

C1: AGREEMENTS AND CONTRACT DATA

C2: PRICING DATA

C3: SCOPE OF WORK

C4: SITE INFORMATION

CONTRACT

TABLE OF CONTENTS	Page	Colour
C1: AGREEMENTS AND CONTRACT DATA		
C1.1: FORM OF OFFER AND ACCEPTANCE	C3	Green
C1.2: CONTRACT DATA	C7	Green
C1.2.1: CONDITIONS OF CONTRACT	C8	Green
C1.2.2: PART A: DATA PROVIDED BY THE EMPLOYER.....	C9	Green
PART B: DATA PROVIDED BY THE CONTRACTOR	C11	Green
C1.3: FORM OF GUARANTEE	C12	Green
C1.4: AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993.....	C14	White
C2: PRICING DATA		
C2.1: PRICING INSTRUCTIONS.....	C16	Yellow
C2.2: SCHEDULE OF QUANTITIES	C20	Yellow
C3: SCOPE OF WORK		
TABLE OF CONTENTS.....	C22	Pink
C3.1: STANDARD SPECIFICATIONS	C23	Pink
C3.2: PROJECT SPECIFICATIONS.....	C23	Pink
C3.3: PARTICULAR SPECIFICATIONS	C43-C59	Pink
C 4: SITE INFORMATION		
TABLE OF CONTENTS.....	C59	Pink
C4.1: LOCALITY PLANS	C61	White
C4.2: EXAMPLE OF CONTRACT SIGNBOARD DETAILS	C62	White
C4.3: DRAWINGS	C63	White

C1: AGREEMENTS AND CONTRACT DATA**C1.1 FORM OF OFFER AND ACCEPTANCE****A. OFFER**

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

Solani concrete slab
UMZ/2022-23 /INFRA/CAP/ 008

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: Email:

Witness:

Signature:

Name: (in capitals):

Date:

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

B. ACCEPTANCE

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

The terms of the contract are contained in

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

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

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

The Tenderer shall deliver the Guarantee in terms of Clause 7 of the General Conditions of Contract 2015 within the period stated in the Contract Data, and he shall, immediately 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 other bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data, within 14 days of the date on which 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:**

Date:

C. SCHEDULE OF DEVIATIONS

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

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

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

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

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

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

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

FOR THE TENDERER:

Signature:

Name:

Capacity:

Tenderer: *(Name and address of organisation)*

Witness:

Signature:

Name:

Date:

FOR THE EMPLOYER

Signature:

Name:

Capacity:

Employer: *(Name and address of organisation)*

Witness:

Signature:

Name:

Date: ..

C1.2: CONTRACT DATA**C1.2.1: CONDITIONS OF CONTRACT**

TABLE OF CONTENTS	PAGE NO.
C1.2.1.1 GENERAL CONDITIONS OF CONTRACT	C8
C1.2.1.2 SPECIAL CONDITIONS OF CONTRACT	C8
C1.2.1.2.1 GENERAL	C8
C1.2.1.2.2 AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT 3rd Edition 2015.....	C8

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 - New Edition 2015", issued by the South African Institution of Civil Engineering (abbreviated title: "General Conditions of Contract 2015").

It is agreed that the only variations from the General Conditions of Contract 2015 are those set out hereafter under "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 shall amplify, modify or supersede, as the case may be, the General Conditions of Contract 2015 to the extent specified below, and shall take precedence and shall govern.

The clauses of the Special Conditions hereafter are numbered "SCC" followed in each case by the number of the applicable clause or subclause in the General Conditions of Contract 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 General Conditions of Contract 2015, and an appropriate heading.

C1.2.1.2.2 AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT 2015

SCC 1.1.4. reads " The Commencement date shall be the date of the Site Handover Meeting".

C1.2.2: CONTRACT DATA (Applicable to this contract)**PART A: DATA PROVIDED BY THE EMPLOYER**

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
Clause 1.1.1.15:	Name of Employer: Umzimvubu Municipality
Clause 1.2.1.2:	Address of Employer: <div> <div>Physical:</div> <div>Postal:</div> </div> <div> <div>813 Main Street</div> <div>Private Bag X 9020</div> </div> <div> <div>Mount Frere</div> <div>Mount Frere</div> </div> <div> <div>5010</div> <div>5010</div> </div> <div> <div>E-Mail: Nota.Tobela@umzimvubu.gov.za</div> </div> <div> <div>Telephone No: (039) 255 8500</div> <div>Fax No: (039) 255 0167</div> </div>
Clause 1.1.1.16:	Name of Engineer: Mr L. Moleko
Clause 1.2.1.2:	Address of Engineer: <div> <div>Physical:</div> <div>Postal:</div> </div> <div> <div>813 Main Street</div> <div>Private Bag X 9020</div> </div> <div> <div>Mount Frere</div> <div>Mount Frere</div> </div> <div> <div>5010</div> <div>5010</div> </div> <div> <div>E-Mail: Moleko.Lebohang@umzimvubu.gov.za</div> </div> <div> <div>Telephone No: (039) 255 8500</div> <div>Fax No: (039) 255 0167</div> </div>
Clause 5.1.1 & 5.8.1:	Special non-working days are Sundays, the construction industry year end break and the following statutory public holidays as declared by National Government: New Year's Day, Human Rights Day, Good Friday, Family Day, Freedom Day, Workers' Day, Youth Day, National Women's Day, Heritage Day, Day of Reconciliation, Christmas Day and the Day of Goodwill.
Clause 5.8.1:	The construction industry year end break commences on the first working day after 15 December and ends on the first working day after 15 January of the next year.
Clause 5.3.2:	The time to deliver the Guarantee is within 14 days of the Commencement Date. The Liability of the Guarantee shall be for 10% of the Accepted Contract Price up to the Certificate of Completion, and thereafter the liability shall be reduced to 5% of the accepted contract price up to the issue of the Final Approval Certificate.
Clause 5.3:	The Contractor shall commence executing the Works within 14 days of the Commencement Date.
Clause 5.3.2:	The Contractor shall deliver his programme of work within 7 days of the

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE EMPLOYER
	Commencement Date.
Clause 8.6	Insurance to be effected by the Contractor.
Clause 8.6.1.1.2:	The value of materials supplied by the Employer to be included in the insurance sum is <u>Nil</u> .
Clause 8.6.1.2:	Special Risks Insurance issued by SASRIA is required.
Clause 8.6.1.3:	The limit of indemnity for liability insurance is <u>R2 000 000,00 (two million rands only)</u> for any single liability claim. Liability insurance shall include spread of fire risk.
Clause 5.14:	The Works shall be completed as set out in the Scope of Works: <ul style="list-style-type: none"> In 06 months including special non-working days
Clause 5.13.1:	The penalty for failing to complete the whole of the Works is R1 500.00 (one thousand five hundred rands only) of the total Contract Price per day.
Clause 6.8.2:	<p>The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule :</p> <p>The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:</p> <p>The value of "x" is 0.1</p> <p>The values of the coefficients are:</p> <p>a = [0, 25] (labour)</p> <p>b = [0, 30] (contractor's equipment)</p> <p>c = [0, 25] (material)</p> <p>d = [0, 20] (fuel)</p> <p>The area nearest the Site is Durban</p> <p>The labour index will be as published by STATSSA for the Eastern Cape</p>
Clause 6.8.3:	Price adjustments for variations in the cost of special materials is allowed.
Clause 6.10.1.5:	The percentage limit on materials not yet built into the Permanent Works is 80%.
Clause 6.10.3:	The percentage retention on the amounts due to the Contractor is 10% to a minimum of 5%..
Clause 6.2:	A Retention Money Guarantee is Not Permitted .
Clause 10.7.1:	Dispute Resolution shall be by Mediation.

C1.2.2: CONTRACT DATA (Applicable to this contract)**PART B: DATA PROVIDED BY THE CONTRACTOR**

The following contract specific data are applicable to this contract.

REFERENCE	CONTRACT SPECIFIC DATA PROVIDED BY THE CONTRACTOR										
Clause 1.1.8:	Name of the Contractor:										
Clause 1.2.2:	Address of the Contractor: <table><tr><td><u>Physical:</u></td><td><u>Postal:</u></td></tr><tr><td>.....</td><td>.....</td></tr><tr><td>.....</td><td>.....</td></tr><tr><td>.....</td><td>.....</td></tr><tr><td>.....</td><td>.....</td></tr></table>	<u>Physical:</u>	<u>Postal:</u>
<u>Physical:</u>	<u>Postal:</u>										
.....										
.....										
.....										
.....										

C1.3: FORM OF GUARANTEE**PRO FORMA****FORM OF GUARANTEE**

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

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:

Type of Performance Guarantee: (*Insert Variable or Fixed*)

"Expiry Date" means: (*Give date*) 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.

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.

1. VARIABLE PERFORMANCE GUARANTEE

- 1.1** Where a Variable Performance Guarantee has been selected, the Guarantor's liability shall be limited during the following periods to diminishing amounts of the Guaranteed Sum as follows:
- 1.1.1** From and including the date of signing the Performance Guarantee up to and including the date of the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum:
R.....
(Amount in words)
- 1.1.2** From the day following the date of the said interim payment certificate 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, whichever occurs first:
R.....
(Amount in words)
- 1.2** The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the interim payment certificate certifying, for the first time, more than 50% of the Contract Sum, has been issued and the date on which the Certificate of Completion of the Works has been issued.

2. FIXED PERFORMANCE GUARANTEE

- 2.1** Where a Fixed Performance Guarantee has been selected, the Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
- 2.2** 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.
- 2.3** 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.

3. CONDITIONS APPLICABLE TO VARIABLE AND FIXED PERFORMANCE GUARANTEES

- 3.1** The Guarantor hereby acknowledges that:
- 3.1.1** 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.

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

3.2 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 3.2.1 to 3.2.3:

3.2.1 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 3.2.2;

3.2.2 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 3.2.1 and the sum certified has still not been paid;

3.2.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 3.2.

3.3 Subject to the Guarantor's maximum liability referred to in 1.1 or 2.1, 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:

3.3.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 3.3; or

3.3.2 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 3.3; and

3.3.3 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.

3.4 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 3.2 and 3.3 shall not exceed the Guarantor's maximum liability in terms of 1.1 or 2.1.

3.5 Where the Guarantor has made payment in terms of 3.3, 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.

3.6 Payment by the Guarantor in terms of 3.2 or 3.3 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.

3.7 Payment by the Guarantor in terms of 3.3 will only be made against the return of the original Performance Guarantee by the Employer.

- 3.8** 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.
- 3.9** The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
- 3.10** This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 1.1.2 or 2.2, 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.
- 3.11** This Performance Guarantee, with the required demand notices in terms of 3.2 or 3.3, shall be regarded as a liquid document for the purposes of obtaining a court order.
- 3.12** 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 Umzimvubu Local Municipality.
(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. UMZ/2022-23 /INFRA/CAP/ 008

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 OHSA Amendment Act No 181/1993 (hereinafter referred to as the ACT);

NOW THEREFORE the parties agree as follows:

1. The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
2. The CONTRACTOR undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations: Provided that should the EMPLOYER have prescribed certain arrangements and procedures that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the ACT and Regulations, and the CONTRACTOR expressly absolves the EMPLOYER and the Employer's CONSULTING ENGINEERS from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. The CONTRACTOR agrees that any duly 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 **CONTRACTOR**

on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

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

the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

C2: PRICING DATA

C2.1 PRICING INSTRUCTIONS

1. GENERAL

The Schedule of Quantities forms part of the Contract Documents and must be read and priced in conjunction with all the other documents comprising the Contract Documents, which include the Conditions of Tender, Conditions of Contract, the Specifications (including the Project Specifications) and the Drawings.

2. DESCRIPTION OF ITEMS IN THE SCHEDULE

The Schedule of Quantities has been drawn up generally in accordance with the relevant provisions of the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition) published by the South African Institution of Civil Engineering (SAICE).

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

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

For the purposes of this Schedule 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 Schedule of Quantities, the specifications or elsewhere but the quantity of work of which is not measured in any units.

3. QUANTITIES REFLECTED IN THE SCHEDULE

The quantities given in the Schedule 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 Schedule of Quantities, shall be used to determine payments to the Contractor. The Contractor shall obtain the Engineer's detailed instructions for all work before ordering any materials or executing work or making arrangements for it if the quantity estimated from the drawings are greater or less than 10% of the quantities of material or work stated in the Schedule of Quantities. The quantities of material or work stated in the Schedule 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 Schedule of Quantities and in accordance with the General and Special Conditions of Contract, the COLTO Standard Specifications subclause 1201(a), the Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste. The validity of the contract will in no way be affected by differences between the quantities in the Schedule 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 Schedule of Quantities, payment for the work done under such items will be made in accordance with clause 45 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 Schedule of Quantities and in the Summary of the Schedule of Quantities unless ordered or authorised in writing by the Employer before closure of tenders. Any unauthorised changes made by the Tenderer to provisional items in the schedule, or to the provisional percentages and sums in the Summary of the Schedule of Quantities, will be treated as arithmetical errors.

5. PRICING OF THE SCHEDULE OF QUANTITIES

The prices and rates to be inserted by the Tenderer in the Schedule 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 sub-clause 1201(b) of the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities (1998 edition).

Each item shall be priced and extended to the "Amount" column by the Tenderer, with the exception of the items for which only rates are required, or items which already have Prime Cost or Provisional Sums affixed thereto. If the Tenderer omits to price any items in the Schedule 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 sub-clause 1201(f) of the COLTO Standard Specifications shall apply in 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 unbalanced.

Reasonable compensation will be received where no payment 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 Schedule 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 Schedule of Quantities. Note that fractions of a cent in all rates shall be discounted.

6. CORRECTION OF ENTRIES

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

7. INTERIM PAYMENTS

Unless otherwise specified, monthly payments, referred to in Clause 52 of the General Conditions of Contract 2015, in respect of "sum" items in the Schedule of Quantities shall be by means of interim progress instalments assessed by the Engineer and based on the measure in which the work actually carried out relates to the extent of the work to be done by the Contractor.

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

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

8. UNITS OF MEASUREMENT

The units of measurement described in the Schedule of Quantities are metric units. The following abbreviations are used in the Schedule 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	= tonne (1 000 kg)	t-km	= tonne-kilometre
m ² -pass	= square metre-pass	No.	= number	hr	= hour
ha	= hectare	%	= percent	dia	= diameter
m ³	= cubic metre	PC sum	= prime cost sum	Sum	= lump sum
kW	= kilowatt	MN-m	= meganewton-metre		

9. CONSISTENCY OF RATES

In order to ensure that payments certified by the Engineer 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 Schedule 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:

13.01 The Contractor's general obligations

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

exceeds a maximum of 12% of the Tender Offer (excluding contingencies, escalation and VAT).

- (ii) the rates, prices or amounts tendered for any other items differ by more than 20 (twenty) percent from either the next highest or next lowest rates, prices or amounts tendered, or else from the latest estimates.

Any such unbalanced tender may be rejected if, after fourteen (14) 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. SCHEDULE OF QUANTITIES

UMZUMVUBU LOCAL MUNICIPALITY

CONTRACT No. UMZ/2022-23 /INFRA/CAP/ 008 FOR SOLANI CONCRETE SLAB

TENDER SUMMARY

DESCRIPTION	AMOUNT
Totals of Schedule of Quantities brought forward:	
SUBTOTAL 1	R
SUBTOTAL 2	R
Add: VAT (15% of SUBTOTAL 2)	R
TOTAL CARRIED FORWARD TO FORM OF OFFER	R

Signed on behalf of the Tenderer: (Signature)

Date:

Tenderer's Name: (Company Name)

C3: SCOPE OF WORK

<u>TABLE OF CONTENTS</u>	PAGE
C3.1 STANDARD SPECIFICATIONS	C25
C3.2 PROJECT SPECIFICATIONS	C25
PART A: GENERAL	
1. DESCRIPTION OF THE WORKS	C26
2. DRAWINGS	C30
PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS	
PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS.....	C31
SECTION 1100 DEFINITIONS AND TERMS.....	C32
SECTION 1200 GENERAL REQUIREMENTS AND PROVISIONS	C34
SECTION 1300 CONTRACTOR'S ESTABLISHMENT ON SITE AND..... GENERAL OBLIGATIONS	C38
SECTION 1600 OVERHAUL	C41
SECTION 2100 DRAINS	C42
SECTION 2200 PREFABRICATED CULVERTS	C43
SECTION 3300 MASS EARTHWORKS.....	C44
SECTION 3400 PAVEMENT LAYERS OF GRAVEL MATERIAL.....	C45
SECTION 5600 ROAD SIGNS	C47
SECTION 5900 FINISHING THE ROAD AND ROAD RESERVE	
AND TREATING OLD ROADS.....	C48
SECTION 8200 QUALITY CONTROL (SCHEME 1).....	C49
C3.3 PARTICULAR SPECIFICATIONS	
PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION	C52
PART D: DAYWORK	C57
PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION	C59

C3.1 STANDARD SPECIFICATIONS

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

C3.2: PROJECT SPECIFICATIONS

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

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

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

In the event of any discrepancy between a part or parts of the Standard or Particular Specifications and the Project Specifications, the Project Specifications shall take precedence. In the event of a discrepancy between the Specifications (including the Project Specifications) and the drawings and / or the Schedule of Quantities, the discrepancy shall be resolved by the Engineer 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 2022/23 Financial Year Project of the Umzimvubu Local Municipality Infrastructure programme.

1.2 Location of the Works

The project is located in the Eastern Cape Province in the town of Emaxesibeni, in **Ward 26** of the Umzimvubu Local Municipality. (See C4: Locality plan)

1.3 Overview of the Works

The project of Solani concrete slab comprises the:

- Construction of 258 m concrete slab
- Construction of stone pitch
- Construction of concrete ditch drains
- Construction of mass earthworks and road layer works.
- Concrete must have keys and be locked on the sides of the road

1.4 Extent of the Works

The Contractor shall carry out all works required for the construction of the access road and associated bridges:

Including but not limited to:

- (a) Establishment on site;
- (b) Provision of traffic accommodation facilities;
- (c) Protection against erosion;
- (d) Construction of 258 m of concrete slab
- (e) Construction of concrete ditch drains;
- (f) Construction of concrete ditch drains;
- (g) Continuous quality control over materials and works, and compliance with the Particular Specifications with regard to environmental management and occupational health and safety, during all the above construction activities;
- (h) Finishing off, removal of site establishment

1.5 Detailed Description of the Works

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

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

The site shall not only comprise the proclaimed road reserve but shall be extended in the broader sense to take account of all areas occupied by the Contractor, be it deliberate or unintentional, in the execution of the contract. The site includes all the land within the proclaimed limits of the road reserve along the extent of the

works, borrow pits and quarry sites, stockpile areas, locations set aside for construction and supervision accommodation and any other location required for the execution of the Works.

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

1.5.1 Access to the Site

To be communicated by the project manager during site briefing meeting.

1.5.2 Existing services

The relevant service provider is to be notified immediately if any service requires relocation.

1.5.3 Engineer's campsite

No provision has been made for an Engineers campsite

1.5.4 Climate

Mt Frere has a fair climate and the temperatures ranges between 10 and 35 degrees in summer. In winter temperatures are very cold. There is less rain in winter. Most areas are very dry.

1.5.5 Environment

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

1.5.6 Community Liaison Officer (CLO)

The ward councillor in whose wards work is to be done will collectively identify a Community Liaison Officer (CLO) for the project and make the person known to the Contractor at the Site Handover Meeting. The Contractor will be required to enter into a written agreement with the CLO that specifies:

- Designation;
- The wage rate;
- Hours of work;
- Duration of appointment;
- The CLO's responsibility should include the following:
 1. Attend monthly site meetings;
 2. Assisting in all respects relating to the recruitment of local labour;
 3. Acting as a source of information for the community and councillors on any issue related to the contract;
 4. Keep the Contractor informed on community issues that may affect the contract;
 5. Set up meetings and mediate if any labour dispute arises;
 6. Keep a written record of all labour related issues
 7. Any other duties the Contractor may request the CLO to undertake, only with prior consultation;

The Contractor shall have the right to determine the number of labourers required at any given time, which will vary throughout the duration of the contract.

1.5.10 Labour

Local labour is to be used and the employment of such labour is to be effected by the Contractor through Community Liaison Officer (CLO) within the Umzimvubu Municipal area. The CLO shall assist the Contractor with the recruitment of local labourers to ensure an equitable distribution of people employed from those wards in the vicinity of the works at a rate of **R3500 Monthly**.

The **minimum labour rate is R 140/day** in accordance with the Municipal Infrastructure – An Industry Guide to Infrastructure Service Delivery Levels and Unit Costs by Co-operative Governance & Traditional Affairs.

1.6 Testing of materials

The Contractor shall carry out the required process control testing as specified in terms of the COLTO standard specifications.

The Contractor is to ensure all the required process control test results are forwarded to the Engineer for approval.

1.7 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.

1.8 Contractor's campsite

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

The Contractor shall make his own arrangements for the provision of his campsite and housing for construction personnel but the chosen site shall be subject to the approval of the Engineer, the local authorities and the CLO associated with the project.

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

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

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 13.01(c) (The contractor's general obligations: Time-related obligations).

1.9 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.

1.10 Construction programme

The construction programme is to be submitted to the Engineer for approval within 7 days of the Site Handover meeting.

The construction programme must show the following information:

- Baseline dates (start date/finish date/duration of all activities);
- Non-working days (Sundays/public holidays/contractor long weekends);

2. DRAWINGS

The reduced drawings that form part of the Tender Documents are to be used for tender purposes only.

The Contractor will be supplied with an unreduced A0 Size or A1 Size print of each of the Drawings. These prints will be issued free of charge and the Contractor must make any additional copies he may require at his own cost.

Any information in the possession of the Contractor that is required by the Engineer's Representative to complete his as-built drawings must be supplied to the Engineer's Representative before a Certificate of Completion will be issued.

Only figured dimensions must be used and Drawings must not be scaled unless required by the Engineer. The Engineer will supply any figured dimensions that may have been omitted from the Drawings.

The levels given on the Structural Drawings are subject to confirmation on the Site and the Contractor shall submit all levels to the Engineer for confirmation before he commences construction of any structure. The Contractor shall also check all clearances given on the Drawings and shall inform the Engineer of discrepancies.

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

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

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

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

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

Replace clause 1115 with the following:

"The General Conditions of Contract 3rd Edition 2015 published by the South African Institution of Civil Engineering (SAICE), together with the Special Conditions of Contract form part of the contract.

All references in the COLTO Standard Specifications for Road and Bridge Works are to the COLTO General Conditions of Contract for Road and Bridge Works for State Road Authorities. Consequently all references in the COLTO Standard Specifications have to be amended accordingly to reflect the appropriate General Conditions of Contract relevant to the Contract. The COLTO Standard Specifications have been scrutinized and the clauses, which refer to the COLTO General Conditions of Contract, identified. Each COLTO clause reference is tabulated in Table B1115 below (context of reference is also given) together with the relevant equivalent clause in the SAICE General Conditions of Contract for Construction Works New edition 2015 applicable for this contract.

Whereas every effort has been made to include all of the affected clauses in the table, there may be some omissions. In every case, however, the SAICE General Conditions of Contract for Construction Works New edition 2015 reference, as amended by the Special Conditions of Contract in the Contract Data, shall apply and the Contractor shall be responsible for interpretation of the equivalent clause.

TABLE B1115: REFERENCES IN COLTO STANDARD SPECIFICATIONS TO THE COLTO GENERAL CONDITIONS OF CONTRACT AND RELEVANT SAICE GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS 3rd EDITION 2015

COLTO Standard Specification		COLTO General Conditions of Contract 1998		SAICE General Conditions of Contract for Construction Works New edition 2015	
Clause No	Page No	Clause No	Description or Reference	Clause No	Description or Reference
1202	1200-2	15	Programme	5.6	Programme of the Works
1201(e)	1200-5	52: 52(1)(e) 52(2)	Monthly payments (documentary evidence of ownership of materials) Valuation of material brought onto Site	6.9 6.10.2	Vesting of plant and materials Valuation of material brought onto Site
1210	1200-5	54: 54(1) 54(2) 54(3)	Certificate of practical completion	5.14: 5.14.1	Certificate of Practical Completion
1212(l)	1200-7	49: 49(2)	Contract Price Adjustment Factor	6.8: 6.8.2	Contract Price Adjustment Factor
1215	1200-9	45	Extension of time for completion	5.12	Extension of time for completion
1217	1200-10	35	Care of the Works	8.2	Care of the Works
1303	1300-2	12 & 45: 12	Commencement of Works and Commencement Date	5.3	Commencement of the Works
1403 (c)(ii)	1400-4	40(1)	Valuation of variations	6.4.1	Valuation of variations

COLTO Standard Specification		COLTO General Conditions of Contract 1998		SAICE General Conditions of Contract for Construction Works New edition 2015	
Clause No	Page No	Clause No	Description or Reference	Clause No	Description or Reference
1505	1500-3	40: 40(1)	Valuation of variations	6.4.1	Valuation of variations
1507 Items: 15.08 15.01 15.11	1500-8	48: 48.1	Provisional Sums	6.6	Provisional Sums
3303(b)	3300-2	2	Engineer and Engineer's Representative	3	Employers Agent
5803(c)	5800-3	40: 40(1)	Valuation of variations	6.4.1	Valuation of variations
5805(d)	5800-4	40: 40(1)	Valuation of variations	6.4.1	Valuation of variations
5801 Item 58.10	5800-10	48: 48.1	Provisional Sums	6.6	Provisional Sums
8103(c)	8100-1	40: 40(1)	Valuation of variations	6.4.1	Valuation of variations
8117 Item 81.03	8100-26	22	Clearance of site on completion	5.15	Clearance of site

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

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

B1204 PROGRAMME OF WORK

Insert the following before the first paragraph:

"A network-based programme in accordance with the precedence method shall be provided showing the various activities in such detail as may be required by the Engineer. The programme shall be updated monthly in accordance with the progress made by the Contractor.

Failure to comply with these requirements will entitle the Engineer to apply a programme based on his own assumptions for the purpose of evaluating claims for extension of time for completion of the works, or for additional compensation."

B1205 WORKMANSHIP AND QUALITY CONTROL

Add the following paragraph to the end of clause 1205:

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

B1206 THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

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

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

B1201 PAYMENT**(a) Contract rates**

Add the following new paragraph at the end of sub clause B1201(a):

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

B1215 EXTENSION OF TIME RESULTING FROM ABNORMAL RAINFALL

Delete the clause and replace with the following:

There will be no extension of time on this contract due to abnormal rainfall except as provided for below.

Should the Contractor, due to the occurrence of rainfall resulting in his inability to carry out the Works, not meet the rates of progress as per the programme, the Engineer shall determine the number of days lost due to the occurrence of rain, and deduct same from the number of days of penalty which the Contractor shall pay to the Employer due to non-performance in terms of the contract.

Should the occurrence of rain delay the Contractor's rate of progress on work programmed at the end of the contract, the provisions in the above paragraph shall still apply, but the employer shall have the right to discontinue the work in progress on the date that the contract expires, at his sole discretion, or allow the Contractor to complete the outstanding work after expiry date of contract within the period equal to the number of days lost due to rainfall in respect of the activities affected by the rainfall, as determined by the Engineer, without applying the penalty in terms of Clause 5.12 of Contract Data.

During the execution of the Works, The Engineer's Representative will certify a day lost due to abnormal rainfall and adverse weather conditions only if less than 30% of the work force and plant on site could work during that specific working day."

B1210 CERTIFICATE OF PRACTICAL COMPLETION OF THE WORKS

Insert the following:

In the fourth line of the first paragraph, delete "Clause 54" and replace with "Clause 5.14".

Add the following paragraph:

"In addition to the listed specified items of work and regardless of the degree of beneficial use by the Employer, no sections of the works, individually or collectively, shall be considered for practical completion unless the following criteria have also been met:

- i. In the case of partial completion, the estimated cost to complete the outstanding work shall be less than 2 % of the estimated cost to construct the whole section or sections.
- ii. In the case of the whole works, the estimated cost to complete the outstanding work shall be less than 2 % of the tendered value of work plus the cost of any variation or extra work orders, but excluding CPA and VAT.
- iii. It must be possible for the Contractor to complete the written list of outstanding items of work within 28 days of the list having been issued to the Contractor."

B1219 WATER

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

B1224 THE HANDING-OVER OF THE ROAD RESERVE

- (a) The Contractor shall be required to accommodate service owners and other contractors working on the services relocation and maintenance in the execution of their duties."

B1229 SABS CEMENT SPECIFICATIONS

Add the following paragraphs to the end of clause 1229:

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

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

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

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

B1230 DAILY RECORDS

The Contractor shall furnish the Engineer daily with records of work executed by him for each activity. The records shall include information such as description, location, measurement, plant and labour hours, where applicable, and all other information the Engineer may require for the record and measurement purposes.

No separate payment items will be scheduled for the administrative costs incurred by the Contractor to provide the Engineer with the activity sheets and other information that will be required. These costs will be deemed to be inclusive of the rates tendered for the works.

B1231 COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT, 1993

All labour employed on the site shall be covered by the Compensation for Occupational Injuries and Diseases Act, 1993, as amended. The Contractor shall pay in full, including the payment of the necessary levies, such amounts as are due in terms of the Act. The manner in which compensation in terms of this Act shall be handled shall be resolved by the Contractor at the commencement of the contract.

B1232 COMPLIANCE WITH THE ROAD TRAFFIC ACT

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

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

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

B1233 ENVIRONMENTAL IMPACT CONTROL

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

- (a) The Contractor shall comply with the requirements of Part C: Environmental Management Specification contained in section C3.3 Particular Specifications.
- (b) Clearing shall be limited to the road prism and, where applicable, to detours, which shall be sited in consultation with the Engineer and the local communities.
- (c) No littering by construction workers shall be allowed. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the Engineer.
- (d) Adequate provision shall be made for temporary toilet requirements in construction areas. Use of the veld for this purpose shall not be allowed under any circumstances.
- (e) Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants, such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate tailings, wash water, organic materials and bituminous products. In the event of spillage, prompt action shall be taken to clear the affected area. Emergency measures in the event of spillage shall be set out and the responsible person shall be made aware of the required action. The construction of temporary and / or permanent dams shall be done with the necessary approvals from the Department of Water Affairs and Forestry and the Department of Environmental Affairs and Tourism.
- (f) Bituminous and / or other hazardous products shall not be spoiled on site and shall only be disposed of at licensed authorised disposal facilities.
- (g) Provision shall be made to prevent excessive erosion and siltation throughout the Contract and in particular on adjacent land. Should excessive erosion and / or siltation take place outside the road reserve as a direct result of the Contractor's construction activities, the Contractor shall be responsible for making good the erosion / siltation to the satisfaction of the landowner and the Engineer.
- (h) Invader species of plants shall be controlled.
- (i) Dust and noise pollution shall be restricted to acceptable levels.

No separate payment shall be made for observing these requirements as such payment shall be deemed to be included in the amount tendered for item 13.01(c) (The contractor's general obligations: Time-related obligations). Any avoidable non-compliance with these requirements shall be considered sufficient grounds for withholding payment of part or all of the amounts to be paid for the above item in order to pay for the repairs to any damages.

B1234 EXTENSION OF TIME DUE TO DISRUPTION BY BUSINESS FORUMS OR ASSOCIATIONS

There will be no extension of time on this contract due to delays caused by disruptions by business forums or any group of business organisations or associations that are forcefully demanding a stake or participation in this project.

Should the Contractor, due to the disruptions caused by business forums or any group of business organisations or associations, resulting in his inability to carry out the Works, not meet the rates of progress as per the programme, the Engineer shall determine the number of days lost due to the disruptions, and deduct same from the number of days of penalty which the Contractor shall pay to the Employer due to non-performance in terms of the contract.

Should the disruptions delay the Contractor's rate of progress on work programmed at the end of the contract, the provisions in the above paragraph shall still apply, but the employer shall have the right to discontinue the work in progress on the date that the contract expires, at his sole discretion, or allow the Contractor to complete the outstanding work after expiry date of contract within the period equal to the number of days lost due to disruptions in respect of the activities affected by the disruptions, as determined by the Engineer, without applying the penalty in terms of Clause 5.13 of Contract Data.

During the execution of the Works, The Engineer's Representative will certify a day lost due to disruptions only if less than 30% of the work force and plant on site could work during that specific working day.

B1235 MEASUREMENT AND PAYMENT

Item	Unit
B12.02 Relocation and modifications of services	
(a) Provisional sum for existing services to be relocated and / or protected during construction	provisional sum
(b) Handling cost and profit in respect of sub-item B12.02(a) above	percentage (%)

Expenditure under this item shall be made in accordance with clause 6.7 of the General Conditions of Contract 2015.

The tendered percentage is a percentage of the amount of expenditure approved by the Engineer under sub-item B12.02(a), and shall include full compensation for the handling costs of the Contractor and the profit in connection with the relocation and / or protection of the relevant services, and is not to exceed 10% of item B12.02(a)

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

Add the following paragraph to the end of sub-clause 1302(c):

"The Contractor's general obligations shall also include the training of temporary labour, the management of labour enhanced work and ABEs, the application of the Compensation for Occupational Injuries and Diseases Act, 1993, and compliance with the requirements of Part C: Environmental Management Specification and Part E: OHS 1993 Safety Specification contained in section C3.3 Particular Specifications."

B1303 PAYMENT

Add the following at the start of clause 1303:

"All references in clause 1303 to the final value of the work increasing or decreasing by "twenty (20) per cent" in terms of the COLTO general conditions of contract shall be read as increasing or decreasing by "fifteen (15) per cent" in terms of the General Conditions of Contract 2015.

Separate provision has been made in the Schedule of Quantities for the pricing of the Contractor's general obligations with regard to Health and Safety.

Refer to the second sentence of the fourth last paragraph of Clause 1303, page 1300-2 of the COLTO Standard Specifications and delete the words "from the date on which the contractor has received the letter of acceptance in terms of Clause 12 of the General Conditions of Contract" and replace these words with the following:

"from the Commencement Date in terms of Clause 5.3 of the General Conditions of Contract (2015)."

Add the following at the end of clause 1303:

"The amount payable to the Contractor for time-related obligations arising from extensions of time granted by the Employer, where the Contractor is fairly entitled to such compensation in terms of clause 5 of the General Conditions of Contract 2015, shall be calculated as follows:

- (i) The Contractor shall apply for the extension of time in terms of the number of working days delay incurred.
- (ii) The number of working days extension of time finally granted shall then be added to the contract by the Employer, commencing on the first working day after the day of the original completion date. 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:

$$\text{Number of } \underline{\text{months}} \text{ extension of time granted} = [(\text{Number of } \underline{\text{calendar}} \text{ days extension of time granted} / 365)] \times 06$$

- (iv) The number of months extension of time granted calculated as in (iii) above shall be the number of

additional months measured for payment for time-related obligations under item 13.01(c) 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 1300, 1400, 1500 or elsewhere in the Schedule of Quantities that involve the unit of measurement "month" and that were provided on site for the full duration of the 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."

Add the following new pay items at the end of clause 1203:

Item	Unit
B12.03 Community Liaison officer (CLO)	
(a) Provisional sum for the services of a locally employed person to perform the duties of a CLO, paid on a monthly basis Handling cost and profit in respect of sub-item	provisional sum
(b) B12.03(a) above	percentage (%)

Expenditure under this item shall be made in accordance with clause 6.10 of the General Conditions of Contract 2015.

The tendered percentage is a percentage of the amount of expenditure approved by the Engineer under sub-item B12.03(a), and shall include full compensation for the handling costs for administration and profit, and is not to exceed 10% of item B12.03(a).

Item	Unit
B13.04 Contact Name Boards	
(a) Contract signboards are to be erected at each site.	lump sum
The tendered rate shall include full compensation for providing and erecting each contract signboard complete (refer to the typical signboard face detail shown in Section C4.2), including for timber poles and fixings, excavation and backfill, and for dismantling and removing the signboard structures and reinstating the signboard area on completion, including all handling costs and profit."	

Item	Unit
B13.05 Contractors General Obligations in terms of Part E of the project specifications	
(a) Fixed obligations	lump sum
(i) Preparation of risk assessments, safe work procedures the project H & S file the H & S plan and any other H & S matters that the Contractor deems necessary	
(ii) Costs of medical certificates and Medical Surveillance Initial (baseline) medical examinations for 20 Persons .	
(b) Time related obligations month	

- (i) Updating and amending the risk assessments, the safe work procedures, the project H & S file and the H & S plan, and for full compliance with all H & S matters during the construction of the Works under the contract

- (ii) Provision of full time Construction Health and Safety Officer for duration of contract.

Payment of the lump sums tendered under sub-items B13.05(a) and the rate per month for sub-item B13.05(b) shall, for the two sub-items together, include full compensation for all the Contractor's costs in respect of compliance with the OHS Act and Construction Regulations.

Payment of each of the lump sums tendered under sub-items B13.05(a) shall be made in three instalments as specified for the payment of the lump sum tendered under sub-item 13.01(a).

The tendered rate for sub-item B13.05(b) shall be paid as specified for the payment of the tendered rate for sub-item 13.01(c).

Item	Unit
B13.06 Supply protective clothing for site staff	
a) Reflective vests	No.
b) Reflective bibs	No.
c) Hard hats	No.
d) Protective foot wear	No.
e) Earplugs	No.
f) Dust masks	No.
g) Gloves for concrete work	No.
h) Two piece conti-suit Orange colour with EPWP on the back written in black to screen print	No.

The tendered price under B13.06, and shall include full compensation for the handling costs for administration and profit.

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

Add the following to the end of sub clause 1602(a):

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

(d) Free-haul distance

Delete “and cut to spoil” in the last sentence.

SECTION 2100: DRAINS**B2101 SCOPE**

Replace the first paragraph with the following:

"This Section covers all the activities for rehabilitative, new and maintenance work in connection with the excavation and construction of open drains, subsoil drainage and banks and dykes at the location and to the sizes, shapes, grades and dimensions shown on the drawings or as directed by the Engineer, and the test flushing of the subsoil drains."

B2107 MEASUREMENT AND PAYMENT

Item		Unit
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B21.01	Excavation for open drains	cubic metre (m ³)
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Add the following to the penultimate paragraph:

"The tendered rate shall also include full compensation for trimming the open drains. Only those drains designated by the Engineer for excavation will be measured. The above rate will be deemed inclusive where blading is specified in Section 3400, and will not be measured separately.

Where blading or road bed preparation is specified (Section 3400), payment for the formation of side and mitre drains up to the road reserve will be included in the blading or road bed preparation rate. However, where new drains are to be constructed to extend beyond the road reserve limits, payment will be made under this item for the length of drain outside the road reserve."

Item		Unit
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B21.02	Clearing and shaping existing open drains	cubic metre (m ³)
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Add the following to the penultimate paragraph:

"The tendered rate shall also include full compensation for trimming the open drains. Only those drains designated by the Engineer for clearing and shaping will be measured. The above rate will be deemed inclusive where blading is specified in Section 3400, and will not be measured separately.

Where blading is specified (Section 3400), payment for the formation and clearing of side and mitre drains up to the road reserve will be included in the blading rate. However, where drains extend beyond the road reserve limits, payment will be made under this item for the length of drain outside the road reserve."

Add the following new items:

Item		Unit
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B21.20	Clearing and shaping side and mitre drains by road grader	meter (m)
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The unit of measurement shall be the linear meter of mitre and side drain formed, cleared, opened up and shaped. The length of mitre drain will be measured from the outside of the side road drain to the approved extremity of the mitre drain. Only those mitre and side drains designated by the Engineer for clearing and shaping will be measured. The above rate will be deemed inclusive where blading is specified in Section 3400, and will not be measured separately for all work conducted within the road reserve."

B21.21	Hand excavation and protection of existing services (to suit)	Sum
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The Contractor shall ensure that the position of all existing services affected by the Works have been verified before construction works commences and should it be necessary to lower or relocate any service, the Contractor will be required to make the necessary arrangements with the relevant service provider.

SECTION 2200: PREFABRICATED CULVERTS**B2203 MATERIALS****(a) Prefabricated concrete pipe culvert units**

Add the following:

“Should a pipe unit be specified as half of the standard length, the actual length of the unit will be measured for payment as it is accepted that only certain lengths are available from the manufacturers. The tendered rate for concrete pipe culverts shall also include any additional costs with respect to units that are half the standard length. The standard length of a concrete pipe will be taken as 2,44m or 2,5m depending on supplier. All pipe joints are to be wrapped with U24 Bidum or similar approved material. The cost of the wrapping of the joints will be deemed to be inclusive in the installation rate of the pipe.”

(d) Fine granular material

Add the following:

“Selected material, approved by the Engineer, may be used for the bedding.”

B2212 INLET AND OUTLET STRUCTURES, CATCHPITS AND MANHOLES**(a) Excavation and backfilling**

Amend the first paragraph to read as follows :

“The width of excavation shall be the net external dimensions of structure plus 0,5 meter working space along or around the structure. The specifications given elsewhere in this Section for backfilling the culverts shall apply mutatis mutandis to inlet and outlet structures, catchpits and manholes.

If wet soilcrete is used with vibrators the extra working space can be reduced to 150 mm.”

Add the following subclause:

“(j) Stone masonry inlet and outlet structures

Where specified by the Engineer, the Contractor shall construct stone masonry headwalls and wingwalls at culvert inlets and outlets. Stone masonry work shall be carried out in accordance with the provisions of Series 5000 of these Specifications.

Stone masonry will only be specified, where appropriate, for structures up to 600mm in height or diameter. Reinforced concrete will be specified for larger structures.”

B2218 MEASUREMENT AND PAYMENT

Item	Unit
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B22.14 Removing and stacking existing prefabricated culverts

(Size 450 to 1200 diameter concrete pipes)

m

The existing concrete pipes must be removed whole, without being damaged and moved to a designated site as instructed by the Engineer if there are any.

Item

Unit

B22.17 Construct brick headwall as per standard drawing No.

The construction of the brick headwall shall be as per standard detail:- Refer to standard detail

drawing.

SECTION 3300: MASS EARTHWORKS**B3305 TREATING THE ROADBED****(c) Preparing and compacting the roadbed**

Delete first paragraph and replace with the following:

“Roadbed preparation will be utilised to prepare the existing roadway to conform to the required design cross section before the processing and placing of wearing course operation commences. The Contractor is to ensure that the required cross section is neatly trimmed and approved by the Engineer, before any material is imported.

Any part of the roadbed which is classified as being suitable for use, save that it fails to meet density requirements, shall be ripped (150 mm), watered, mixed, shaped and trimmed to the required cross sections and cambers inclusive of cutting all mitre and side drains complete, to ensure proper drainage.

Compaction during the operation must ensure that at least 90% of modified AASHTO density is achieved for the roadbed.

Any drains blocked off by under cutting shall be opened and the spillage into culvert inlets and outlets removed. The Contractor is to ensure that the required cross section is neatly trimmed and approved by the Engineer, before any material is imported.”

SECTION 3400:PAVEMENT LAYERS OF GRAVEL MATERIAL**B3402 MATERIALS****(a) General**

Add the following to the second paragraph:

“Materials to be used for the gravel wearing course shall be Type 1 as per Table 3402/4, with the following amendments:

- Maximum target size = 53 mm
- Oversize index = 10% maximum
- Maximum permitted oversize = 63 mm.”

B3403 CONSTRUCTION**(b) Placing and compacting**

Add the following new sub-subclause:

(iii) Gravel Wearing Course

“Before the construction of the gravel wearing course is commenced, the Contractor shall ensure that the underlying subgrade is to the satisfaction of the Engineer. This shall include the submission of all relevant process control test results to the Engineer.

The wearing course material shall be dumped on the road and then spread by means of motor graders over the full width of the layer shown on the drawings and to such depth that after compaction the thickness of the layer complies with the requirements of the Scope of Works and the surface of the layer is true to elevation, grade, and cross-Section.

At no stage along a road shall the continuous length of unprocessed dumped material exceed 0.5km. Passing opportunities will be provided within the dumped material at a minimum spacing of 200 meters.

The material shall be spread away from the area on which it has been dumped in such a manner as to minimise segregation of the various sizes of aggregate in the material.

Material that is oversize in terms of the requirements for size and that remains after processing or spreading or both shall be hand knapped or bladed off the road and removed and disposed of.

Where necessary, in order to increase the moisture content of the material to the optimum value of the compaction equipment employed and the density required, not more than the requisite quantity of water shall be added uniformly over the area to be compacted. The water shall be thoroughly mixed into the material until a homogeneous mixture is obtained.

Material that is too wet shall be allowed to dry out to the correct moisture content before compaction proceeds.

Compaction shall be carried out in continuous operations over the full width and length of the area being compacted until the density specified has been achieved. The required shape and cross-section shall be maintained during compaction, and all holes, ruts, and depressions shall be corrected by frequent blading with a motor grader. The top of the compacted layer shall present a hard, uniform compacted appearance.

Any weak spots that become apparent during compaction shall be cut out and repaired with sound material at the Contractor's expense.

The wearing course shall be compacted to a density of at least 95% of modified AASHTO density. Only partial payment will be done, at the discretion of the Engineer, on sections of wearing course until the Contractor has submitted satisfactory process control test results for the section to the Engineer.”

Add the following new subclauses:

(f) Mixing/Blending of materials

Where required by the Engineer, materials from different sources shall be mixed in order to produce a final layer that meets the requirements of the specification.

Materials from the different sources shall be dumped on the road in the proportions ordered by the Engineer. The two materials shall be thoroughly mixed by grader or other suitable plant so as to obtain an even mix of the different types of material dumped. The layer shall then be compacted in accordance with clause 3403 (b).

(g) Testing of wearing course gravel

The following minimum testing shall be undertaken by the Contractor as process control for the wearing course gravel, including material processed in-situ:

- (i) 1 CBR per kilometre of gravel wearing course.
- (ii) 3 Gradings and indicators per kilometre. (The sample is to be taken from a 1m² representative area on the road at the test position as per TMH 5)
- (iii) 3 Layer thickness measurements per kilometre.
- (iv) 3 Compaction density tests per kilometre.
- (i) 5 width of road (wearing surface) measurements to be taken every kilometre.
- (ii) Visual inspection
- (iii) Tolerance checking of surface repairs by using straight edge

In addition, there shall be at least 3 CBR tests undertaken on samples from each proposed borrow pit.

All such tests will be undertaken by the on-site or approved laboratory, utilising personnel properly trained and equipped for the purpose.

Only 70% of the applicable rate will be made for the placing and construction of the pavement layer/gravel wearing course. Upon presentation of the above test results, the balance will only be payable if they conform to the set minimum requirements, failing which, the Contractor is to reprocess the section of work until it conforms to the specification. Only then will the balance of the payment be made.”

B3407 MEASUREMENT AND PAYMENT

Item	Unit
B34.10 Sourcing of Selected Sub-Grade, uncrushed Gravel material from the Borrow Pit within the site	m³

Please refer to page C39 Section 1600: Overhaul where the same will apply to this item

SECTION 5600: ROAD SIGNS**MEASUREMENT AND PAYMENT****Item****Unit****B56.01 Supply and Install Road signs with treated poles****No**

The road signs must comply with the South African Road Traffic Signs Manual. The road signs will be erected as directed by the Engineer.

<i>Road Sign Type</i>	<i>Dimensions</i>	<i>Colour</i>
W 104, W 302, W 308	900 mm Sides	Border – Red Retroreflective Symbol – Black semi-matt Backgorund – White Retroreflective
R 201	900 mm diamater	Border – Red Retroreflective Symbol – Black semi-matt Backgorund – White Retroreflective
R1	900 mm diamater	Border – White Retroreflective Symbol – White Retroreflective Backgorund – Red Retroreflective
W 401 W 402	600 mm x 150 mm	Red Retroreflective on white Retroreflective

Item**Unit****B 56.06 Extra over item 56.06 for Cement Treated soil backfill****m³**

The excavated material will be used for backfill. The excavated material will be mixed with cement to form a uniform mixture in the ratio of 1:15. A small amount of water must be added, which is not to exceed the OMC of the excavated material. The mix will be placed in the hole around the pole in layers of 150mm and compacted with the hand stamper.

SECTION 5900: FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS**B5904 MEASUREMENT AND PAYMENT**

Delete item 59.01 and replace with the following new item:

Item	Unit
"B59.01 Finishing the road and road reserve	hectare (ha)

The unit of measurement shall be the hectare of road and/or road reserve completed as per the instruction of the Engineer.

The tendered rate shall include full compensation for clearing, trimming with a motor grader to the required slope, disposing of material, tidying and all other work to be done for finishing off the road and road reserve. Separate items have been scheduled for the following categories.

The finishing of the road reserve shall be measured in the following five categories:

- 1) Where the existing cross fall of the road reserve to be trimmed has a negative slope or is between 0 degrees and 15 degrees to the horizontal
- 2) Where the existing cross fall of the road reserve to be trimmed is between 15 degrees and 30 degrees to the horizontal
- 3) Where the existing cross fall of the road reserve to be trimmed is between 30 degrees and 45 degrees to the horizontal
- 4) Where the existing cross fall of the road reserve to be trimmed is between 45 degrees and 60 degrees to the horizontal
- 5) Where the existing cross fall of the road reserve to be trimmed is between 60 degrees and 75 degrees to the horizontal

Where the existing road side slopes are of such a nature that they cannot be trimmed and finished by using a motor grader, this operation will be conducted under Section 3300".

SECTION 8200: QUALITY CONTROL (SCHEME 1)

B8201 SCOPE

Add the following to the end of clause 8201:

“Quality Control Scheme 1 shall be applicable to this contract.”

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.....	C52
PART D: DAYWORK.....	C57
PART E: OHSA 1993 SAFETY SPECIFICATION.....	C59

C3.3 PARTICULAR SPECIFICATIONS**PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION****C 3.3.1 : ENVIRONMENTAL MANAGEMENT SPECIFICATION****EMS.1 General**

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

- Encourage good management practices through planning and commitment to environmental issues,
- Provide rational and practical environmental guidelines to:
 - i. Minimise disturbance of the natural environment,
 - ii. Prevent pollution of land, air and water,
 - iii. Prevent soil erosion and facilitate re-vegetation.
- Adopt the best practicable means available to prevent or minimise adverse environmental impact,
- Develop waste management practices based on prevention, minimisation, recycling, treatment or disposal of wastes,
- Train employees and contractors with regard to environmental obligations.

EMS.2 Training and Induction of Employees

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

EMS.3 Complaints Register and Environmental Incident Book

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

The following information must be recorded:

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

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

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

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

EMS.4 Site Cleanliness and Neatness

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

EMS.5 Access

- Access to existing roads, schools, buildings, shops and residential properties must not be impeded during construction.
- Access roads utilised by the Contractor must be maintained in good condition.

EMS.6 Borrow Pits

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

EMS.7 Dust Control / Air Quality

- Dust suppression measures must be implemented during construction by ensuring that all surfaces prone to dust generation are kept damp (e.g. use of water tanker).
- Ensure that vehicles and equipment are in good working conditions and that emissions are not excessive.
- 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.

EMS.8 Fauna

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

EMS.9 Fire Prevention and Control

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

EMS.10 Grave Sites

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

EMS.11 Materials Handling and Spills Management

- Any hazardous materials to be used during construction (e.g. lime, fuel, paint, etc) are to be stored in a designated area at the campsite.
- The storage containers/facilities (including any diesel/petrol tanks) must be placed on an impermeable surface and surrounded by a bund wall, in order to ensure that accidental spillage does not pollute the environment.
- Workers must at all times be made aware of the health and safety risks associated with any hazardous substances used (e.g. smoking near fuel tanks), and must be provided with appropriate protective clothing/equipment in case of spillages or accidents.
- Ensure all staff and contractors undergo relevant training in the maintenance of equipment to prevent the accidental discharge or spill of fuel, oil, lubricants and other chemicals.

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

EMS.12 Noise

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

EMS.13 Pollution Control

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

EMS.14 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.

EMS.15 Safety

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

EMS.16 Soil Management

- Stormwater drainage pipes must be installed alongside the road in all areas susceptible to soil erosion.
- Erosion should be minimised by the construction of meadow drains and the planting of indigenous vegetation on the side slopes and drains to reduce flow velocity of stormwater.
- Spoil from cuts may be used in existing erosion galleys.
- Stone pitching and gabions should be constructed at pipe culvert outlets.

- Accidental spills of contaminants onto the ground e.g. oil, concrete, fuel and chemicals should be removed together with the contaminated soil.
- If necessary an absorbent such as Peat Sorb should be used the aid in cleaning up the spill. The contaminated soil should be disposed off in an appropriate container, depending on its classification.
- Servicing and re-fuelling of vehicles must only be carried out at construction camp.

EMS.17 Worker Conduct

Code of Conduct for Construction Personnel:

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

EMS.18 Traffic Disturbances and Diversions

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

EMS.19 Vegetation

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

EMS.20 Waste Management

- All general, non-hazardous waste must be placed in a skip container and disposed of at a registered waste disposal site.
- The contractor is to ensure that the portable toilet facilities at the campsite are properly maintained and in working order.
- No disposal, or leakage, of sewage must occur on or near the site.

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

3.3 PARTICULAR SPECIFICATIONS

PART D: DAYWORK

This part of the Particular Specifications deals with the provision for daywork in the Schedule of Quantities. Rates for daywork shall be entered in the Schedule of Quantities in accordance with the following specifications.

D1. SCOPE

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, plant and equipment which may be necessary to perform work on a daywork basis is included in the Schedule of Quantities. The quantities used in the Schedule 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 Engineer.

D2. TYPE OF WORK

The Engineer 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 Engineer. Daywork will only be used in exceptional circumstances.

D3. 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.

Materials shall be paid for using the method described in C2.1, 'Pricing Instructions'. 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 Engineer. Further, if specific materials are required for daywork, quotations will be called for as per Clause 6.5 of the General Conditions of Contract 2015.

D4. CONSTRUCTION PLANT HIRE

Where daywork is ordered, the tendered rates for plant hire in Section C10.01 of the Schedule of Quantities shall be used in calculating the payment due for any plant required to execute the daywork. If no rate is included in the Schedule of Quantities for a particular piece of 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 of the General Conditions of Contract 2015 will be used.

The tendered rates for each item of constructional plant shall include for all operating costs associated with the said item of plant. 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 plant operator and the general supervision of the plant while it is engaged in the daywork.

D5. SALARIES AND WAGES OF WORKMEN

The salaries and wages of workmen executing daywork shall be paid for using the tendered rates in the Schedule 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, spirit levels, etc. The tendered rate for labourers shall also include for the casual supervision by a gang boss or foreman. Only when specifically called for by the Engineer, will payment be made for the use of a gang boss or foreman supervising on a continuous basis.

D6. MEASUREMENT AND PAYMENT

The following principles shall also apply to the measurement and payment of daywork.

The unit of measurement for plant shall be the number of vibroclock hours worked and each item of plant 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 Clause 6.5 of the General Conditions of Contract 2015 with regard to the submission of daywork claims.

C3.3 PARTICULAR SPECIFICATIONS**PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION****E1. SCOPE**

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2014, and all other safety codes and specifications referred to in the said Construction Regulations.

In terms of the OHSA Agreement in Section C1.5 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations 2014.

This 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 all workers, employees, inspectors and any other persons entering the site of works.

The following aspects of this project carry the risk of possible injuries,

- People becoming complacent and not keeping an eye on the operation being conducted
- People standing out of view of the driver of a construction machine
- People "catching" a lift on the machine and falling under the machine after it hits a hump
- Trying to do a task with the machine for which it is not designed
- Poor visibility while performing tasks that generate excessive dust
- Failure to provide the pedestrians and traffic a safe passage away from the plant processing the layer works and surfacing operations.
- Risks of not wearing proper safety equipment when working with bitumen and cement.
- Failure to provide means of access for emergency vehicles
- Risks related to people smoking near potentially harmful gasses
- Failure to perform visual inspections on all surfacing equipment
- Non-conformance to specifications with regards to fitting all construction vehicles with reverse alarms
- Operation and maintenance on the site of heavy civil engineering plant such as excavators, bulldozers, front end loaders, tippers, TLBs, compaction equipment, rock breaking plant, water pumps, concrete mixers, ready mixed concrete trucks, batch plants, cranes, concrete pumps, compressors, pneumatic tools, generators, etc.
- Use on the site of power tools and hand tools.
- Handling of materials such as scaffolding, formwork, timber planks, steel wire, reinforcement, cement bags, concrete materials and hand stone.
- Storage and handling of flammable materials such as fuels, oils, adhesives, and painting and cleaning products including bituminous paint.
- Presence of open excavations for the manholes and storm water pipe trenches.
- Lifting and lowering of concrete pipes
- Possible need for boatswain's chairs Risks related to general safety and security on site.

Additional risks may arise from specific methods of construction selected by the Contractor which are not necessarily covered in the above.

E2. DEFINITIONS

For the purpose of this contract the following shall apply:

- (a) **“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.
- (b) **“Contractor”** wherever used in the contract documents and in this specification, shall have the same meaning as **“Contractor”** as defined in the General Conditions of Contract 2015.

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 mandatary, without derogating from his status as an employer in his own right.

- (c) **“Engineer”** where used in this specification, means the Engineer as defined in the General Conditions of Contract 2015. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

E3. TENDERS

This Health and Safety Specification forms an integral part of the Contract and Tenderers are required to use it during the tender phase for pricing the preparation of a project specific Health and Safety Plan prior to commencing any work and for pricing the costs of ensuring compliance thereto during construction. Tenderers must forward a copy of this Specification to all other persons or organisations that may be submitting prices to the Tenderer during the tender stage to enable them to include the cost of preparing their own Health and Safety Plan, relevant to their particular operation, and for compliance with the Health and Safety requirements during construction. Payment items are included in the ‘Schedule of Quantities’ for compliance with the ‘Occupational Health and Safety Act’ and with this Specification.

Tenderers are required to complete Form J, ‘Contractor’s Health and Safety Declaration’ of T2.2, ‘Returnable Schedules required for Tender Evaluation Purposes’.

Failure to submit the foregoing with his tender and/or to provide realistic rates for relevant payment items, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely and in accordance with the Construction Regulations.

E4. NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor shall, in terms of Regulation 3, notify the Provincial Director of the Department of Labour in writing if the following work is involved:

- (a) the demolition of structures and dismantling of fixed plant of height of 3,0m or more;
- (b) the use of explosives;
- (c) construction work that will exceed 30 days or 300 person-days;
- (d) excavation work deeper than 1,0m; or
- (e) working at a height greater than 3,0m above ground or landings.

The notification must be done in the form of the pro forma included as Annexure A to this Specification. A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

E5. HEALTH AND SAFETY PLAN

Before commencement of any construction work, the Contractor shall prepare a project specific Health and Safety Plan to comply with the requirements of Construction Regulation 4(1)(a) and in compliance with this Health and Safety Specification. This must include a risk assessment performed and recorded in writing by a competent person (refer to Regulation 7 of the Construction Regulations 2014).

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The Health and Safety Plan shall be available on site for inspection by inspectors, Employer, Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

E6. APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

E6.1 Health and Safety Plan

The Contractor shall appoint in writing his employees and any subcontractors to be employed on the contract, and he shall provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

E6.2 Health and safety induction training

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site.

The Contractor shall ensure that every employee on site shall at all times be in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

E7. APPOINTMENT OF SAFETY PERSONNEL**E7.1 Construction Supervisor**

The Contractor shall appoint a full-time **Construction Supervisor** with the duty of supervising the performance of the construction work.

He may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

E7.2 Construction safety officer

Taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor shall appoint in writing a full-time or part-time **Construction Safety Officer** if so decided by the Inspector of the Department of Labour. The Safety Officer shall have the necessary competence and resources to perform his duties diligently.

Provision shall be made by the Contractor in his rates, to cover the cost of this dedicated construction safety officer appointed after award of the contract.

E7.3 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.

E7.4 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 committee(s)** where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

E7.5 Competent persons

In accordance with the Construction Regulations the Contractor has to appoint in writing **competent persons** responsible for supervising construction work in each of the following work situations that may be expected on the site of the works.

- (a) Risk assessment and induction training as described in Regulation 7 of the Construction Regulations;
- (b) Fall protection as described in Regulation 8;
- (c) Formwork and support work as described in Regulation 10;
- (d) Excavation work as described in Regulation 11;
- (e) Demolition work as described in Regulation 12;
- (f) Scaffolding work as described in Regulation 14;
- (g) Suspended platform operations as described in Regulation 15;
- (h) Material hoists as described in Regulation 17;
- (i) Batch plant operations as described in Regulation 18;
- (j) Explosive powered tools as described in Regulation 19;
- (k) Cranes as described in Regulation 20;
- (l) Construction vehicle and mobile plant inspections on a daily basis by a competent person as described in Regulation 21(1);
- (m) Control of all temporary electrical installations on the construction site as described in Regulation 22;
- (n) Stacking and storage on construction sites as described in Regulation 26; and
- (o) Inspections of fire equipment as described in Regulation 27.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with **all** requirements of the Construction Regulations.

E8. RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials, subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

- (a) A copy of the OHS Act 1993 Construction Regulations 2014;
- (b) A copy of this Health and Safety Specification;
- (c) A copy of the Contractor's Health and Safety Plan (Regulation 4);
- (d) A copy of the Notification of Construction Work (Regulation 3);
- (e) A health and safety file in terms of Regulation 5(7) with inputs by the Construction Safety Officer (Regulation 6(7));
- (f) A copy of the risk assessment described in Regulation 7;
- (g) A fall protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 8;

- (h) Drawings pertaining to the design of structures (Regulation 9(3)) and formwork and support work structures (Regulation 10(d)) must be kept on site;
- (i) Pronouncement of the safety of excavations must be recorded in a register to be kept on site (Regulation 11(3)(h));
- (j) A copy of the certificate of the system design for suspended platforms (Regulation 15(3));
- (k) A notice must be affixed around the bases of the towers of material hoists to indicate the maximum mass load which may be carried at any one time by material hoists (Regulation 17(5));
- (l) Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site (Regulation 17(8));
- (m) A record of any repairs to or maintenance of a batch plant must be kept on site (Regulation 18(9));
- (n) A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used (Regulation 19(2));
- (o) A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant (Regulation 21(1)(j)).

E9. 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 C1.5 '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.

E10. MEASUREMENT AND PAYMENT

E10.1 Principles

It is a condition of this contract that Contractors who submit tenders for this contract shall make provision in their tenders for the cost of all health and safety measures required during the construction process.

(a) Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons referred to in clause E7 paragraphs E7.1 to E7.5 above shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

(b) Records and Registers

The keeping of health and safety-related records and registers as described in clause E8 above is regarded as a normal duty of the Contractor for which payment is deemed to be included in the Contractor's tendered rates and prices, and for which no additional payment will be considered except to the extent provided in item B13.06 of the Schedule of Quantities.

C4: SITE INFORMATION

<u>TABLE OF CONTENTS</u>	Page
C4.1 LOCALITY PLANS	C66
C4.2 EXAMPLE OF CONTRACT SIGNBOARD DETAILS	C67
C4.3 DRAWINGS	C68

C4.1 LOCALITY PLANS

C4.2 EXAMPLE OF CONTRACT SIGNBOARD DETAILS

C4.3 DRAWINGS