervisor who is actively engaged in work directly associated with the contract to issue tasks, oversee their implementation and provide input to the candidate on an on-going basis;

- b) identify a suitable mentor for the candidate. If the contractor does not have an inhouse mentor, the contractor shall enter into a mentoring agreement with the candidate and an external company as required by the professional body or statutory council; and
- c) issue each candidate with a portfolio of evidence file which is to be kept up to date with all the documentation issued or prepared including the workplace training plan and all revisions thereof as well as copies of the logbook entries and training experience reports.

G4.3.3 The mentor shall from time to time provide an updated workplace training plan for a candidate outlining the activities in which the candidate will be involved, including activities required by the relevant professional body or statutory council. The mentor shall require candidates to maintain a logbook issued by the relevant professional body or statutory council. The mentor shall sign off such logbook at quarterly presentations and progress review meetings.

NOTE: The mentor should ensure where the duration of the contract or order exceeds the minimum time to register in a professional category of registration that candidates are exposed to the full range of activities and work towards assuming the full level of responsibility recommended by the relevant professional body or statutory council. This may require rotations and secondments.

G4.3.4 The contractor shall submit to the employer's representative, in respect of each candidate:

- a) within one month of commencing work directly related to the contract or order:
 - 1) a workplace training plan together with name of the candidates' mentor and supervisor;
 - 2) proof of registration as a candidate with the relevant professional body or statutory council; and
 - 3) register all beneficiaries of the Standard with the cidb SDA
- b) within one month of commencing work directly related to the contract or order a copy of the mentorship agreement entered into with the candidate or the company mentorship agreement entered into with a professional body or statutory council;
- c) within two weeks of updating a workplace training plan, the revised workplace training plan;
- d) quarterly progress reports and a final report at the end of the structured mentorship period including a log of exposure and interactions with the mentor in sufficient detail to demonstrate compliance with requirements, signed off by the mentor, the supervisor and the candidate.

G4.3.5 Candidates shall be required by the mentor to complete training reports required by the relevant professional body or statutory council whenever a substantial activity or training period has been completed.

G4.3.6 The mentor and supervisor shall sign off all reports and logbooks to allow the candidate to move to other projects or employment and continue on the path towards registration where the work related to the contract ends for whatever reason prior to the candidate gaining sufficient experience for registration.

G5 RECORDS

G5.1 The contractor shall submit all the documentation required in terms of clause 4 in a timely manner and according to a prescribed format where applicable. The contractor shall submit to the Employer's Representative the following proformas:

- Form A2 Baseline Training Plan
- Form A3 Project Interim Report
- Form A5 Project Completion Report

G5.2 The employer's representative shall certify the value of the credits counted towards the contract skills development goal, if any, whenever a claim for payment is issued to the employer and shall notify the contractor of this amount.

G5.3 The contractor shall, upon termination of the opportunities provided in order to satisfy the contract skills development goal, certify the quantum and nature of the opportunity

and submit the certificate, counter-certified by the relevant individual, to the employer's representative for record-keeping purposes.

G5.4 PRO-FORMA DOCUMENTS

The following Annexures are contained at the end of Part G Specifications and shall be used by the contractor in relation to all the reporting requirements.

Annexure 1 - Form A1 List of Recognised Skills Development Agencies
Annexure 2 - Form A2 Baseline Training Plan
Annexure 3 - Form A3 Project Interim Report
Annexure 4 - Form A4 Supervisor Agreement
Annexure 5 - Form A5 Project Completion Report

G6 SANCTIONS

- G6.1** In the event that the contractor fails to substantiate that any failure to achieve the contract skills development goal was due to reasons beyond the contractor's control which may be acceptable to the employer, the sanctions provided for in the contract shall apply.

G7 MEASUREMENT AND PAYMENT

Item	Unit
G7.01 Payments associated with the Contract Skills Development Goals:	
(a) Employment of Learners employed under Method 1	
(i) Provision for stipends.....	Number (No.)
(ii) Provision for additional Costs	Number (No.)
(b) Employment of Learners employed under Method 2	
(i) Provision for stipends.....	Number (No.)
(ii) Provision for additional Costs	Number (No.)
(c) Employment of Learners employed under Method 3	
(i) Provision for stipends.....	Number (No.)
(ii) Provisions for mentorship	Number (No.)
(iii) Provision for additional Costs	Number (No.)
(d) Employment of Candidates employed under Method 4	
(i) Provision for stipends.....	Number (No.)
(ii) Provisions for mentorship	Number (No.)
(iii) Provision for additional Costs	Number (No.)

The payment items under subitem G7.01(a)(i), (b)(i), (c)(i) and (d)(i) shall be the stipends associated

with each Number of Students/Learners/Candidates employed under each methods for the duration of the projects and shall be used to cover the cost of stipend payments made by the Contractor to the participants of the Skills Development Programme, including any associated COIDA and UIF payments, all as authorised by the Employer's Agent.

Where an unemployed learner is employed directly by the contractor, the contractor shall pay the stipend directly to the learner.

Where an unemployed learner is sourced through an SDA, training provider or skills development facilitator the contractor must pay the stipend to the SDA, training provider or skills development facilitator who in turn will pay the learner.

The notional cost of providing training opportunities will be increase by CPI on an annual basis. The new, revised costs will be published on the cidb website on the 1st April in each year.

The provisional sum under subitem G7.01(a)(ii), (b)(ii), (c)(iii) and (d)(iii) shall be used to cover all costs associated with the provision personal protective equipment, insurance, medical assessments, course fees and trade tools (where applicable) and storage thereof, assessment, moderation and monitoring of learners., all as authorised by the Employer's Agent.

The unit of measure for subitems G7.01 (c)(ii) and (d)(ii) shall be the Number (No) of mentors employed by the contractor to provide any mentorship for students and candidates employed under method 3 and 4, all as authorised by the Employer's Agent, and shall cover all associated costs for mentorship including travelling, preparation of reports, preparation and review of training plans and any other costs associated with the Mentor fulfilling the requirements of Clause G4.3.

Table 3: The notional cost of providing training opportunities per quarter

The costs for providing training opportunities for this contract shall be as detailed in Table 3, and as published by CIDB on the Standards for Skills Development.

Type of Training Opportunity	Provision for stipends (Unemployed learners only)	Provisions for mentorship	Provisions for additional costs*	Total costs	
				Unemployed learners	Employed learners
Method 1					
Occupational qualification	R7 000	R0	R9 000	R16 000	R9 000
Method 2					
TVET College graduates	R14 000	R0	R9 000	R23 000	N/A
Apprenticeship	R14 000	R0	R12 000	R26 000	R12 000
Method 3					
P1 and P2 learners, or a 240 credits qualification	R24 000	R20 000	R4 500	R48 500	N/A
Method 4					
Candidates with a 360 credits qualification	R37 000	R20 000	R4 500	R61 500	R20 000
Candidates with 480 or more credits qualification	R47 000	R20 000	R4 500	R71 500	R20 000

**PART G: CIDB CONTRACT SKILLS DEVELOPMENT GOAL (CSDG)
ANNEXURES**

Annexure 1 Form A1 List of Recognised Skills Development Agencies

CIDB Recognised Skills Development Agencies								
No	Name of SDA	SDA Registration Number	Status	Recognition Date End	Province	Contact Person	Contact Number	Email Address
01	CIDB SDA	SDA/ZA/16/00001	Active	01/04/2025	National	Pranveer Harriparsadh	012 482 7230	pranveerh@cidb.org.za
02						Thabelo Ramaru	012 482 7249	thabelor@cidb.org.za
03								
04								

Annexure 2 - Form A2 Baseline Training Plan

CIDB SKILLS STANDARD BASELINE TRAINING PLAN

Contractor Details						
Contractor Name:						
CRS Number:						
Estimated start date						
Estimated Completion date						
Size of Organisation	Small (1-49 employees)		Medium (50-149 employees)		Large (≥150 employees)	

Contractor Contact Details	
Name of Contact Person	
Designation of Contact Person	
Contact Details	Cell Number:
	Landline Number:

Contractor Contact Details	
	Email address:

Contract Data				
Project Name				
CIDB Contract Number				
Name of Client:				
Project Description				
Final Tender Sum (at tender award)				
Project Location				
Project duration				
Estimated start date				
Estimated Completion date				
Description	Designation	Project Value	CSDG %	Min CSDG Target
Civil Eng.	CE		0.25	
General Building	GB		0.50	
Civil & General Building	CE & GB		0.375	
Electrical Eng.(Building)	EB		0.25	
Electrical Eng.(Infrastructure)	EP		0.25	
Mechanical Eng.	ME		0.25	
Specialist	SW		0.25	
Total				

Construction Skills Development Goal (CSDG) Baseline Training Plan					
Training Method	Number of Employed Learners	Number of Unemployed Learners	Area/s of Specialisation/Trade	Duration of Placement	Total Notional Cost
Method 1: Skills Programme					
Method 2: FET College Graduates/ Apprenticeship					
Method 3: P1 and P2 learners or a 240 credit qualification					
Method 4: Candidacy with 360 credit qualification					
Total					

Note: Refer to Table 3 in the Standard for Developing Skills through Infrastructure Contracts Government Gazette 43495 of 3 July 2020 for the notional costs

Contractor's Representative Name: _____ Designation: _____

Signature: _____ Date: _____

Employer's Representative Name: _____ Designation: _____

Signature: _____ Date: _____

For Office Use for SDA				
Action	Status			
Project verified on CIDB Register of Projects (RoP)	Yes		No	
Training plans developed	Yes		No	
Appropriate learners available	Yes		No	
Target learners sent to contractor	Yes		No	
SDA processes explained to contractor	Yes		No	
Placement plan developed	Yes		No	
Training Method	Percentage (%) contribution to the CSDG			
Method 1				
Method 2				
Method 3				
Method 4				
Total				

CIDB SDA Contact Person: Mr Pranveer Harriparsadh or Thabelo Ramaru
Email address: pranveerh@cidb.org.za or thabelor@cidb.org.za Tel. 012 482 7230/7249

SDA Representative Name: _____ Designation: _____

Signature: _____ Date: _____

FORM A3: PROJECT INTERIM TRAINING REPORT

Section A: Employer Information

Section B: Contract Data

odds Contract Number
Contract Title
Tender Value (R)
Contract Skills Development Goal (R)
SIP Number (if Applicable)
SIP Project Code (if Applicable)

SECTION C: Definitions and Beneficiary Information

Training Methods: structured workplace learning opportunities for learners towards the attainment of a part or a full occupational qualification;
Method 1M1: structured workplace learning opportunities for apprentices or other artisan learners towards the attainment of a trade qualification leading to a listed trade subject to at least 60% of the artisan learners being holders of public TVET college qualifications;
Method 2M2: structured workplace learning opportunities for apprentices or other artisan learners towards the attainment of a trade qualification leading to a listed trade subject to at least 60% of the artisan learners being holders of public TVET college qualifications;
Method 3M3: work integrated learning opportunities for University of Technology or Comprehensive University students completing their national diplomas;
Method 4M4: structured workplace learning opportunities for candidates towards registration in a professional category by a statutory council listed in Table 1 in the CIDB Standard for Developing Skills Through Infrastructure Contracts Gazette No. 43495

Learner/Candidates Full Name and Surname	Gender	Ethnic Group			Identity Number										Training Method (Please tick)				Placement Start Date	Placement End Date	Occupation/Trade Description	Description of Practical Task Completed (as per logbook or POE)	Status	Supporting documents available on request (Yes/No or N/A)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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Section D: Declaration: Contractor Representative

I, the undersigned, warrant that:

- I am duly authorised to submit this notice on behalf of the Contractor
- The contents of this notice are within my personal knowledge, and are to the best of my belief both true and correct.

Signature: _____

Date completed: _____

Name of Contractor Rep	Title	Initials	Surname
Designation			
e-mail			
Mobile			
Office Telephone			
Dated			

I, the undersigned warrant that:

- I am duly authorised to submit this notice on behalf of the Contractor
- The contents of this notice are within my personal knowledge and are to the best of my belief both true and correct.

Signature _____

Date completed: Y Y Y Y - M M - D D

Section E: Declaration: Employer's Representative or

Name of Representative: This _____	Initial _____	Signature _____
Designation _____		
e-mail _____		
Mobile _____		
Office Telephone _____		
Date _____	____/____/____	____/____/____

I, the undersigned warrant that:
The contents of this notice are within my personal knowledge, and are to the best of my belief both true and correct.

Annexure 4 - Form A4 Supervisor Agreement

Memorandum of understanding between Supervisor and Learner

The Contractor is responsible for the effective management of the learning opportunities provided through the cidb *Standard for the Development of Skills through Infrastructure Contracts* (cidb Skills Standard). The attainment of successful learning outcomes and professional development of the learners is largely dependent on the relationship between the assigned Supervisor and the Learner . As a participant in the implementation of the cidb Skills Standard you agree to the Supervisor relationship and commit to endeavour through the challenges of a construction project to give value to the training programme.

The Responsibilities of a Supervisor to the Learner include:

- stimulating a passion for construction
- sharing technical and practical knowledge
- fostering the development of technical and leadership skills
- facilitating networking within the working community
- instilling an expectation of personal growth and learning by the Learner
- developing knowledge and understanding in the areas of health, safety, environment, quality and production
- inculcating professionalism and a desire for continual improvement by the Learner
- creating a nurturing relationship that instils a sense of discipline and professional pride
- giving constructive feedback and
- signing the Learners logbook.

Supervisor's name _____

Signature:

_____ Date: _____

The Responsibilities of a Learner are:

- adhere to the Host Employer's onsite rules and policies
- have an expectation of personal growth and learning
- to be enthusiastic and motivated
- to be open and accept supervision from the Supervisor and other colleagues

- to develop a thorough understanding of health, safety, environment, quality and production
- to have a positive attitude
- to display a strong sense of discipline and to be conscious of time
- to operate within the team
- to take the time to learn and practice new skills
- to make time to fill in your logbook and obtain the Supervisor's signature for completed tasks

Intern's Name: _____ ID No: _____

Signature: _____ Date: _____

Section B: Contract Data

Training Methods:

- Method 1 (M1):** structured workplace learning opportunities for learners towards the attainment of a part or a full occupational qualification;
- Method 2 (M2):** structured workplace learning opportunities for apprentices or other artisan learners towards the attainment of a trade qualification leading to a listed trade subject to at least 60% of the artisan learners being holders of public TVET college qualifications;
- Method 3 (M3):** work integrated learning opportunities for University of Technology / Comprehensive University students completing their national diploma;
- Method 4 (M4):** structured workplace learning opportunities for candidates towards registration in a professional category by a statutory council listed in Table 1 in the CDB Standard for Developing Skills Through Infrastructure Contracts Gazette No. 434/95

Section D: Declaration; Contractor Representative

- I, the undersigned warrant that:
- I am duly authorised to submit this notice on behalf of the Contractor
- The contents of this notice are within my personal knowledge, and are to the best of my belief both true and correct.

Date completed	Y	Y	Y	Y	-	M	M	-	D	D
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I, the undersigned warrant that:

- The contents of this notice are within my personal knowledge, and are to the best of my belief both true and correct.

Date completed	Y	Y	Y	Y	-	M	M	-	D	D
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PART C4: SITE INFORMATION

<u>TABLE OF CONTENTS</u>	Page
C4.1 LOCALITY PLAN	C184
C4.2 EXAMPLE OF CONTRACT SIGNBOARD DETAILS	C185
C4.3 EXISTING SERVICES REPORT	C187
C4.4 CONDITIONS ON SITE: MATERIALS INFORMATION	C188
C4.5 TRAFFIC INFORMATION	C191
C4.6 ANY OTHER RELEVANT TECHNICAL REPORTS	C196

C4.1 LOCALITY PLAN

On the N2 North bound after Mkuze, turn right onto the P522-1 towards Jozini and continue for about 60km. Turn right at the T-Junction of P443 and P522-2 and travel on P522-2 for about 11km. Turn left at the T-Junction of P522-2 and P435 and travel for about 15km to the T-Junction of P435 and the newly constructed D1841 access which has been re-aligned to continue with the future alignment of D1841 KM 4.50 to KM 10.24.

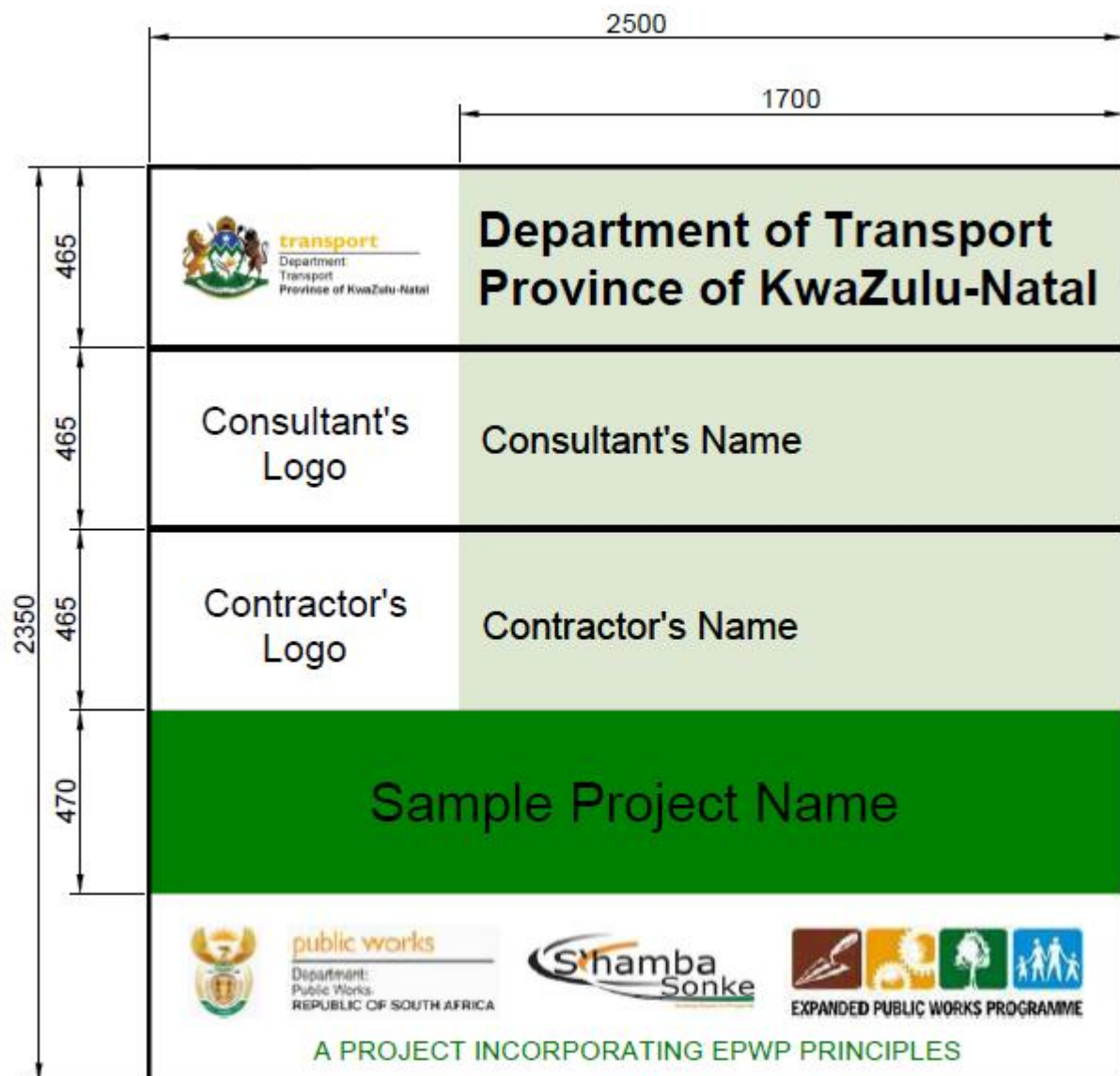
(GPS coordinates 26° 54' 40.77" S and 32° 12' 46.68" E).



C4.2 EXAMPLE OF CONTRACT SIGNBOARD DETAILS

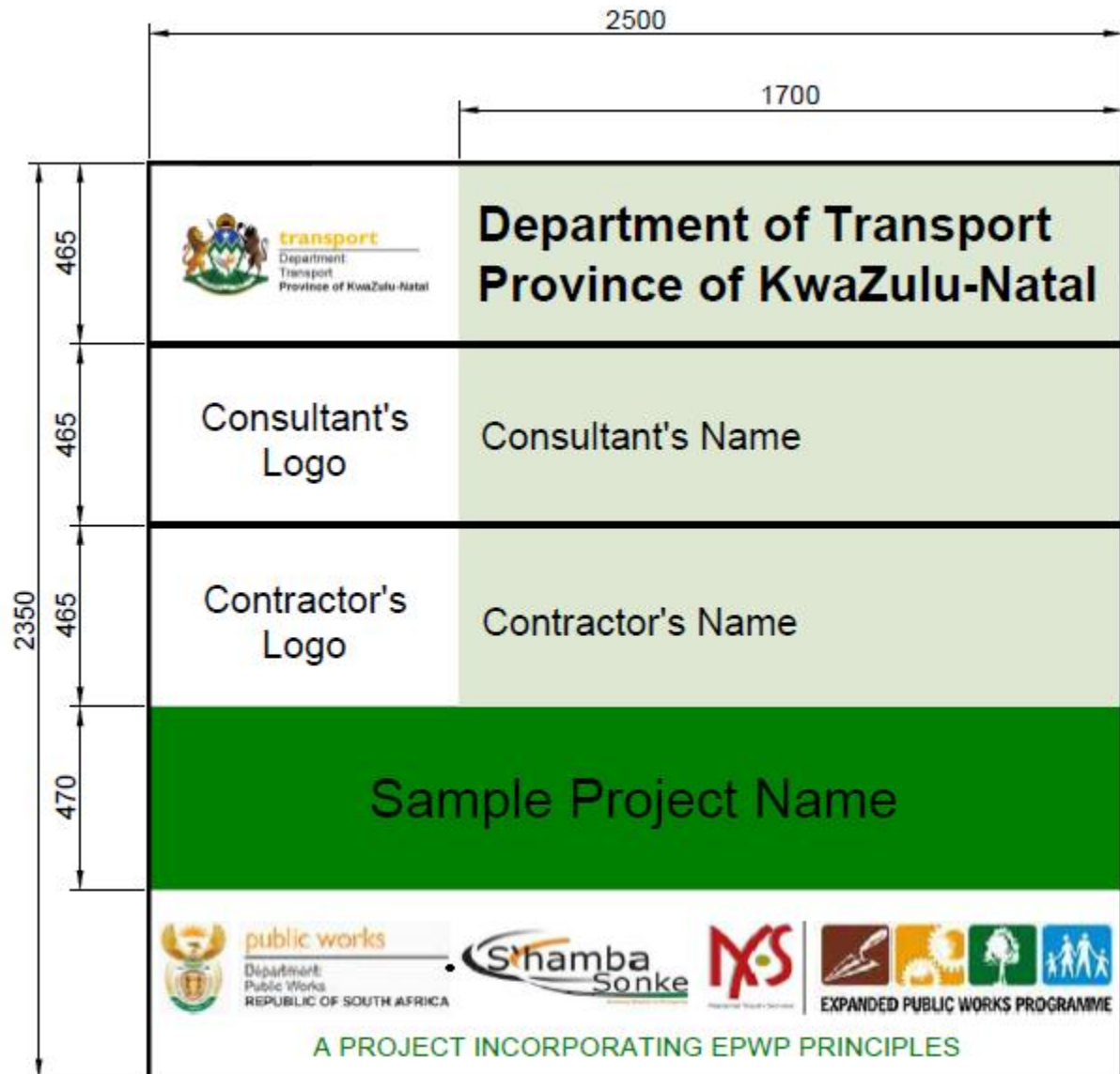
C4.2.1 CONTRACT SIGNBOARD FOR USE WHEN THE NYS PROGRAMME IS NOT REQUIRED:

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.



C4.2.2 CONTRACT SIGNBOARD FOR USE WHEN THE NYS PROGRAMME IS 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.



C4.3 EXISTING SERVICES REPORT

1. Location of services

The following services are scheduled for relocation under this contract:

- Overhead and Underground Electricity Services
- Underground Water Services

It is also expected that unknown buried domestic services crossings requiring relocation or protection may be encountered along the route as the work proceeds. The Contractor shall therefore make every effort to establish the location of any such unknown services in a particular area prior to excavations commencing in that area. Such efforts shall include the Contractor conducting a thorough visual surface inspection for services in the area, and also diligently enquiring of local landowners as to whether there are any known services which have not been shown on the drawings but which may be affected by the construction activities in that area, and any such services shall be brought to the attention of the Employer's Agent immediately. Exploratory hand excavation trenching work shall be carried out where necessary to establish the exact position of buried services.

The Contractor shall take note of the requirements of clause 1202 of the standard specifications with regard to services.

2. Liaison with service owners

Immediately after the site has been handed over to the Contractor and prior to the commencement of any construction work on the site, the Contractor shall arrange a meeting with the relevant authorities to establish the exact location of the various services affected (if any), to plan the necessary services relocations (if required) and to obtain contact details for the service owners' technical and emergency staff.

Where services relocations are required, the Contractor shall arrange regular planning meetings with the service owners until such time as the services have been relocated and commissioned and the existing services uplifted and removed.

3. Protection of existing services

Prior to the commencement of any construction work on the site, the Contractor shall establish markers at 50 m centres (or closer where necessary), clearly delineating the routes traversed by the services within the road reserve as confirmed by the service owners.

Excavation operations shall commence only after the existing services within or in the near vicinity of the excavations have been suitably protected against damage.

The Contractor shall take particular care when carrying out blasting, pneumatic or mechanical breaking, and general excavation operations in the vicinity of the services, and subcontractors, foremen and plant operators shall be fully briefed on precautionary measures to be taken before excavation commences in these areas.

4. Relocation of services

Should any services need to be relocated, the Contractor shall be required to assist the service owner with programming, organising and carrying out the relocation work, in order to minimise any delays in the construction.

5. Payment for the services relocation work

A provisional sum has been provided under section C2.1 of the bill of quantities to cover the costs of any protection, relocation, realignment, removal or replacement of services that may arise.

C4.4 CONDITIONS ON SITE: MATERIALS INFORMATION

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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 roads are typical rural gravel roads situated in generally flat terrain. The existing road has been constructed to avoid earthworks wherever possible and to cross streams and rivers in the most economical way without taking cognisance of speed associated geometric standards. Adjustments to the horizontal and vertical alignment will be required to achieve speed associated geometric standards and sufficient clearance to cross drainage culverts.

The general topography over the first ten kilometres of D1841 can be described "flat terrain" consisting of very gentle slopes, indistinct valley lines and pans.

The existing road is situated within a shallow valley line between km 4,7 and km 5,9. Grading of the existing road has, over time, resulted in lengthy portions that are below the natural ground and in wet weather the road becomes a drainage channel in which the stormwater flows down to the shallow valley crossing D1841. It will be necessary to lift the road to a level generally 800mm above the original natural ground level to achieve both longitudinal and cross drainage. The road is situated on an indistinct watershed between km 5,9 and km 8,2.

The average ground slopes towards the low points, relative to the horizontal alignment of D1841, are shown in the following table

Location	Mean Sea Level	Fall and Distance	Average longitudinal ground slope
Intersection at P435	69,5m		
At km 2,2	37,0m	32,5m over 2,2 km	1,5%
At km 2,7	42,8m	5,8m over 500m	1,2%
At km 3,8	44,9m	2,1m over 1,1 km	1,9%
At km 4,3	43,9m	1,0m over 500m	0,2%
At km 10,1	85,6m	41,7m over 5,7 km	0,7%

Due to the flat topography, the catchments are ill defined. Stormwater runoff that currently flows along and across D1841 will be intercepted via the new road embankment and meadow drains. The drainage design has been based on a distribution of flow through sets of culverts located at points along the road where free flow outlet conditions and 2% invert slopes could be achieved.

The cross-drainage culverts have been designed for inlet control conditions at a maximum headwater/depth ratio of 1 and for runoff calculated for a 1 in 10 year flood return period. Due to the flat topography, berms will be required to prevent the runoff from a 1 in 10-year flood return period storm bypassing the culverts.

The capacity of each culvert has thus been limited by available headwater depth at the inlet determined by the height of the berms. The height of each berm has, in turn, been limited to the ground level at nearby dwellings less an allowance for depth of flow overtopping the berm. Excess runoff will overtop the berms and flow adjacent to the embankment to be eventually

intercepted by other culverts at low points in the system.

The Mean Annual Precipitation in the area is approximately 700mm. Weinert's N value is between 2 and 3, indicating a moderate rainfall area. Weathering will be generally deep with decomposition as the dominant form of weathering.

C4.4.3 BORROW PIT INVESTIGATION

Existing Borrow Pits have been exhausted. There are no New Registered Borrow Pits in the vicinity.

C4.4.4 MATERIAL FOR CONSTRUCTION

C4.4.4.1 Selected subgrade and subbase layers

The following materials will be sourced from Commercial Sources for the Subgrade and Subbase layers :

- G9 Material for the Subgrade
- G7 Material for the Subbase

C4.4.4.2 Crushed stone base

G4 material will be sourced from Commercial Sources for the stabilized base.

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.

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

The current traffic volume on D1841 is low, being of the order 175 vehicles per day in both directions. Once a surfaced road has been provided and development encouraged, it is expected that the daily traffic would increase to a volume similar to an AADT of 670 recorded at year 2012 on P443 near Ingwavuma.

The estimate of traffic loading for the upgrading of D1841 as part of the Ndumo to Ekhuhlehleni Corridor has therefore been based on a similar scenario, with a volume of 720 vehicles per day at date of opening to traffic and the following factors:

- A 50:50 directional split i.e. 360 vehicles per day in each direction
- 10% heavy vehicles
- 1,2 E80 per heavy vehicle based on:
 - o HV split short:medium:long = 70:15:15
 - o ESAL per short HV = 0,7
 - o ESAL per medium HV = 2,1
 - o ESAL per long HV = 2,5

An Equivalent Standard Axle Loading (ESAL) of 299 400 over a 15 year pavement design period was derived for a 4% linear growth rate for the first 10 years and 3% growth rate thereafter.







The sensitivity with respect to growth rate was assessed by doubling the growth rates and a loading of 364 200 ESAL over the 15 year period was derived. The traffic loading is thus not particularly sensitive to growth rate and the traffic loading would be in the range of upper ES0.3 Class and lower ES1 Class.

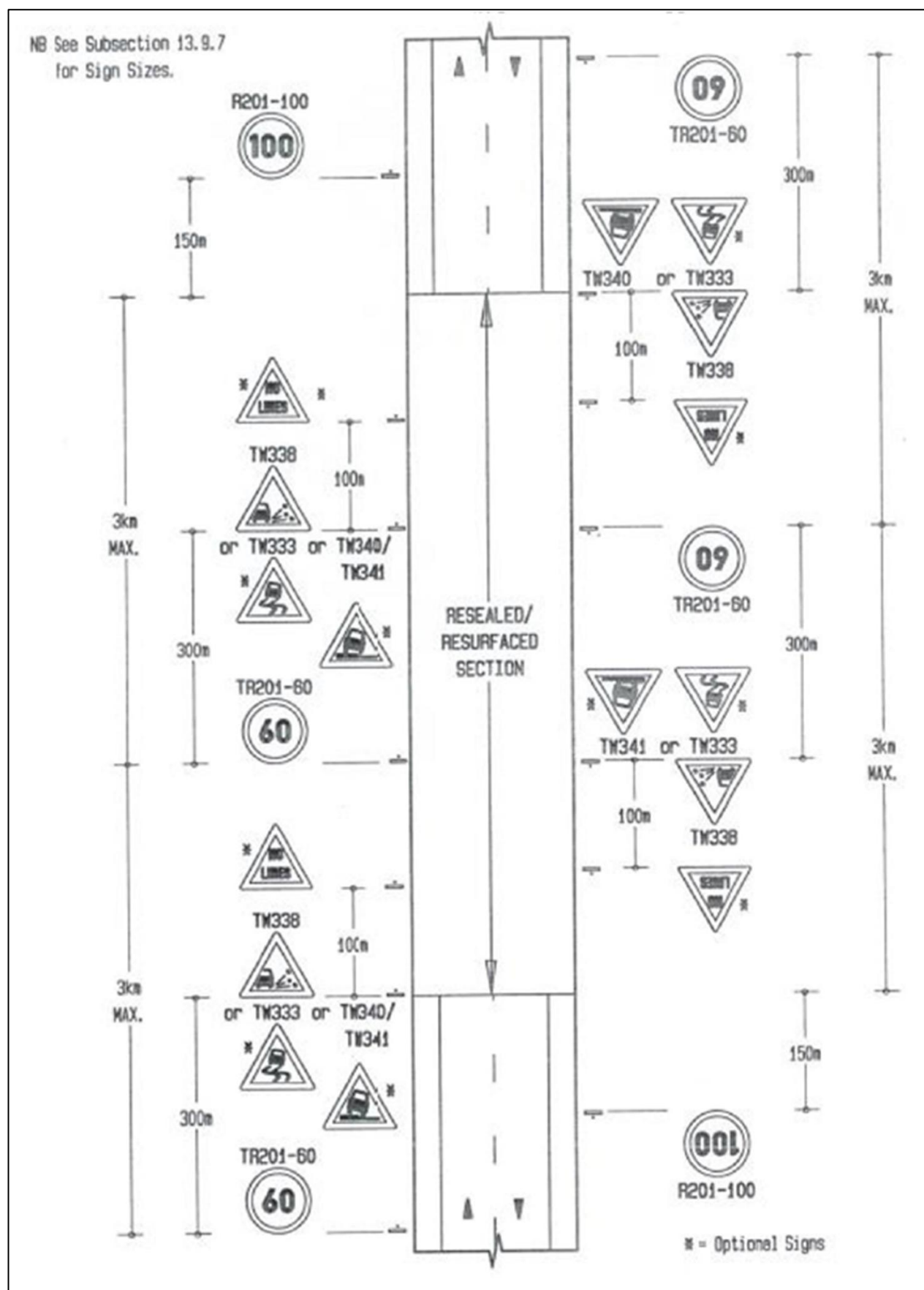
13.9.7 Reseal/Resurfacing Work - Just Completed

- Figure 13.48 illustrates recommended signing levels where work on resealing of a section of roadway has just been completed. This work activity may occur on sections of roadway within a larger site and may occur in more than one place at a time within such a site. When this is the case, the signing should be adjusted to suit the overall signing requirements of the site. Any temporary speed limit should relate to that operating within the rest of the site and should be as high as is practical and safe (see Section 13.4).
- Sign TW333 and sign TW338 should be considered when there is significant horizontal road curvature and/or the road crossfall or superelevation is also significant, as in hilly country, since the combination of loose stone chippings or dust on the road surface together with this type of road profile can lead to slippery conditions. Alternatively, sign TW333 may be used instead of sign TW338 if the condition of the road surface is considered to be a greater hazard than the risk of stone chippings being thrown up.
- The sign sequence shown should be repeated at approximately three kilometre intervals and, if the road is one carriageway of a dual carriageway road, the signs shall be repeated on the right, on the median island.
- A similar level of signing is appropriate if an asphalt overlay or concrete surface has just been laid and traffic is using it for the first time. With this type of surfacing the use of SURFACE STEP advance warning signs TW340 and TW341 may also be appropriate.
- If road markings are not likely to be re-marked shortly after re-opening the road to traffic, NO LINES advance warning signs should also be provided (see Volume 4, Chapter 3, Section 3.1).

Checklist

- ☐ is a 3 km spacing of sign sets adequate?
- ☐ is the road surface slippery?
- ☐ is there a temporary step in the road surface?
- ☐ will road markings be re-marked shortly after re-opening the road?

MAINTENANCE UNIT INVENTORY			
Sign	No	Size (mm)	Quantity
	TR201-60	1200	2 Plus 2 Every 3km
	TW338	1200	2 Plus 2 Every 3km
	R201-100	1200	2
	TW333	1200	2 Plus 2 Every 3km ⁽¹⁾
	TW340 TW341	1200	2 Plus 2 Every 3km ⁽²⁾
		1200	2 Plus 2 Every 3km ⁽³⁾
<p>(1) Add signs TW333 at 3km intervals if many sharp curves exist especially in mountain passes where loose gravel and crusher dust are located on the road surface.</p> <p>(2) Use signs TW340 / TW341 as appropriate in place of TW333 or TW338 when re-surfacing with asphalt overlay or concrete if a surface step is present.</p> <p>(3) Use text warning sign if repainting is not immediate.</p>			



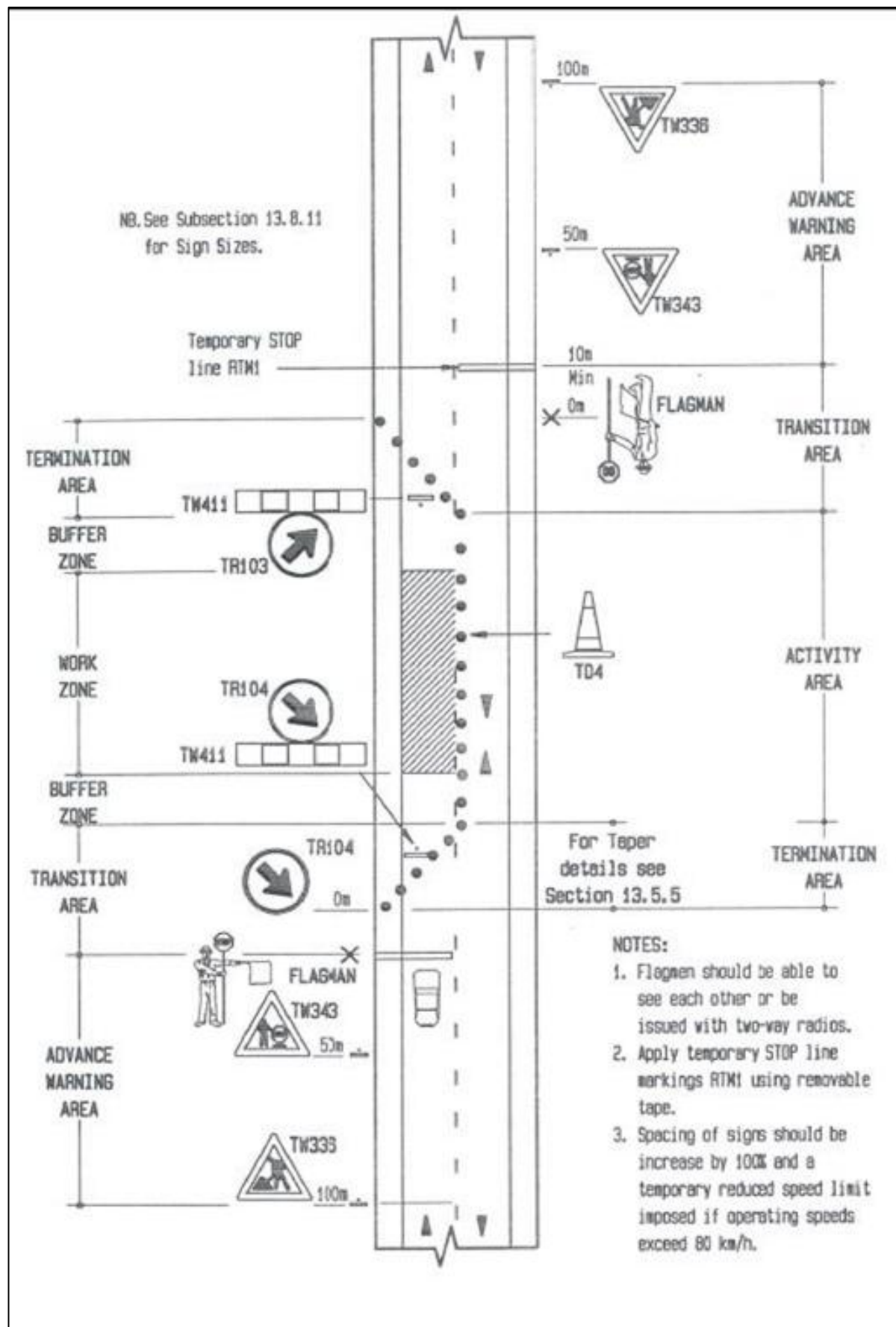
13.8.11 STOP/RY-GO Traffic Control-Minor Works

- 1 STOP/RY-GO operation may be required to control traffic at a variety of short term roadworks sites where the remaining roadway is reduced to less than two lanes in width, for whatever reason. As such, STOP/RY-GO traffic control is effectively a temporary signing sub-system. It may be used on its own or it may be used locally, in more than one place, for short periods within a long roadworks site. The detail in Figure 13.40 may therefore be incorporated with other short term applications and is particularly appropriate for urban areas.
- 2 The signing given in this detail is a minimised treatment for a very short term application lasting only one or two hours. For longer applications the signing should be upgraded to that covered by Subsection 13.9.3 and Figure 13.44. It should be considered as a daytime operation unless the site is very well illuminated at night. NO OVERTAKING signs TR214 should be carried by the maintenance unit and added to the illustrated sign sequence if required.
- 3 If operating speeds are in excess of 80 km/h additional speed limit signs TR201 should be displayed to reduce speed by a maximum of 20 km/h, or in 20 km/h increments to 80 km/h or 60 km/h as appropriate (see Section 13.4).
- 4 Flagmen must be well trained and shall operate in accordance with Figure 13.23. Whilst short term sites are likely to be short in length, if inter-visibility between flagmen cannot be guaranteed the flagmen should be equipped with two-way radios.
- 5 TRAFFIC CONE delineation devices TD4 and DE-LINEATOR PLATE hazard marker signs TW401/TW402 shall be spaced in accordance with Table 13.4 and all tapers shall conform to the provisions of Table 13.5. When cones are to be used during adverse light conditions, they shall be fitted with retroreflective sleeves. The mounting height of all signs shall be at least that given in Table 13.1 or higher. If the work unit's support vehicle is equipped with flashing yellow warning lights, it may benefit the safety of workers for the vehicle to be parked on the shoulder, at the work end of the approach Buffer Zone, between the workers and approaching traffic.

Checklist

- ☐ are operating speeds in excess of 80 km/h?
- ☐ do advance signs for the STOP/RY-GO control clash with other roadworks signs within the site?
- ☐ are the flagmen alert and well trained for their task?
- ☐ are the flagmen fully visible to oncoming traffic?
- ☐ are the flagmen standing in a safe position?
- ☐ can the restriction be eliminated to permit two-way traffic by dusk?

MAINTENANCE UNIT INVENTORY			
Sign	No	Size (mm)	Quantity
	TW336	1200	2
	TW343	1200	2
	R1.5A/ R1.5B	750	2
	TR103 TR104	1200	1 2
	TW411	300 X 1800	2
	FLAGS	450 X 450	2
	TD4	450 Min	20 Min. plus 10 per 100m site length
	TR214	1200	2
	TR201-80 AND TR201-60	1200	2 2



C4.6 ANY OTHER RELEVANT TECHNICAL REPORTS