



the dr&pw

Department:
Roads And Public Works
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

NORTHERN CAPE DEPARTMENT OF ROADS AND PUBLIC WORKS

TENDER NO. DRPW 023/2023

CONTRACT NO. NC662

**UPGRADING OF A SECTION OF MAIN ROAD 974 BETWEEN LAXEY AND
PROVINCIAL BOARDER NEAR HEUNINGVLEI PHASE 1 (FROM KM 0.00 - KM
20.00)**

CIDB GRADING CLASS 9CE

NORTHERN CAPE DEPARTMENT OF ROADS AND PUBLIC WORKS P.O. Box 3132 Kimberley 8300 Contact Person: Mr. G. Thupe Telephone: (053) 839 2100 Fax: (053) 839 2291 Email: Gabi.Thupe@vodamail.co.za	BAITHUSI CONSULTING cc 06 Oliewenpark, 1st Avenue Bloemfontein 9301 Contact Person: Mr P Makwela Telephone: (051) 430 1811 Cell: 076 076 3271 E-mail: peterm@baithusi.co.za
Name of Tenderer:	
CIDB Registration Number:	
Total of the prices inclusive of value added tax: 	

**TENDER DOCUMENT
VOLUME 3
BOOK 3 OF 3 (PRICING DATA, SCOPE OF WORKS, PROJECT INFORMATION)**

CLOSING DATE: 21 MAY 2024

LIST OF CONTRACT DOCUMENTS

The following documents form part of this contract:

- Volume 1:** The General Conditions of Contract for construction works – 3rd Edition (2015), issued by the South African Institution of Civil Engineering, which the tenderer shall purchase himself. (See note 1 below).
- Volume 2:** The COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition), issued by the Committee of Transport Officials which the tenderer shall obtain himself.
- Volume 3:** The Project Document, containing the tender notice, Conditions of Tender, Tender Data, Returnable Schedules, general and particular conditions of contract, project specifications, Pricing Schedule, Form of offer and Project Information is issued by the Employer (see note 3 below). The Employer's Form of Acceptance and any correspondence from the selected tenderer, performance security-demand guarantee, and all addenda issued during the period of tender will also form part of this volume once a successful tenderer has been appointed.

The conditions of tender are the standard conditions of tender as contained in Annexure C of the STANDARD FOR UNIFORMITY IN ENGINEERING AND CONSTRUCTION WORKS CONTRACTS, AUGUST 2019: Standard conditions of tender, document, which the tenderer may download himself from the CIDB website

<https://www.cidb.org.za/download/100/procurement-documents-templates-and-guidelines/6157/standard-for-uniformity-august-2019.pdf>

- Volume 4:** Books of construction drawings for tender purposes
- Volume 5:** The structural drawings
- Volume 6:** Materials Investigation and Utilisation Information
- Volume 7:** Environmental Management Plan report
- Volume 8:** Project Occupational Health and Safety Specification

Notes to tenderer:

- 1. Volume 1 is obtainable from SAICE, Private Bag X200, Halfway House, 1685. Tel: (011) 8055947/8, e-mail: civilinfo@saice.org.za.**
- 2. Volume 2: The COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard October 2020 edition) is obtainable from NCDRPW and can be downloaded free of charge from the NCDRPW's website www.nra.co.za.**

Information provided by a tenderer over and above the above elements of volume 3 shall be treated as information only and will only be bound into the document if the tenderer notes on Form C: Schedule of Variations or deviations that the information has a bearing on the tender price.

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C1.1. FORM OF OFFER AND ACCEPTANCE

C1.1.1 Form of Offer

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of:

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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 authorized, 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 ANY VALUE ADDED TAX IS:

.....
.....Rand (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(s) : Date
Name(s):
Capacity:

for the tenderer

(Name and address of organization)

.....
.....

Name and signature
of witness Date

C1.1.2 ACCEPTANCE

By signing this part of this form of offer and acceptance, the employer identified below accepts the tenderer’s offer. In consideration thereof, the employer shall pay the contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer’s offer shall form an agreement between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

- Part C1: Agreements and contract data, (which includes this agreement)
- Part C2: Pricing data
- Part C3: Scope of work.
- Part C4: Site information

and drawings and documents or parts thereof, which may be incorporated by reference into parts listed above.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as 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.

The tenderer shall within two weeks of receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the Engineer (whose details are given in the contract data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. 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 working 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 Date

Name

Capacity

for the Employer

Name and address of the organisation: **Northern Cape Department of Roads and Public Works**
9/11 Stokroos Street, Tebogo Leon Tume Complex, Squarehill Park, Kimberley

Name and

signature of witnessDate

C1.1.3 Schedule of Deviations

Notes:

- 1. 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 Conditions of Tender.
- 2. A tenderer's covering letter shall not be included in the final contract document. Should any matter in such, letter, which constitutes a deviation as aforesaid become the subject of agreements reached during the process of, offer and acceptance, the outcome of such agreement shall be recorded here.
- 3. 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.
- 4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract.

1 Subject:.....

Details:

2 Subject:

Details:

3 Subject:.....

Details:

4 Subject:

Details:

5. Subject:

Details:

By the duly authorised representatives signing this schedule of deviations, the employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the tender schedules, as well as any confirmation, clarification or changes 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:

For the Employer:

..... Signature

..... Name

..... Capacity

Name and address of organisation:

Name and address of organisation:

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

..... Witness Signature

..... Witness Name

..... Date

Confirmation of Receipt

The tenderer, (now Contractor), identified in the Offer part of this Agreement hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

the (day) of (month) 20.....(year)

at (place)

For the Contractor:

.....
Signature

.....
Name

.....
Capacity

Signature and name of witness:

.....
Signature

.....
Name

NORTHERN CAPE DEPARTMENT OF ROADS AND PUBLIC WORKS
UPGRADING OF A SECTION OF MAIN ROAD 974 BETWEEN LAXEY AND PROVINCIAL
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C2. PRICING DATA

Contents

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C2.1. PRICING ASSUMPTIONS

1. Measurement and payment shall be in accordance with the relevant provisions of the COTO Standard Specification for Road and Bridge Works for State Authorities (October 2020 edition) as amended in the Scope of Works.
2. The units of measurement described in these Bills of Quantities are metric units. Abbreviations used in the Bills of Quantities are as follows:

%	:	percent
h	:	Hour
ha	:	hectare
kg	:	kilogram
kl	:	kilolitre
km	:	kilometre
km-pass	:	kilometre-pass
litre	:	litre
m	:	metre
mm	:	millimetre
m ²	:	square metre
m ³	:	cubic metre
m ³ -km	:	cubic metre-kilometre
month	:	month
MN-m	:	Person month
man-day	:	Person day
No.	:	number
Prov sum	:	Provisional sum
PC Sum	:	Prime Cost sum
L/sum	:	lump sum
t	:	ton (1000 kg)

3. For the purpose of these Bills 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 COTO Standard Specifications for Road and Bridge Works for South African Road Authorities was approved by COTO on October 2020 as a Draft Standard (DS).

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

Rate: The agreed payment per unit of measurement.

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

Lump sum: An agreed amount for an item, the extent of which is described in the Bills of Quantities but the quantity of work of which is not measured in any units.

4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.

5. It will be assumed that prices included in the bills of quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards).
6. The prices and rates in these Bills of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.
7. The quantities set out in the Pricing Schedule (sometimes referred to as the bill or schedule of quantities) are estimated quantities and are used for the comparison of tenders and for awarding the contract. It must be clearly understood that only the actual quantities of work done, or materials supplied, will be measured for payment and that the scheduled quantities may be increased or decreased as provided for in the Contract Documentation.
8. Where no rate or price has been entered against a pay item in the Pricing Schedule by a Contractor, it shall be accepted that no compensation for such work is required, or will be paid, regardless of the final measured quantity of any work described in that pay item being required and carried out.
9. Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sums tendered for such items.
10. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.
11. The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in these Bills of Quantities.
12. Reasonable compensation will be received where no pay item appears in the Bills of Quantities in respect of work required in terms of the Contract and which is not covered in any other pay item. Three Quotations will be required from the Contractor.
13. The short descriptions of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
14. The item numbers appearing in the Bills of Quantities refer to the corresponding item numbers in the COTO Standard Specifications for Road and Bridge Works for South African Road Authorities
15. Those items in the Bills of Quantities to be constructed using labour-intensive methods have been marked in the Bills of Quantities with the prefix "L". The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The items marked with the letters L are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour intensive specification in the Scope of Works.
16. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using

labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.

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C2.2. BILL OF QUANTITIES

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C1.2	GENERAL REQUIREMENTS AND PROVISIONS				
C1.2.1	Environmental Management				
C1.2.1.1	Monitoring of compliance with and reporting on the EMP	month	22		
C1.2.1.2	Dedicated environmental officer	month	22		
C1.2.4	Stakeholder liaison				
	(i) Community Liason Officer	month	22		
	(ii) Project Steering Committee	month	22		
C1.2.5	Safety				
C1.2.5.1	Health and safety plan	lump sum	1		
C1.2.5.2	Implementation of health and safety plan	month	22		
C1.2.7	Road safety audits				
C1.2.7.3	Stage 5 pre-opening stage traffic safety audit	Prov Sum	1	R450 000,00	R 450 000,00
C1.2.7.4	Handling cost and profit in respect to subitem C1,2,7,3	%	R450 000,00		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C1,3	CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS				
C1.3.1	The Contractor's general obligations				
C1.3.1.1	Fixed obligations including full establishment and removal of establishment and all related costs	Lump Sum	1		
C1.3.1.2	Value-related obligations	Lump Sum	1		
C1.3.1.3	Time-related obligations				
	(a) Mobilisation period	Months	2		
	(b) Execution of the works	Months	22		
C1.3.1.4	Suspension Cost				
	(a) De-establishment	Number	1		
	(b) Re-establishment	Number	1		
	(c) Suspension period	Months	3		
	(d) Engineer Cost	PC sum	prime	cost	R 500 000,00
C1.3.2	Contract sign boards	m ²	2		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL OF QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C1.4	FACILITIES FOR THE ENGINEER PART C: MEASUREMENT AND PAYMENT				
C.1.4.1	Site accommodation				
C.1.4.1	Office and conference room	m ²	68		
C.1.4.2	Laboratories	m ²	88		
C.1.4.3	Open concrete working floors and verandas	m ²	52		
C.1.4.4	Roof over open concrete working floors and verandas	m ²	36		
C.1.4.5	Store rooms inside the laboratory	m ²	18		
C.1.4.6	Car ports	No	6		
C.1.4.7	Ablution units (equipped as specified) (18m ²)	No	2		
C.1.4.13	Rented housing paid for by the Contractor	Prov. Sum	1	300 000,00	R 300 000,00
C.1.4.14	Contractor's handling costs, profit and all other charges in respect of item C.1.4.1.13	%	R 300 000,00		
C.1.4.2	Items measured by area				
C.1.4.2.1	Shelving as specified, complete with brackets	m ²	20		
C.1.4.2.2	Work benches with a concrete slab top	m ²	4		
C.1.4.2.4	Constant-temperature baths of concrete and/or plastered bricks	m ²	3		
C.1.4.2.6	Roller blinds, opaque type	m ²	8		
C.1.4.2.8	Notice boards	m ²	6		
C.1.4.2.11	Galvanised wire mesh store room gate with a padlock	m ²	200		
C1.4.3	Items measured by number				
C1.4.3.2	Office chair	No.	18		
C1.4.3.3	Draughtman's stool	No.	2		
C1.4.3.4	Laboratory high chair	No.	4		
C1.4.3.5	Office desk with 3 drawers (at least one lockable drawer)	No.	3		
C1.4.3.7	Drawing table	No.	1		
C1.4.3.8	Conference table	No.	1		
C1.4.3.10	Filing cabinet	No.	3		
C1.4.3.11	General purpose steel cabinet with shelves	No.	3		
C1.4.3.13	220/250 volt power outlet plug point	No.	8		
C1.4.3.14	400/231 volt 3-phase power outlet plug point	No.	2		
C1.4.3.15	Single 1500m, 58 watt fluorescent tube ceiling light	No.	10		
C1.4.3.19	Wash-hand basin	No.	2		
C1.4.3.20	Laboratory basin	No.	2		
C1.4.3.21	Extractor fan	No.	2		
C1.4.3.22	Fume cupboards	No.	1		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
C1.4.3.23	Fire extinguisher 9,0kg, dry powder type	No.	4		
C1.4.3.24	Air-conditioning unit	No.	2		
C1.4.3.26	Concrete specimen curing bath	no	1		
C1.4.3.29	A3 / A4 colour printer, copier, scanner	no	1		
C1.4.3.31	Rain gauge	no	2		
C1.4.3.32	Minimum/maximum atmospheric temperature gauge	no	2		
C1.4.3.33	Digital thermometer	no	2		
C1.4.3.37	First aid kit	no	2		
C1.4.3.38	Standpipe complete with 30m of 19mm dia. Heavy duty hose pipe	no	2		
C1.4.4	Prime cost items				
C.1.4.4.1	Cell phones costs, including pro-rata rentals, for calls made in connection with contract administration	Prime Cost	1	R90 000,00	R 90 000,00
C.1.4.4.2	Handling costs and profit in respect of item C1.4.4.1	%	R90 000,00		
C.1.4.4.5	The provision of internet connectivity and WiFi data for Engineer's site staff	Prime Cost	1	R40 000,00	R 40 000,00
C.1.4.4.6	Handling costs and profit in respect of item C1.4.4.5	%	40 000		
C.1.4.4.7	The provision of paper and ink for a combination colour printer/copier/scanner	Prime Cost	1	R15 000,00	R 15 000,00
C.1.4.4.8	Handling costs and profit in respect of item C1.4.4.7	%	R 15 000,00		
C1.4.5	Services at site offices, laboratories and site accomodation				
C1.4.5.1	Fixed costs	Lump Sum	1		
C1.4.5.2	Running costs	Month	22		
C1.4.8	Site security measures for the Engineer's facilities				
C1.4.8.1	Supply and installation of all required security measures at the Engineer's site offices and	Lump sum	1		
C1.4.8.2	Provision of security guards / watchmen and an armed response services at the Engineer's offices and laboratories	month	22		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C1.5	ACCOMODATION OF TRAFFIC				
C1.5.1.1	Accomodation of pedestrian and non-motorised traffic	month	22		
C1.5.5	Maintenance of temporary deviations				
C1.5.5.9	Grading of temporary deviations and existing roads used as detours	km	20		
C1.5.5.10	Watering of temporary deviations and existing roads used as detours	kl	60 000		
C1.5.7	Temporary traffic control facilities				
C1.5.7.1	Delineators including mounting bases and ballast:				
	(a) Single sided, reverdible left or right (size indicated)	No	2 000		
	(b) Double sided, reverdible left or right (size indicated)	No	6 840		
C1.5.7.2	Traffic cones, minimum height 750mm	No	20		
C1.5.7.3	Flagmen	man-shift	36 000		
C1.5.7.5	Provision of illuminated traffic signs: (a) Sign mounted flashing amber lights (2 lights with the specified power supply) mounted on a backing board which is:				
	(i) 900mm wide x 150 mm high	No	15		
	(c) Illuminated road sign - R & TR series (diameter indicated)	No	10		
	(d) Illuminated road sign - I W series (length of sides indicated)	No	20		
	(e) Mobile variable message sign	m	24		
	(f) Mobile variable message sign with a speed measuring and display capabilities	m	24		
C1.5.7.7	Traffic calming devices:				
	(a) 25mm high x 100mm wide asphalt rumble strips	m	32		
C1.5.8	Traffic Safety Officer	man-month	22		
C1.5.9	Traffic safety vehicle	month	22		
C1.5.11	Provision of safety equipment for visitors				
C1.5.11.1	Provision of reflective safety vests for visitors	No.	3		
C1.5.11.2	Provision of hard hats for visitors	No.	3		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C1.6	CLEARING AND GRUBBING				
C1.6.1.1	Clearing with machines and some hand labour where necessary	ha	20		
C1.6.1.2	Clearing with hand labour only when labour enhanced work is specified	ha	20		
C1.6.2.4	Grubbing by hand for service trenches (over the agreed width required)	m ²	1200		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C1.7	LOADING AND HAULING				
C1.7.2	Hauling				
C1.7.2.1	Hauling material for use in the Works and off-loading it on the site of the Works:				
	(a) Soil, gravel, crushed stone and pavement layer material	m ³ -km	2640000		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C1.2.8	DAYWORKS				
C1.2.8.1	Personnel				
	(a) Unskilled labour	h	60		
	(b) Semi-skilled labour	h	60		
	(c) Skilled labour	h	60		
	(d) Gang leader	h	60		
	(e) Foreman	h	60		
	(f) Skilled Artisan	h			
C1.2.8.2	Construction equipment				
	(a) Motor grader	h	60		
	(b) Vibratory roller	h	60		
	(c) Pneumatic roller	h	60		
	(d) Front end loader	h	60		
	(e) Tractor loader backhoe	h	60		
	(f) Excavator	h	60		
	(g) Compressor	h	60		
	(h) Tipper trucks				
	(i) 10m ³ capacity	h	60		
	(i) Crane truck (5 ton crane)	h	60		
	(i) Plate compactor	h	60		
	(k) Water Truck (9000 litre)	h	60		
	(l) Concrete mixer (160 litre)	h	60		
C1.2.8.3	Vehicles				
	(a) Light delivery vehicle	km	20		
	(b) Flatbed truck	km	20		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C2.1	Location, identification, protection and relocation of existing services				
C2.1.1.1	Contractor's obligations	lump sum	1		
C2.1.1.2	Permanent services relocation or protection work by others	PC	1	R50 000,00	R 50 000,00
C2.1.1.3	Handling costs and profit in respect of item C2.1.1.2 above	%	R50 000,00		
C2.1.1.4	Permanent services relocation or protection work by the Contractor	Prov. Sum	1		
C2.1.2					
C2.1.2.3	Survey to verify existing service positions	Pc	1	R80 000,00	R80 000,00
C2.1.2.4	Handling costs and profit in respect of item C2.1.2.3 above	%	R 80 000,00		
C2.1.3	Obtaining construction or work permits	lump sum	1		
C2.1.6	Trench excavation (in soft material)				
C2.1.6.1	Trenches up to 1,0 m wide				
(a)	Up to 1,0 m deep	m ³	500		
(b)	Over 1,0 m and up to 2,0 m deep	m ³	400		
(c)	Over 2,0 m deep etc. to be inserted, increased by additional 1,0 m depths as required	m ³	350		
C2.1.7.1	Hard material irrespective of depth	m ³	400		
C2.1.7.2	Stabilised material irrespective of depth	m ³	250		
C2.1.9.2	Trenches over 1,0 m and up to 2,0 m wide (in soft material)				
(a)	Up to 1,0 m deep	m ³	200		
(b)	Over 1,0 m and up to 1,5 m deep	m ³	150		
C2.1.9.3	Trenches up to 1,0 m wide (in intermediate material)				
(a)	Up to 1,0 m deep	m ³	100		
(b)	Over 1,0 m and up to 1,5 m deep	m ³	100		
C2.1.9.4	Trenches over 1,0 m and up to 2,0 m wide (in intermediate material)				
(a)	Up to 1,0 m deep	m ³	100		
(b)	Over 1,0 m and up to 1,5 m deep	m ³	100		
C2.1.11	Backfilling of trenches				
C2.1.11.1	Backfill compacted to 93 % (100 % for sand) of MDD (areas subject to traffic loads) using material:	m ³	1000		
(a)	From the excavated trench material	m ³	1000		
(b)	From other excavations on site	m ³	1000		
(c)	From approved borrow areas	m ³	1000		
(e)	From commercial sources (state material type)	m ³	200		
C2.1.19	Dealing with water during services work				
C2.1.19.1	Dealing with surface water	lump sum	1		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM		ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
3	DRAINAGE				
C3.1	DRAINS				
C3.1.1	Excavation for open drains:				
C3.1.1.1	Excavating all material situated within the following depth ranges below the surface level using conventional methods:				
	(a) 0 m to 1,5 m	m3	3000		
	(b) Exceeding 1,5 m and up to 3,0 m	m3	1500		
C3.1.1.2	Extra over sub-item C3.1.1.1 for excavation in hard and boulder material, irrespective of depth	m3	50		
C3.1.2	Clearing, shaping and disposal of accumulated sediment in existing unlined open drains				
C3.1.2.2	Using labour enhanced construction methods	m3	2700		
C3.1.4	Excavation and disposal of material for subsoil drainage				
C3.1.4.2	Excavating soft material situated within 0 m to 1,5 m below the surface level using labour enhanced construction methods	m3	320		
C3.1.4.3	Excavating intermediate material situated within 0 m to 1,5 m below the surface level using labour enhanced construction	m3	433		
C3.1.4.4	Extra over sub-item C3.1.4.1 for excavation in hard and boulder material, irrespective of depth	m3	22		
C3.1.5	Impermeable backfilling to subsoil drainage systems				
C3.1.5.1	Un-stabilised natural gravel obtained from approved sources o	m3	420,8		
C3.1.6	Construction of banks and dykes:				
C3.1.6.1	Banks and dykes using conventional methods	m3	12		
C3.1.7	Natural permeable material in subsoil drainage systems (approved crushed stone):				
C3.1.7.2	Crushed stone obtained from commercial sources (state grade)	m3	252		
C3.1.8	Natural permeable material in subsoil drainage systems (approved natural sand):				
C3.1.8.2	Natural sand from commercial sources (Coarse-Grade)	m3	504		
C3.1.9	Pipes in subsoil drainage systems:				
C3.1.9.1	couplings				
(a)	110mm internal dia. slotted or perforated	m	24		
	110mm internal dia. Unslotted	m	5000		
C3.1.10	Polymer film sheeting or similar approved material, for lining subsoil drainage systems:				
C3.1.10.1	Synthetic-fibre filter fabric: Grade 2	m ²	2380		
C3.1.13	Concrete outlet structures, manhole boxes, junction boxes and cleaning eyes for subsoil drainage systems:				
C3.1.13.1	Outlet structures	No	10		
C3.1.13.3	Junction boxes	No	10		
C3.1.13.4	Cleaning eyes	No	10		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
C3.1.14	Caps for subsoil drain pipes:				
C3.1.14.1	Concrete caps	No	6		
C3.1.16	Loading and hauling of material in excess of 1,0 km	m3-km	9850		
C3.1.22	Test flushing of subsoil drain pipe systems	No	10		
3.2	CULVERTS				
C3.2.1	Excavation for culvert structures:				
C3.2.1.1	Excavating in all material situated within the following depth ranges below the surface level:				
(a)	0 m to 1,5 m	m3	150		
(b)	Exceeding 1,5 m and up to 3,0 m	m3	100		
C3.2.2	Backfilling:				
C3.2.2.1	Using the excavated material	m3	400		
C3.2.2.2	Using imported selected material:				
(a)	From commercial sources (selected material)	m3	50		
C3.2.3	Concrete pipe culverts:				
C3.2.3.1	(i) 750mm Diameter	m	300		
C3.2.3.2	(ii) 900 Diameter	m	300		
C3.2.3.3	(iii) 1200 Diameter	m	200		
C3.2.5	Rectangular culverts with prefabricated elements:				
C3.2.5.1	Prefabricated portal culverts; wall and roof combination (size and type indicated)				
(i)	600 x 450	m	308		
(ii)	750 x 600	m	308		
(iii)	750 x750	m	42		
(iv)	900 x 750	m	42		
(v)	900 x 900	m	42		
(vi)	1200 x 600	m	28		
(vii)	1800 x 900	m	28		
C3.2.5.2	Prefabricated floor slabs (size and type indicated)	m	2200		
C3.2.7.5	In inlet and outlet structures including kerbs, chutes and downpipes, skewed ends, catchpits, manholes, thrust and anchor blocks, excluding formwork but including Class U2 surfacing finish (Class 30/19 concrete)	m3	924		
C3.2.7.6	Formwork of concrete under items C3.2.7.3 to 5 above (Class of finish indicated)	m2	3080		
C3.2.7.7	Concrete linings for the inverts of metal culverts, including formwork and Class U2 surface finish (Vertical formwork for class F2 surface finish)	m2	3080		
C3.2.10	Reinforcement:				
C3.2.10.1	Mild steel bars	ton (t)	15		
C3.2.10.2	High-tensile steel bars	ton (t)	15		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
C3.2.10.3	Welded steel fabric	kg	12500		
C3.2.11	Anchoring of reinforcing steel:Reinforcing (type, bar diameter) into formed holes (hole diameter and depth stated) in (description of member)				
C3.2.13	Removing and re-laying existing culverts:				
C3.2.13.1	Removing and stacking existing culverts for re-use				
	(i) 0,9m x 0,9m	m	12		
	(ii) 1,2m x 1,2m	m	12		
	(iii) 1,8m x 1,5m	m	12		
	(iv) 3,6m x 2,1m	m	24		
C3.2.16	Brickwork (Engineering bricks):				
C3.2.16.2	230 mm thick	m ²	220		
C3.2.17	Plaster	m ²	220		
C3.2.19	Accessories:				
C3.2.19.1	Manhole frames (description and reference to drawing)	No	2		
C3.2.19.2	Inlet grids or covers (description and reference to drawing)	No	2		
C3.2.19.3	Manhole frames (type, load bearing and SANS specification in)	No	2		
C3.2.19.4	Manhole covers or gratings (type, load bearing and SANS specification)	No	2		
C3.2.22	Cutting of concrete pipes (diameter indicated)	No	10		
C3.2.23	Breaking into existing drainage structures and building in pipes or culverts of the following size (pipe diameter and/or culvert size to be stated)	No	10		
C3.2.24	Compaction of bedding for inlets, outlets, manholes and catchpits:				
C3.2.24.1	Preparation and compaction of in situ bedding material to 90 % of MDD (depth indicated)	m ³	5200		
3.3	KERBING AND CHANNELS				
C3.3.1	Concrete kerbing:				
C3.3.1.1	Prefabricated kerbing (Prefabricated mountable kerb, SABS 927				
(a)	Fig 8, as shown on the drawings	m	2400		
(b)	Fig 3 kerb (SABS 927) as shown in the drawing	m	2400		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C4.1	BORROW MATERIAL				
C4.1.1	Compiling and implementing M&U plans				
C4.1.1.1	For borrow pits (list all borrow pits separately)	No	4,00		
C4.1.1.2	For quarries (list all quarries separately)	No	4		
C4.1.3	Construction and maintenance of temporary haul and access roads				
C4.1.3.1	Temporary unsealed roads	km	20		
C4.1.4	Removing of the overburden				
C4.1.4.1	In borrow pits	m ³	10 000		
C4.1.5	Excavating of materials in the borrow pits and quarries, material obtained from				
C4.1.5.1	Soft excavation	m ³	145 000		
C4.1.5.2	Boulder excavation class A	m ³	2 900		
C4.1.5.4	Hard excavation (other than by blasting)	m ³	9 500		
C4.1.5.5	Hard excavation (by blasting)	m ³	3 500		
C4.1.6	Providing crushing, screening and related plants				
C4.1.6.1	Single-stage crushing plant	No	1		
C4.1.6.4	Screening plant	No	1		
C4.1.7	Producing the material by				
C4.1.7.1	Single-stage crushing	m ³	88000		
C4.1.7.4	Screening only	m ³	88000		
C4.1.8	Moving and re-erecting the crushing, screening and related plants on the site				
C4.1.8.1	Single-stage crushing plant	No	2		
C4.1.8.4	Screening plant	No	2		
C4.1.9	Breaking down oversize material	m³	5000		
C4.1.11	Constructing a platform for the stockpile site	m³	12000		
C4.1.12	Stockpiling the material				
C4.1.12.1	Material from a producing plant	m ³	124000		
C4.1.12.2	Material directly from the excavation	m ³	48000		
C4.1.13	Removing surplus material from the stockpile	m³	5000		
C4.1.14	Removing the fill platform and temporary banks at the stockpile sites upon completion				
C4.1.14.1	Fill platform	m ³	6500		
C4.1.15	Shaping and finishing the borrow pit and quarry areas, and the stockpile sites				
C4.1.15.1	Shaping and finishing the borrow pit and quarry areas, and the stockpile sites:				
(a)	Borrow pits (list all borrow pits separately)				
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
	(i) Hard material	ha	10		
	(ii) Soft material	ha	10		
C4.1.16	Personnel				
C4.1.16.1	Materials manager	month	20		
C4.1.16.2	Excavation controller	month	20		
C4.1.16.3	Stockpile controller	month	20		
C4.1.18	Compensation to landowners or legal occupants in respect of land acquisition, royalties and/or loss of crops				
C4.1.18.1	Amount allowed, expenditure to be approved or instructed by the Employer	Prov Sum	1	R250 000,00	R250 000,00
C4.1.18.2	Handling costs and profit in respect of item C4.1.18.1	%	R250 000,00		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM		ORIGINAL BILL QUANTITIES			AMOUNT
		UNIT	QTY	RATE	
		5.1	ROADBED		
C5.1.1	Roadbed construction and compaction				
C5.1.1.2	Compaction of in-situ material to 93 % of MDD	m ³	41100		
C5.1.2	Excavate material to spoil sites designated by the Employer				
C5.1.2.1	Excavate material to spoil from roadbed				
(a)	Soft excavation	m ³	246600		
(b)	Boulder excavation Class A	m ³	2400		
(d)	Hard excavation (other than by blasting)	m ³	6600		
(e)	Hard excavation (by blasting)	m ³	5500		
C5.1.6	Roller-pass compaction	m ³	41100		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM		ORIGINAL BILL QUANTITIES			AMOUNT
		UNIT	QTY	RATE	
C5.2.1	Compiling and implementing M&U plans				
C5.2.2	Fill construction				
C5.2.2.1	Normal fill material in compacted layer thicknesses of 200 mm and less:				
(a)	93% of Modified AASHTO density (150mm layer thickness)	m ³	49320		
C5.2.2.4	Rock fill material all as per Clause A5.2.7.6	m ³	20000		
C5.2.2.5	Rock fill embankment toe	m ³	5000		
C5.2.6	Fill material in shoulder widening				
C5.2.6.1	Fill material in shoulder widening compacted to 93 % of MDD	m ³	12 000		
C5.2.2.7	Drainage blanket layer	m ²	2 500		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C5.3	ROAD PAVEMENT LAYERS				
C5.3.2	Construction Pavement Layers				
C5.3.2.1	Construction of layers using conventional construction methods				
	Gravel selected layer compacted to:				
	(a) 93% OF Modified AASHTO density (150mm layer thickness)	m ³	40 200		
	(c) 95% OF Modified AASHTO density (150mm layer thickness)	m ³	39 300		
	Gravel Subbase (Chemically stabilised material) compacted to:				
	(l) 95% of modified AASHTO density for a compacted layer thickness of 150mm (C4)	m ³	38 700		
	Gravel Base (Chemically stabilised material) compacted to:				
	(n) 97% of modified AASHTO density for a compacted layer thickness of 150mm (C3)	m ³	37 800		
	Gravel shoulder layer				
	(h) 95% of modified AASHTO density for a compacted layer thickness of 150mm (sidewalk minimum G7)	m ³	9 000		
C5.3.6	Removal of oversize material	m ³	100		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C5.4	STABILIZATION				
C5.4.1	Pre treatment of Gravel Layers				
C5.4.1.1	(a) Subbase Layer	m ³	38 700		
	(b) Base Layer	m ³	37 800		
C5.4.5	Cementitious Stabilisation agent for pavement layers				
C5.4.5.1	Addition of cementitious stabilisation agent (CEM II A-S (32.5N)) for pavement layers				
	(a) Cement (CEM II A-S (32.5N))	ton	5278,5		
C5.4.10	Provison and application of water for curing	kl	500		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C8.1	PRIME COAT				
C8.1.1	Prime coat				
C8.1.1.2	MC -30 cut-back bitumen	litre	129200		
C8.1.1.3	Inverted bitumen emulsion	litre	1500		
C8.1.3	Extra over item C8.1.1 for applying the prime coat accessible only to hand-held or light equipment	litre	2000		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C10.1.1	Single seals including a cover spray, if specified (indicate grade of aggregate and type of binder):				
C10.1.11	Application of cover spray:				
C10.1.11.4	Diluted SC-E1 (60% spray grade cationic emulsion and dilution 40% water)	litre (l)	98800		
C10.1.13	Precoating of aggregate using a dedicated plant				
C10.1.13.1	Product containing low flashpoint solvent SS60	litre (l)	98800		
C10.1.19	Extra over item for work in areas inaccessible to mechanical equipment:				
C10.1.19.3	Cape seals with one layer of slurry	m2	15200		
C10.1.22	Bituminous single seal and slurry, including a cover spray if specified:				
C10.1.22.2	Bituminous single seal with 14 mm aggregate and slurry (indicate type of tack coat and cover spray binder, grade of aggregate and grade of slurry)	m2	152000		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
Item	Description	Unit	Quantity	Rate	Amount
C11.1	PITCHING, STONEMASONRY, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION				
C11.1.1	Foundation trenches for stone masonry walls				
C11.1.1.1	Excavating foundation trenches in soft material using labour enhanced construction methods 0 m to 1,0 m depth	m3	500		
C11.1.1.2	Excavating foundation trenches in intermediate material using labour enhanced construction methods 0 m to 1,0 m depth	m3	500		
C11.1.2	Stone pitching				
C11.1.2.3	Grouted stone pitching on a concrete bed	m2	1920		
C11.1.6	Concrete edge beams (class of concrete indicated)				
C11.1.7	Provision of approved herbicide and ant poison:				
C11.1.7.1	Provision of materials	Prime cost sum	1		
C11.1.7.2	Contractor's charges and profit added to the prime cost sum	percent (%)	10%		
C11.2	NON-STRUCTURAL GABIONS				
C11.2.1	Foundation trench excavation:				
C11.2.1.1	Excavating all material situated within the following depth ranges below the surface level				
	(a) 0m to 1,5m	m3	25		
	(b) Exceeding 1,5 m and up to 3,0 m	m3	25		
C11.2.1.2	Extra over sub-item C11.2.1.1 for excavation in hard material, irrespective of depth	m3	30		
C11.2.2	Surface preparation for bedding the gabion boxes and mattresses	m2	120		
C11.2.3	Gabion boxes and mattresses:				
C11.2.3.1	Galvanized gabion boxes (1m*1m*1m)	m3	42		
C11.2.3.3	Galvanized gabion mattresses (dimensions of mattress)	m3	20		
C11.2.4	Geotextile (type and grade indicated)	square met	140		
C11.3.2	Kilometre markers	No	40		
C11.4	ROAD RESTRAINT SYSTEMS				
C11.4.1	Erecting of guardrails at 3,81 m spacing				
C11.4.1.1	Complete galvanized system compliant to SANS 1350:				
	(a) On timber posts (Drawing reference)	m	3450		
	(d) Extra over C11.4.1.1(a) and C11.4.1.1(b) for excavating holes of posts using labour enhanced methods (soft and intermediate)	m	50		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
C11.4.1.2	Terminal sections for 3,81 guardrails comprising of:				
	(a) End wings to SANS 1350	number (No		8	
	(c) Bridge adapters to SANS 1350	number (No		4	
	(d) End treatments where single guardrail sections are specified (Drawing reference)	number (No		34	
C11.4.6	Reflective plates				
C11.4.6.1	Steel plates				
C11.4.7	Removing existing guardrails:	metre (m)		1225	
C11.4.9	Re-erection of guardrails with recovered or provided material:				
C11.4.9.1	Single guardrail	metre (m)		50	
C11.4.9.3	Extra over C11.4.9.1 and C11.4.9.2 for excavating holes of posts using labour enhanced methods	metre (m)		10	
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
C11.6	ROAD SIGNS				
C11.6.1	Road signboards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class I retro-reflective material, where the sign board is constructed from:				
C11.6.1.4	Prepainted galvanized steel profiles (200 mm high panels):				
	(a) Area exceeding 2,0 m2 but not 10 m2	m2		314	
	(b) Area exceeding 10 m2	m2		206	
C11.6.2	Extra over on item C11.6.1 for using:				
C11.6.2.1	Background of retro-reflective material:				
	(a) Class I	m2		20	
	(b) Class III	m2		20	
	(c) Class IV	m2		250	
C11.6.2.2	Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material:				
	(a) Class III	m2		60	
	(b) Class IV specify a) or b)	m2		346	
C11.6.3	Road sign supports (overhead road sign structures excluded):				
C11.6.3.1	Steel tubing (diameter and wall thickness indicated)	ton (t)		5,8	
C11.6.4	Kilometre markers				
C11.6.4.1	Kilometre markers on posts (type and post indicated and reference to drawings)	number (No		20	
C11.6.6	Dismantling, storing and re-erecting road signs with a surface area of:				
C11.6.6.2	Area exceeding 0,5 m2 but not 2,0 m2	m2		314	
C11.6.6.3	Exceeding 2,0 m2 but not 10 m2	m2		206	
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
C11.7	ROAD MARKINGS				
C11.7.1	Road marking:				
C11.7.2	Retro-reflective road marking:				
C11.7.2.1	White lines broken or unbroken (paint type and width of line indicated)				
	(i) 100 mm wide	km	20		
	(ii) 150 mm wide	km	5		
	(iii) 200 mm wide	km	1		
C11.7.2.2	Yellow lines broken or unbroken (paint type and width of line indicated)				
	(i) 100 mm wide	km	40		
	(ii) 150 mm wide	km	1,5		
	(iii) 200 mm wide	km	1		
C11.7.2.4	White lettering and symbols (paint type indicated)	m ²	620		
C11.7.2.5	Yellow lettering and symbols (paint type indicated)	m ²	620		
C11.7.2.7	Transverse lines, painted island and arrestor bed markings (any colour) (paint type indicated)	m ²	120		
C11.7.5	Variations in rate of application				
C11.7.5.1	White paint	litre	100,00		
C11.7.5.2	Yellow paint	litre	100,00		
C11.7.5.4	Retro-reflective beads	kg	20,00		
C11.7.8	Setting out and premarking the lines (excluding traffic island markings, lettering and symbols)	km	60,00		
C11.7.9	Re-establishing the painting unit during the defects notification period and at other instances on instruction of the Engineer	No	1,00		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
C11.9	FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS				
C11.9.1	Finishing the road and road reserve:				
C11.9.1.2	Single carriageway road	km	20		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	MOSHWANENG BRIDGE				
C13.1	FOUNDATIONS FOR STRUCTURES				
C13.1.2	Additional foundation investigations				
C13.1.2.1	Provisional sum allowed for additional foundation investigations	PC sum	1	R80 000,00	R80 000,00
C13.1.2.2	Handling costs and profit in respect of item C13.1.2.1	%	R80 000,00		
C13.1.3	Excavation:				
C13.1.3.1	(a) Excavating soft material situated within the following successive depth ranges:				
	(a) 0 m up to 2 m	m ³	204		
	(b) >1,5 and < 3,0m	m ³	396		
	(c) Etc in increments of 1,5 m	m ³	180		
C13.1.3.2	Extra over subitem C13.1.3.1 for excavation in hard material irrespective of depth	m ³	100		
C13.1.3.3	Extra over subitem C13.1.3.1 for additional excavation required by the Engineer after excavation is complete	m ³	100		
C13.1.6	Access and drainage:				
C13.1.6.1	Access	Lump Sum	1		
C13.1.6.2	Drainage	Lump Sum	1		
C13.1.7	Backfill to excavations utilising:				
C13.1.7.1	Material from the excavation	m ³	840		
C13.1.7.2	Imported material	m ³	260		
C13.1.7.3	Soil cement	m ³	100		
C13.1.9	Fill within a restricted area (extra over item C5.2.2)	m ³	200		
C13.1.10	Overhaul in excess of 1,0 km on excavated material and on material imported for backfill, foundation fill and fill for caissons	m ³ -km	40 000		
C13.1.14	Foundation fill consisting of:				
C13.1.14.1	Rockfill	m ³	530		
C13.1.14.4	Mass concrete class 15/19	m ³	30		
C13.1.14.5	Concrete screed/blinding , 75mm thick, class 15/19	m ³	58		
C13.1.24	Establishment on the site for piling :				
	(a) First establishment	L/SUM			rate only
	Moving to and setting up the equipment at each position for installing the piles	No			rate only
	Augered or bored holes for piles with a diameter of 750mm through material situated within the following successive depth ranges :				
	(a) Augered holes:				
	(i) 0 m up to 15 m	m			rate only
	(ii) Exceeding 15 m and up to 20 m	m			rate only
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C13.2	FALSEWORK, FORMWORK AND CONCRETE FINISH				
C13.2.2	Vertical formwork to provide:				
	(a) Class F1 surface finish to:				
	(i) Foundations	m ²	360		
	(ii) Abutments and Wingwalls	m ²	620		
	(iii) Approach slabs	m ²	126		
	(iv) In-Situ deck	m ²	432		
	(c) Class F3 surface finish to:				
	(i) Pier	m ²	665		
C13.2.3	Horizontal formwork to provide:				
	(a) Class F2 surface finish to:				
	(i) Deck	m ²	810		
	(ii) Pier beam	m ²	120		
C13.2.6	Formwork to open joints				
	(a) Between deck and abutment	m ²	50		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C13.3	STEEL REINFORCEMENT FOR STRUCTURES				
C13.3.1	Steel reinforcement for:				
C13.3.1.1	Foundations:				
	(a) Mild-steel bars	t	1,8		
	(b) High-yield-stress-steel hot-rolled bars	t	52		
	Abutments and Wingwalls				
	(a) Mild-steel bars	t	1,5		
	(b) High-yield-stress-steel hot-rolled bars	t	48		
	(c) Welded steel fabric	kg	100		
	Pier:				
	(a) Mild-steel bars	t	1,5		
	(b) High-yield-stress-steel hot-rolled bars	t	38		
	Approach Slab:				
	(a) Mild-steel bars	t	0,5		
	(b) High-yield-stress-steel hot-rolled bars	t	12		
	In-situ Deck:				
	(a) Mild-steel bars	t	2,5		
	(b) High-yield-stress-steel hot-rolled bars	t	148		
	New Jersey "Balastrades":				
	(a) Mild-steel bars	t	0,5		
	(b) High-yield-stress-steel hot-rolled bars	t	10		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C13.4	CONCRETE FOR STRUCTURES				
C13.4.1	Cast in situ concrete:				
C13.4.1.1	(a) Class 30/19 in:				
	(i) Foundations	m ³	403		
	(ii) Abutments and Wingwalls	m ³	183		
	(iii) Pier	m ³	720		
	(iv) Approach slabs	m ³	25		
	(v) In-situ decks	m ³	461		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C13.6	BEARINGS				
C13.6.1	Bearings				
C13.6.1.1	For purchase and taking delivery and installation of bearings as per drawings				
C13.6.1.1.1	(i) At abutments and piers				
1	Size 400 mm x 300mm x 61mm thick	No.	15		
C13.6.1.2	Provision of Engineering drawings of proprietary bearings and certification after installation, by an ECSA Registered Professional Engineer or Technologist.	Lump Sum	1		
C13.6.4	Dowels/guides				
	20mm diameter Galvanised dowels (600mm long) including denso tape 300mm long	m	180		
C13.7	JOINTS				
C13.7.1	Expansion Joints: Supply and installation				
C13.7.1.1	(a) 400 x 75 Agrement SA approved Thorma joint	m	60		
C13.7.2	Filled joints:				
C13.7.2.1	(a)20mm thick closed cell expanded polyethylene between approach slabs and return walls	m ²	15		
C13.7.2.2	(b) 100 mm polyethylene joint former with peel-off back strip between abutment and retaining walls	m	30		
C13.7.2.3	(c)Three layers 3-ply roofing felt horizontally at fixed end of approach slab	m ²	20		
C13.7.4	Sealing joints with:				
C13.7.4.1	(b) Waterstop Membrane:				
	Bituthene seal strip 300 mm wide around abutment/approach slab interfaces	m	50		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
C13.8	ANCILLARY STRUCTURAL ELEMENTS				
C13.8.1	Concrete barriers and parapets				
C13.8.1.2	Parapets	m	48		
C13.8.2	End blocks to				
	(a) Concrete New Jersey type B barrier including guardrail fixing detail as shown on drawings	No	4		
C13.8.5	Steel handrails as per SANRAL typical drawing TD-S-P-803-v1	m	48		
C13.8.7	Numbers for structures				
C13.8.7.1	Number plates	No.	2		
C13.8.10	Drainage pipes and weepholes:				
C13.8.10.1	(a) 50mm dia uPVC drainage pipes in abutment seating beams as per drawings	m	20		
C13.8.10.2	(c) 76mm dia mild steel scuppers to deck slab as per drawings	m	20		
B1/B16.02	Overhaul	m ³ .km	10000		
TOTAL CARRIED FORWARD					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
C20.1	TESTING MATERIALS AND JUDGEMENT OF WORKMANSHIP				
C20.1.2	Special tests requested by the Engineer				
	(a) Cost of Testing	PC Sum		R 700 000,00	R 700 000,00
	(b) Handling on Prime Cost Sum	%	R 700 000,00		
C20.1.5	Financial contribution for an independent site laboratory	month	20		
PC20.1.6	Payment of independent site laboratory				
PC20.1.6.1	Direct payment by Contractor	PC Sum			R2 000 000,00
	(a) Handling cost and profit in respect of item C20.1.6.1	%	R2 000 000,00		
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	ORIGINAL BILL QUANTITIES			
		UNIT	QTY	RATE	AMOUNT
D10.01	Target Group Particiaption				
	(a) Contract Participation Perfomance bonus	PC Sum	1,0	R 250 000,00	R250 000,00
D10.02	Facilitation				
	(a) Cost of liaison, social facilitation and PLC support	PC Sum	1,0	R 664 000,00	R664 000,00
	(b) Handling cost and profit in respect of sub-item D10,02(a)	%	R664 000,00		
D10.03	Tender Process for Target Enterprises				
	execution of the Target Enterprise procurement process:				
	(i) Procument process for the totality of all tenders concluded for the appointment of enterprise subcontractors CIDB 1 and 2 grading	No.	3		
	(ii) Procument process for the totality of all tenders concluded for the appointment of enterprise subcontractors CIDB 3 and 4 grading	No	2		
	(iii) Procument process for the totality of all tenders concluded for the appointment of enterprise subcontractors CIDB 5 and higher contractor grading	No	2		
	(b) Targeted enterprise Procurement Coordinator	Month	18		
D10.04	Responsibility of the Contractor towards Targeted				
	(a) Contractor's establishment, management suport assistance, coaching, guidance, mentoring and supervision of targeted Enterprise	Month	18		
	(b) Targeted Enterprise construction Manager	Person. Mth	18		
	(c) Targeted Enterprise Site Supervisors	Person. Mth	18		
D10,05	Construction Works By Targeted Enterprises				
	(a) Payments associated with the construction works carried out by targeted Enterprise subcontractors of CIDB 1 and 2 contractor grading designation appointed In terms of section D	PC Sum	1,0	R1 000 000,00	R 1 000 000,00
	(b) Payments associated with the construction works carried out by targeted Enterprise subcontractors of CIDB 3 and 4 contractor grading designation appointed In terms of section D	PC Sum	1,0	R1 000 000,00	R 1 000 000,00
	(c) Handling costs and profit in respect of payment associated with sub-item D10.05 (a) and (b)	%	R2 000 000,00		
	(d) Fluctuation between the main contractor's rates and that of the Targeted Enterprise subcontractors	Lump Sum	1,0	R1 000 000,00	R 1 000 000,00
	enterprise subcontractor appointed in item of section D	Lump Sum	1,0	R2 500 000,00	R 2 500 000,00
D10.06	Training, Coaching, guidance, mentoring and assistance:				
	(a) Training costs				
	(i) Accredited NQF Training	Prov. Sum	1,0	R400 000,00	R 400 000,00
TOTAL CARRIED FORWARD TO SUMMARY					

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL BROUGHT FORWARD					
	(iii) Community skills training	Prov. Sum	1,0	150000	R 150 000,00
	(iv) Handling cost and profit in respect of sub-items D10.06(a) (ii) and (iii)	%	R550 000,00		
	(C) Other costs during training	Prov. Sum	1,0	40000	R 40 000,00
	(d) Training venue	Lump Sum	1,0	40000	R 40 000,00
TOTAL CARRIED FORWARD TO SUMMARY					

SUMMARY OF THE SCHEDULE OF QUANTITIES			
SECTION	DESCRIPTION		ORIGINAL TENDER AMOUNT
GENERAL			
C1.2	General requirements and provisions	R	
C1.3	Site & General Obligations	R	
C1.4	Facilities for the Engineer	R	
C1.5	Accommodation of Traffic	R	
C1.6	Clearing and Grubbing	R	
C1.7	Loading and Hauling	R	
DAYWORKS			
C1.2.8	Daywork	R	
SERVICES			
C2.1	Relocation of services	R	
DRAINAGE			
C3.1	Drains	R	
EARTHWORKS AND PAVEMENT LAYERS MATERIALS			
C4.1	Borrow Materials	R	
EARTHWORKS AND PAVEMENT LAYERS CONSTRUCTION			
C5.1	Roadbed	R	
C5.2	Fill	R	
C5.3	Road Pavement Layers	R	
C5.4	Stabilisation	R	
PRETREATMENT			
C8	Prime Coat	R	
SURFACE TREATMENTS			
C10	Surface Treatments	R	
ANCILLIARY ROADWORKS			
C11	Ancilliary Roadworks	R	
STRUCTURES			
C13.1	Foundation for structures	R	
C13.2	Falsework, Formwork and Concrete Finish	R	
C13.3	Steel reinforcement for:	R	
C13.4	Concrete	R	
C13.6 and C13.7	Bearings and Joints	R	
C13.8	Ancillary Structural Elements	R	
QUALITY ASSURANCE			
C20	Testing Materials and Judgement of Workmanship	R	
	SUB TOTAL A	R	
	Contract Skills Development Goal 0.25% OF Sub Total A	R	
	SUB TOTAL B	R	
	Contingency @ 5%; this amount is sole under the control of of the Employer	R	
	SUB TOTAL C	R	
	CPA @ 7%	R	
	SUB TOTAL D	R	
	Add VAT @ 15%	R	
	TOTAL CARRIED TO C.1.1.1: FORM OF OFFER	R	

NORTHERN CAPE DEPARTMENT OF ROADS AND PUBLIC WORKS
UPGRADING OF A SECTION OF MAIN ROAD 974 BETWEEN LAXEY AND PROVINCIAL
BOARDER NEAR HEUNINGVLEI PHASE 1
TENDER No. DRPW 023/2023

C3. SCOPE OF WORK

Contents

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C3.1. STANDARD SPECIFICATIONS

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

The following SANS specifications are also referred to in this document and the Contractor is advised to obtain them from Standards South Africa (a division of SABS) in Pretoria.

SANS 1921 (2004):	-1	Construction and Management Requirements for Works Contracts Part 1: General Engineering and Construction Works and where accommodation of traffic is involved:
SANS 1921-2 (2004):		Construction and Management Requirements for Works Contracts; and Part 2: Accommodation of Traffic on Public Roads Occupied by the Contractor.
SANS 294 (2004)		Construction procurement processes, methods and procedures.
SANS 10845-5		Targeted enterprise
SANS 10845-6		Targeted partners in joint ventures
SANS 10845-7		Local Resources
SANS 10845-8		Targeted labour
National Treasury Vol 689 (4 November 2022)		Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2022

NORTHERN CAPE DEPARTMENT OF ROADS AND PUBLIC WORKS
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C3.2. PROJECT SPECIFICATIONS

STATUS

The Project Specifications, consisting of two parts, forms an integral part of the contract and supplements 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 Specification, the Project Specification shall take precedence. In the event of a discrepancy between the Specifications, (including the Project Specifications) and the drawings and / or the Bill of Quantities, the discrepancy shall be resolved by the 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.

PART A: GENERAL

PS-1 PROJECT DESCRIPTION

1.1. Employer's objectives

The Employer's objective is to rehabilitate road upgrading of a Section of Main Road 974 between Laxey and Provincial Boarder near Heuningvlei Phase 1 comes as a timely venture to cater or address the basic human rights and will add transportation linkage between the communities and facilitating existing businesses.

The project is subject to Contract Participation Goals (CPG). The employer's objectives during construction are to provide local enterprises and local labour with a substantial portion of the work, provide training to local labourers and emerging entrepreneurs and to use labour intensive methods of construction where possible. The work must be executed to the highest technical standard and with a high degree of safety.

The Contract is subject to 30% subcontracting in line with the Preferential Procurement Policy Framework Act, (PPPFA) 2000: Preferential Procurement Regulations, November 2022. Preference will apply to this tender in respect of this procurement regulation. The priority of subcontracting arrangements shall be made in accordance with this priority listing as stipulated in the PPPFA, 2000 Preferential Procurement Regulations, November 2022. The order of preference shall be as follows:

An EME or QSE which is 51% owned by people living in rural or underdeveloped areas or townships.

1.2. Extent of the works

The final scope of work as per the investigation conducted to date, involves the reconstruction of the entire section of the road, provision of 3.5m lane width, surfaced of 0.3m and gravel shoulder of 1.5m

The scope of work for the entire Km 20.00 and Bridge Structure is detailed as follows but not limited to;

- Establishment of the Work Contractors camp
- Site Clearance and Earthworks
- Excavation for open drains
- Construction of banks and dykes
- Pavement layers
- Concrete kerbing and channeling
- Stabilization
- Drainage structures
- Pitching and Stonework
- Road signs
- Road Markings
- Cape seal
- Bridge Structure (Moshwaneng Bridge at km 0+480)

PS-2 Details of the Works

A brief detail of the works for which this specification is applicable is as follows:

2.1. Road works – pavement design

The design pavement structure for the new road of road upgrading of a Section of Main Road 974 is summarised in the following table:

ROAD PAVEMENT STRUCTURE (MODERATE OR DRY REGIONS)

Pavement Layers	Description
Surfacing	Cape Seal
Base	150mm Base (C3) layer compacted to 97% MOD AASHTO
Sub base	150mm Subbase(C4) layer compacted to 95% MOD AASHTO
Subgrade	150mm (G6) gravel layer rip to 93% MOD AASHTO
Roadbed	In-Situ gravel layer rip & re-compacted to 90% MOD AASHTO
THE GRAVEL SHOULDERS	
Wearing Course	150mm (G6 - G5) layer compacted to 95% MOD AASHTO
150mm (G6) Base	150mm (G6) gravel layer rip & re-compacted to 93% MOD AASHTO

2.2. Bridge Structure

The scope of works also includes construction of Moshwaneng Bridge at km 0+480. Details plans are attached under Drawings.

2.3. Traffic Accommodation

Accommodation of traffic will be an integral part of the construction project as the project involves upgrading the existing road. The Road upgrading of a Section of Main Road 974 has a road reserve of 40m. We thereof propose a full width construction and provision of gravel bypass to divert traffic flow and two layers shall be constructed including the base and the sub-base. Both layers shall be compacted to specified qualities under pavement section and there shall be a water truck that will frequently water the road and suppress the dust. Access to private property shall be made accessible at all times.

Signage shall be used to indicate and warn the road users of construction in process and flagmen shall be utilized for traffic control. Two-way radio communication shall be used where there is not enough visibility between flagmen.

Provision will be made in the tender specifications for:

- ❖ Maintenance of bypasses
- ❖ Provision of traffic control measures to control traffic during the duration of construction.

2.4. Climatic conditions

The project area is located in a sub-tropical climatic region and experiences tropical climatic conditions with temperatures ranging from 16° to 32°. The rainy season extend from October to March and tends to be erratic and localised, falling in spells of high intensity. The mean annual rainfall is from 600mm with January being the wettest month with about 107mm per month. Such intense rainfall often causes flooding and damage to roads and houses, though no reports of floods have been reported by the local inhabitants.

2.5. Community Liaison

Local labour is to be used and the employment of such labour is to be done in conjunction with the Project Steering Committee. The Community Liaison Officer (CLO) shall implement the Labour Recruitment Policy and Procedures through the Project Steering Committee who shall assist the Contractor with the recruitment of local labourers to ensure an equal distribution of people employed between the various civic and tribal structures in the area.

The community structures shall identify and nominate one CLO's whom shall be appointed and paid by the Contractor out of a provisional sum. The CLO shall be full time employed on the project. The CLO shall be the communication link with the contractor and the Project Steering Committee. The CLO shall attend all site-meetings held by the Employer, the Contractor and the Engineer and report to and from the relevant stake holders.

The CLO shall manage conflict, oversee application of the Basic Condition of Employment, attend and contribute in Labour Disciplinary Procedures, compile weekly reports on the workplace situation and monthly reports according to the EPWP formats and assist in compiling a skills audit of the available skills in the community, compile and keep a database of the available labour, and administer the recruitment of labour on behalf of the community structures.

2.6. Construction in confined areas

It may be necessary for the Contractor to work within confined areas. Except where provided for in the specifications, no additional payment shall be made for work done in restricted areas. In certain places the width of the fill material and pavement layers may decrease to zero and the working space may be confined. The method of construction in these confined areas largely depends on the Contractor’s constructional plant.

However, the Contractor shall note that, unless provided for in terms of the scheduled payment items in the COTO Standard Specifications or these project specifications, measurement and payment shall be in accordance with the specified cross sections and dimensions only, irrespective of the method used for achieving these cross sections and dimensions, and that the tendered rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered when working in confined areas and narrow widths, and at or around obstructions, and that no extra payment shall be made nor shall any claim for additional payment be considered in such cases.

PS-3 Construction and Management Requirements

3.1. General

The Contractor is referred to COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020. These specifications shall be applicable to the contract under consideration and the Contractor shall comply with all requirements relevant to the project.

Certain aspects however require further attention as described hereafter.

- a. Contractor’s Site Establishment and General Obligations

MEASUREMENT AND PAYMENT

Item	Unit
-------------	-------------

C1.3.1 The Contractor's general obligations

Delete subitem C1.3.1.3 and replace with the following:

“C1.3.1.3 Time related obligations:

- | | |
|----------------------------------|--------|
| (a) Mobilisation period | month |
| (b) Execution of the works | month” |

Add the following pay subitems:

“C1.3.1.4 Suspension Cost

(a)	De-establishment	Number
(b)	Re-establishment	Number
(c)	Suspension period	month
(d)	Engineer’s cost	prime cost
	sum (PC) sum	

Under the heading “Item C1.3.1.3”, delete the 2nd paragraph and replace with the following:

“The contract rate shall include full compensation for that part of the Contractor's general obligations which are mainly a function of construction time. The contract rate shall be deemed to include, leasing costs, hire costs or cost of ownership per month for Contractor’s Equipment. The contract rate will be paid monthly, pro rata for parts of a month, from the Commencement Date in terms of the Contract Documentation until the end of the Mobilisation Period for item C1.3.1.3(a). For item C1.3.1.3(b) the contract rate will be paid monthly, pro rata for parts of a month, from the end of Mobilisation Period until the end of the original Contract Period specified for completion of the Works.”

Add the following new paragraphs:

“Item C1.3.1.4

The rates tendered under subitem C1.3.1.4 shall represent full compensation for all Costs for Suspension of Work and all Costs during Suspension of Works period, and no other Costs (including other monthly costs) shall be payable.

Payment of subitems C1.3.1.4(a) and C1.3.1.4(b) shall be made for the number of de-establishments and re-establishments of all Personnel and Goods (Contractor’s Equipment, Materials, Plant and Temporary Works) as instructed by the Engineer. Payment of subitems C1.3.1.4(a) and C1.3.1.4(b) shall not apply during the Mobilisation Period.

Payment of subitem C1.3.1.4(c) shall be made monthly, pro rata for parts of a month, from the date on which the Contractor has suspended progress of all of the Works in terms of Conditions of Contract clause 8.8 and commenced with de-establishment of the site, until permission or instruction to proceed in terms of Conditions of Contract clause 8.12 is given. Payment of subitem C1.3.1.4(c) shall not apply during the Mobilisation Period.

The Prime Sum in subitem C1.3.1.4(d) is provided to cover the cost of the Engineer during the period of suspension of the works. The amounts certified by the Employer shall be made to the Engineer, within 30 days of it being certified by the Employer.”

3.1.1. Drawings

The reduced drawings which form part of the tender documents shall be used for tendering purposes only.

The contractor shall be supplied with three complete paper copies of the construction drawings free of charge. The Contractor shall at his own expense produce there from all further paper prints required for the construction of the work.

At the completion of the Contract, the Contractor shall return to the Engineer all drawings, provided or made, during the contract period.

Any information which the Contractor has control over and which is required by the Representative of Engineer to complete the as-built drawings shall be made available to the Engineer before the completion certificate is issued.

Only written dimensions may be used. Dimensions are not to be scaled from drawings unless ordered by the Engineer. The Engineer will supply all figures / dimensions which are not shown on the drawings. The levels or dimensions given on the drawings are subject to confirmation on site. The Contractor shall submit all levels and dimensions to the Engineer for confirmation before he commences with any structural construction work. The Contractor shall also check all clearances which are given on the drawings and inform the Engineer of any conflicting dimensions.

Any destination names on road signs which may be indicated on the drawings are subject to confirmation by the Engineer before these signs are manufactured.

3.2. Planning and Programme

3.2.1. Preliminary programme

The Contractor shall include with his tender a preliminary programme on the prescribed form to be completed by all Tenderers. The programme shall be in the form of a simplified bar chart with sufficient details to show clearly how the works will be performed within the time for completion and client Priorities as stated in the Contract Data.

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

The Contractor shall be deemed to have allowed fully in his tendered rates and prices as well as in his programme for all possible delays due to normal adverse weather conditions and special non-working days as specified in the Special Conditions of Contract, in the Project Specifications and in the Contract Data.

The following constraints shall be taken into account in preparing the preliminary construction programme which must be submitted with the Tender. These same constraints shall apply to the final construction programme.

- a) The Contract Period. Plant and personnel requirements to complete the project in the contract period must be incorporated in the Tender.
- b) A high standard of traffic accommodation.
- c) The relocation of services (if required).

3.2.2. Programme in terms of Clause 5.6 of the General Conditions of Contract

It is essential that the construction programme, which shall conform in all respects to Clause 5.6 of the General Conditions of Contract, be furnished within the time stated in the Contract Data. The preliminary programme to be submitted with the tender shall be used as basis for this programme. The Contractor's attention is also drawn to clause 5.7.3 of the General Conditions of Contract 2015.

In addition to Clause 5.6.2 GCC2015 and as per Clause 5.6.2.5 the following additional information needs to be provided with the programme:

- Rate of progress;
- Quantity of the works per scheduled item;09
- Plant and equipment used per scheduled item.

In addition to Clause 5.6.2.6 – The cashflow needs to be closely linked to the programme of works.

3.3. Quality Assurance (QA) *(Read with COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020.)*

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

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

a) **Definitions**

i. **Independent site laboratory**

In the definition of "Independent site laboratory", add the following:

"Independent Site laboratory in COTO is equivalent to the combined laboratory in the Employer documentation"

b) **Measurement And Payment**

C20.1.5 Financial contribution for an independent site/commercial laboratory

Delete reference to: "/commercial"

Add the following new pay item:

"Item

Unit

C20.1.6 Payment of independent site laboratory

C20.1.6.1 Direct payment by contractorprime cost (PC) sum
a) Handling cost and profit in respect of item C20.1.6.1 ... percentage (%)

The contractor shall pay the appointed site laboratory monthly for the amount as certified by the Engineer.

The charge or mark-up tendered or allowed for is a percentage of the amount actually paid under the prime cost item. The percentage shall cover all the Contractors' sourcing, handling, profit, and payment of the service provider in providing the services. The Contractor shall forfeit his mark-up when the service provider is not paid in time."

3.3.1. Method Statement

The Contractor will submit a detailed work method statement to be approved by the Engineer prior to commencing with the execution of any of the following work:

- Traffic accommodation
- Opening and closing of borrow/spoil areas
- New layer works (including sub base and base)
- Construction of fill and selected layers
- Stabilisation of pavement layers
- Relocation of existing services
- Repairs, alterations and/or additions to existing roads used as temporary deviations
- Asphalt surfacing
- Replacement of culvert pipes

Method statements should consist of at least (but not restricted to) the following:

- Site specific details
- Personnel responsible (organogram)
- Risk assessment
- Prestart checks and information transmittals
- Description activities
- Sequence activities
- Plant details
- Staff details
- Materials details
- Health and Safety considerations
- Hold points

Failure to submit an approved work method statement will result in no work commencing for that activity.

3.4. Management and disposal of water (*Read with COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020.*)

The Contractor shall pay special attention to the management and disposal of water and stormwater on the site. It is essential that all completed works or parts thereof are kept dry

and properly drained. Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure to properly manage rain and surface water, will not be considered.

3.5. Earthworks (*Read with COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020.)*)

a) Borrow pits and spoil areas

The borrow pits to be used for this contract shall be pointed out to the contractor in due course. The Contractor shall be permitted to use only those borrow pits approved by the Engineer.

The spoil sites shall be determined on site in conjunction with the Engineer and the local communities. The Contractor shall be permitted to use only those spoil areas approved by the Engineer.

Should the Contractor wish to use any other tip area for the disposal of soil, rubble, vegetation, etc, its use shall be subject to the approval of the Engineer and the landowner.

3.6. Testing (*Read with COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020.)*)

a) Process control

The Contractor shall arrange for all tests required for process control to be done to ensure compliance with the requirements of the specifications. The cost of process control is deemed to be included in the rates, and no special pay item is provided for such.

b) Acceptance control

The process control test results submitted by the Contractor for approval of materials and workmanship will be taken into account by the Engineer in his appraisal for acceptance. However, the Engineer shall commission further acceptance control testing by the Engineer's laboratory. The cost of such acceptance control testing is carried by the Employer.

3.7. Site Establishment (*Read with COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020.)*)

a) Contractor's camp site and depot

The Contractor is responsible to provide a suitable site for his camp, the Engineer's personnel and the Engineer's site laboratory, and to provide accommodation for his personnel and labourers. If the Employer can make any specific site available to the Contractor, such site will be pointed out to the Contractor. The construction site must be along the route under rehabilitation with a maximum of 1km away from the road.

The Engineer offices, site laboratory and contractor's offices need to be provided for at the same location.

The chosen site shall be subject to the approval of the Engineer and the Community Structures. The Contractor shall conform to all local authority, environmental and industrial regulations.

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.

The Contractor shall provide security watchmen for the contract as he deems fit at no extra cost for the Employer. The Contractor must ensure that all his employees as well as the employees of his subcontractors are able to identify themselves as members of the construction team.

b) Accommodation of Employees

No employees except for security guards will be allowed to sleep or be accommodated on the site, unless otherwise approved by the land owner and endorsed by the Community Structure.

The Contractor shall make his own arrangements to house his permanent employees and to transport them to site. The contractor shall also make arrangements regarding transport of local temporary labour to and from site. No additional payment shall be made for transport of labour to and from site, and the rates shall be deemed to include the cost of transportation.

No informal housing or squatting will be allowed on the site.

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

3.8. Survey beacons (*Read with COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020.)*)

The Contractor shall take special precautions to protect all permanent survey beacons or pegs such as bench-marks, stand boundary pegs and trigonometrical beacons, regardless whether such beacons or pegs were placed before or during the execution of the Contract. If any such beacons or pegs have been disturbed by the Contractor or his employees, the Contractor shall have them replaced by a registered land surveyor at his own cost.

3.9. Existing Services (*Read with COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020.)*)

The Contractor shall make himself acquainted with the position of all existing services before any excavation or other work likely to affect the existing services is commenced.

The Contractor will be held responsible for any damage to known existing services caused by or arising out of his operations and any damage shall be made good at his own expense. Damage to unknown services shall be repaired as soon as possible and liability shall be determined on site when such damage should occur.

A provisional amount is included in the bill of quantities for the protection of services and/or relocation thereof.

Prior to commencing construction activities in a particular area, the Contractor shall also diligently enquire of local landowners as to whether there are any other known services which have not been shown on the drawings but which may be affected by the construction activities in that area, and any such services shall be brought to the attention of the Engineer immediately.

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

The drawings indicate of some of the existing services known to the Engineer at the time of tendering. This is by no means a comprehensive inventory, and the contractor shall ascertain the status of existing services.

3.10. Health and Safety (*Read with COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020.*)

PS-4

4.1.1. General statement

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the OHS Act 1993 Construction Regulations 2014 issued on 07 February 2014 by the Department of Labour.

For the purpose of this contract the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of the Occupational Health and Safety Act in the form as included in section C1.2.4.

4.1.2. Health and Safety Specifications and Plans

a) Employer's Health and Safety Specification

The Employer's Health and Safety Specification is included in Part E of the Project Specifications.

b) Tenderer's Health and Safety Plan

The Tenderer shall submit before commencement of his works his own documented Health and Safety Plan for the execution of the works under the contract. The Health

and Safety Plan must comply with the employer's specification, at least cover the following:

- i. a proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 7 to 28;
- ii. pro-active identification of potential hazards and unsafe working conditions;
- iii. provision of a safe working environment and equipment;
- iv. statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (*Regulation 5*);
- v. monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- vi. details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 6 and other applicable regulations; and
- vii. Details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2003.

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

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

4.1.3. Cost of compliance with the OHS Act Construction Regulations

The rates and prices (see pay item C1.2), Part B of the project specifications) tendered by the Contractor shall be deemed to include all costs for conforming to the requirements of the Act, the Construction Regulations and the Employer's Health and Safety Specification as well as the Mine Health and Safety Act as applicable to this contract.

Should the Contractor fail to comply with the provisions of the Construction Regulations, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

4.2. Management of the environment (*Read with COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020.)*)

Respect for the environment is an important aspect of this contract and the Contractor shall pay special attention to the following:

a) Natural Vegetation

The Contractor shall confine his operation to the limits of the road reserve for the purpose of constructing the works and where applicable detours, shall be sited in consultation with the Engineer and the local communities.

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

b) Fires

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

The contractor shall engage actively in the local fire protection and disaster management structures.

c) Environmental Management Plan

In addition to the above, all requirements according to the Environmental Management Plan as detailed in C1.2.1, Particular Specifications, shall be adhered to.

To be highlighted is that it is a requirement of the Record of Decision regarding the Environmental Management Plan that the Employer shall appoint a full time Environmental Control Officer whose duty it shall be to independently monitor compliance with the environmental requirements of the contract and to report to the Employer. The ECO shall be given full access to the site and shall be invited to all Community Structure and technical project meetings and shall receive all minutes. The ECO shall be skilled in the specific environmental mitigation measures provided for in the scope of works and shall provide the project technical team with technical guidance. However, the work instructions shall be issued by the Engineer.

4.3. Requirements for Accommodation of Traffic (*COTO Standard Specifications for Road and Bridge Works for South African Road Authorities (Draft Standard (DS), October 2020 edition, COTO 2020.)*)

a) General

The Contractor will be responsible for the safe and easy passage of public traffic past and on sections of roads of which he has occupation or where work has to be done near traffic.

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.

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

b) Basic Requirements

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

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

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

The Contractor shall construct and maintain all temporary drainage works necessary for temporary deviations.

The Contractor shall provide and grant access to persons whose properties fall within or adjoin the area in which he is working.

c) Payment

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

PS-5 Labour Intensive Specification

5.1. Labour intensive competencies of supervisory and management staff

Contractors shall only engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2004 to 30 June 2006, are registered for training towards, the skills programme outlined in Table 1.

The managing principal of the contractor, namely, a sole proprietor, the senior partner, the managing director or managing member of a close corporation, as relevant, shall have personally completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for the NQF level 2. All other site supervisory staff in the employ of such contractors must have completed, or for the period 1 April 2004 to 30 June 2006 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

Table 1: Skills programme for supervisory and management staff

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, and } any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/ supervisor	4	Implement labour Intensive Construction Systems and Techniques	This unit standard must be completed, and } any one of these 3 unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Site Agent / Manager (i.e. the contractor's most senior representative that is resident on the site)	5	Manage Labour Intensive Construction Processes	Skills Programme against this single unit standard

- 5.2. Employment of unskilled and semi-skilled workers in labour-intensive works
- 5.2.1. Requirements for the sourcing and engagement of labour
- 5.2.1.1. Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and the specifications.
- 5.2.1.2. The labour rate will be as per the minimum wages set out for unskilled labour in the civil construction industry (**SAFCEC**).
- 5.2.1.3. Tasks established by the contractor must be such that:
- a) the average worker completes 5 tasks per week in 40 hours or less; and
 - b) the weakest worker completes 5 tasks per week in 55 hours or less.
- 5.2.1.4. The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 4.2.1.3.
- 5.2.1.5. The Contractor shall, through the Community Structure, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:
- a) where the head of the household has less than a primary school education;
 - b) that have less than one full time person earning an income;
 - c) where subsistence agriculture is the source of income.
 - d) those who are not in receipt of any social security pension income
- 5.2.1.6. The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:
- a) 55% Black people youth between the ages of 18 and 35
 - b) 40% Black women and
 - c) 2% on persons with disabilities.

5.2.2. Specific provisions to training

The skills audit conducted by the Project Steering Committee and the appointed Social Facilitator will inform the Contractor's training programme. The contractor shall hence design a training programme for labour and entrepreneurs and submit it to the Engineer for approval. This programme will be provided by commercial training institutions on a quotation basis. This category of training paid under the contract, must be endorsed by the Engineer prior to the appointment of the training institutions. This category of training shall be only CETA accredited training (NQF levels 1 to 4) covering the courses of special skills, construction supervisors, and construction contractors.

The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

An allowance equal to 100% of the daily rate shall be paid by the contractor to workers who attend formal training. The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a

minimum of ten (10) days if he she is employed for 4 months or more. The contractor shall do nothing to dissuade targeted labour from participating in training programmes.

Proof of compliance with the requirements of the above must be provided by the Contractor to the Employer prior to submission of the final payment certificate. The payment arrangements for this category of training are set out in part B of the project specifications.

PART B: Amendments to the Standard and Particular Specifications

B1: PROJECT SPECIFICATIONS RELATING TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS

In certain clauses in the standard, standardised and particular 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 alternative 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 particular contract.

The number of each clause and each payment item in this part of the project specifications consists of the prefix B followed by a number corresponding to the relevant clause or payment item in the standard specification.

The number of a new clause or payment item, which does not form part of a clause or a payment item in the standard specifications and which is included here, is also prefixed by B, but followed by a new number which follows on the last clause or item number used in the relevant section of the standard specifications.

The prefix "L" is added in front of the item in the bill of quantities for activities which must be constructed using labour-enhanced construction methods. The specific activities to be constructed labour-enhanced are described in the "Amendments to the Standard and Particular Specifications".

IN ALL CASES WHERE REFERENCE IS MADE IN COTO TO THE "GENERAL CONDITIONS OF CONTRACT" THIS WILL REFER TO THE "GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS" 3RD EDITION 2015. WHERE REFERENCE IS MADE TO A SPECIFIC CLAUSE IN COTO THIS MUST THE CROSS-REFERENCED TO THE SPECIFIC CLAUSE NUMBER IN GCC 2015.

SECTION: DEFINITION AND TERMS

In all cases where "Directorate Transport Planning" appears in the text or in drawings contained in this document it shall be read as "Department of Roads and Public Works".

SECTION C1: GENERAL REQUIREMENTS AND PROVISIONS

A1.2.3. EXTENSION OF TIME FOR DELAYS CAUSED BY RAINFALL

4

b) Method 2 (Critical path method with consequential delays)

Add the following;

Where the critical path method with consequential delays is specified in the Contract Documentation for determining the extension of time resulting from rainfall, it shall be applied as follows:

A delay caused by rainfall conditions will be regarded as a delay only if all progress on an item or items of work on the critical path of the Contractor's programme has been brought to a halt for part of a day or a full day. Delays on programmed and actually planned working days only will be taken into account for the extension of time. Each day, or portion of a day so agreed will accrue as 'n' days of delay over the duration of the contract. The summary of accrued agreed 'n' delays shall be recorded at each site meeting.

The Contractor shall make provision in the programme of work for an expected delay of "N" working days caused by predictable normal rainy weather, for which the Contractor will not receive any extension of time. The value of "N" shall be given in the Contract Documentation. Extension of time for rainfall delays which occurred during working days will be granted to the degree to which the agreed cumulative actual delays, in full or part of working days as defined above, exceed the cumulative number of "N" workings days as mentioned in the Contract Documentation, during the contract period up to the issue of the Taking-over Certificate. Extension of time for rainfall shall apply in addition to any approved contract extension of time due to other causes.

This method does not take into account any flood damage, which could cause further or concurrent delays and which should be treated separately in so far as extension of time is concerned. It also does not deal with other types of weather which may cause delays, for instance snowfalls, abnormally strong wind and extreme temperatures.

All such delays shall be dealt with separately in accordance with the terms of the Conditions of Contract. If a delay due to wet conditions is caused by, or exacerbated by, the lack of adequate temporary drainage measures, such a delay shall not be taken into account in the calculation of any extension of time. Any delay due to rainfall will only be recognized and granted to the extent that the delay could not be mitigated by changing work sequences.

The delay shall be applied to the contract duration after any other caused and approved contract extensions of time have been applied. The total delay caused by rainfall shall not exceed the duration past the issue of the Taking-over Certificate.

The 'n' value of working days, as specified in this clause as being expected delays for which the contractor must make allowance in his programme, have been calculated from the figures given in Table below:

Table 1 Rainfall records for Kimberly

MONTH	AVERAGE RAINFALL (mm)	AVERAGE RAIN DAYS (per month)
JANUARY	55	6
FEBRUARY	65	9
MARCH	70	8
APRIL	45	5
MAY	20	3
JUNE	15	1
JULY	6	1
AUGUST	11	1
SEPTEMBER	11	1
OCTOBER	30	4
NOVEMBER	45	5
DECEMBER	60	6
TOTAL	435	50

The number of rain-related delays is the days on which 10 mm of rain or more is expected to fall. Other inclement weather delays for which the contractor must make allowance in his programme have been derived from previous experience of wind and temperature influence on similar construction in the area of the site. Actual extensions of time due to inclement weather shall be agreed between the Engineer's and contractor's representatives on the site. The agreed whole days or parts thereof shall be recorded at the monthly site meetings.

C1 CONTRACTOR'S RESPONSIBILITIES

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status as mandatory (Employer) for the contract under consideration.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations 2003 and are not repeated in detail but some important aspects are highlighted hereafter, without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations.

In addition the Contractor shall also comply with the requirements of the Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA) and to this effect shall submit a letter of good standing with the compensation Insurer to the Client before work on site commences.

(a) Contractor's position in relation to the Employer (Client) (Regulation 4)

In accordance with Section 4 of the Regulations, the Contractor shall liaise closely with the Employer or the Engineer on behalf of the Employer, to ensure that all requirements of the Act and the Regulations are met and complied with.

(b) The Contractor and subcontractor (Regulation 5)

The Contractor is in terms of the definition in Regulation 2(b) the equivalent of Contractor as defined in the Construction Regulations, and he shall comply with all the provisions of Regulation 5.

Any subcontractors employed by the Contractor must be appointed in writing, setting out the terms of the appointment in respect of health and safety. An independent subcontractor shall, however, provide and demonstrate to the Contractor a suitable, acceptable and sufficiently documented health and safety plan before commencement of the subcontract. In the absence of such a health and safety plan the subcontractor shall undertake in writing that he will comply with the Contractor's safety plan, the health and safety specifications of the Employer and the Construction Regulations 2003.

(c) Supervision of construction work (Regulation 6)

The Contractor shall appoint the safety and other personnel and employees as required in terms of Regulation 6 and as set out in paragraph 7 above. Appointment of those personnel and employees does not relieve the Contractor from any of the obligations under Regulation 6.

(d) Risk assessment (Regulation 7)

The Contractor shall have the risk assessment is performed as set out in paragraph 7 above before commencement of the work, and it must be available on site for inspection at all times. The Contractor shall consult with the health and safety committee or health and safety representative(s) etc. on a regular basis to ensure that all employees, including subcontractors under his control, are informed and trained by a competent person regarding health hazards and related work procedures.

No subcontractor, employee or visitor shall be allowed to enter the site of works without prior health and safety induction training, all as specified in Regulation 7.

(e) Fall protection (Regulation 8)

Fall protection, if applicable to this contract shall comply in all respects with Regulation 8 of the Construction Regulations.

(f) Structures (Regulation 9)

The Contractor will be liable for all claims arising from the collapse or failure of structures if he failed to comply with all the specifications, project

specifications and drawings related to the structures, unless it can be proved that such collapse or failure can be attributed to faulty design or insufficient design standards on which the specifications and the drawings are based.

In addition the Contractor shall comply with all aspects of Regulation 9 of the Construction Regulations.

(g) Formwork and support work (Regulation 10)

The Contractor will be responsible for the adequate design of all formwork and support structures by a competent person.

All drawings pertaining to formwork shall be kept on site and all equipment and materials used in formwork, shall be carefully examined and checked for suitability by a competent person. A design certificate of the formwork and support structures shall be submitted by a professional Engineer.

The provisions of Regulation 10 of the Construction Regulations shall be followed in every detail.

(h) Excavation work (Regulation 11)

It is essential that the Contractor shall follow the instructions and precautions in the Standard Specifications and Project Specifications as well as the provisions of the Construction Regulations to the letter as unsafe excavations can be a major hazard on any construction site. The Contractor shall therefore ensure that all excavation work is in terms of the Standard Specifications and Project Specifications and the Construction Regulations carried out under the supervision of a competent person, that inspections are carried out by a professional Engineer or technologist, and that all work is done in such a manner that no hazards are created by unsafe excavations and working conditions.

Supervision by a competent person will not relieve the Contractor from any of his duties and responsibilities under Regulation 11 of the Construction Regulations.

(i) Demolition work (Regulation 12)

Whenever demolition work is included in a contract, the Contractor shall comply with all the requirements of Regulation 12 of the Construction Regulations. The fact that a competent person has to be appointed by the Contractor, does not relieve the Contractor from any of his responsibilities in respect of safety of demolition work.

(j) Tunneling (Regulation 13)

The Contractor shall comply with Regulation 13 wherever tunnelling of any kind is involved.

(k) Scaffolding (Regulation 14)

The Contractor shall ensure that all the provisions of Regulation 14 of the Construction Regulations are complied with. [Note: Reference in the Regulations to “Section 44 of the Act” should read “Section 43 of the Act”]

(l) Suspended platforms (Regulation 15)

Wherever suspended platforms will be necessary on any contract, the Contractor shall ensure that copies of the system design issued by a professional Engineer are submitted to the Engineer for inspection and approval. The Contractor shall appoint competent persons as supervisors and competent scaffold erectors, operators and inspectors and ensure that all work related to suspended platforms are done in accordance with Regulation 15 of the Construction Regulations.

(m) Boatswain’s chairs (Regulation 16)

Where boatswain’s chairs are required on the construction site, the Contractor shall comply with Regulation 16.

(n) Material Hoists (Regulation 17)

Wherever applicable, the Contractor shall comply with the provisions of Regulation 17 to the letter.

(o) Batch plants (Regulation 18)

Wherever applicable, the Contractor shall ensure that all lifting machines, lifting tackle, conveyors, etc. used in the operation of a batch plant shall comply with, and that all operators, supervisors and employees are strictly held to the provisions of Regulation 18. The Contractor shall ensure that the General Safety Regulations (Government Notice R1031 of 30 May 1986), the Driven Machinery Regulations (Government Notice R295 of 26/2/1988) and the Electrical Installation Regulations (Government Notice R2271 of 11/10/1995) are adhered to by all involved.

In terms of the Regulations, records of repairs and maintenance shall be kept on site.

(a) Explosive powered tools (Regulation 19)

The Contractor shall ensure that, wherever explosive-powered tools are required to be used, all safety provisions of Regulation 19 are complied with.

It is especially important that warning notices are displayed and that the issue and return of cartridges and spent cartridges be recorded in a register to be kept on site.

(q) Cranes (Regulation 20)

Wherever the use of tower cranes becomes necessary, the provisions of Regulation 20 shall be complied with.

(r) Construction vehicles and mobile plant (Regulation 21)

The Contractor shall ensure that all construction vehicles and plant are in good working condition and safe for use, and that they are used in accordance with their design and intended use. The vehicles and plant shall only be operated by workers or operators who have received appropriate training, all in accordance with all the requirements of Regulation 21.

All vehicles and plant must be inspected on a daily basis, prior to use, by a competent person and the findings must be recorded in a register to be kept on site.

(s) Electrical installation and machinery on construction sites (Regulation

The Contractor shall comply with the Electrical Installation Regulations (Government Notice R2920 of 23 October 1992) and the Electrical Machinery Regulations (Government Notice R1953 of 12 August 1993). Before commencement of construction, the Contractor shall take adequate steps to ascertain the presence of, and guard against dangers and hazards due to electrical cables and apparatus under, over or on the site.

All temporary electrical installations on the site shall be under the control of a competent person, without relieving the Contractor of his responsibility for the health and safety of all workers and persons on site in terms of Regulation 22.

(t) Use of temporary storage of flammable liquids on construction sites (Regulation 23)

The Contractor shall comply with the provisions of the General Safety Regulations (Government Notice R1031 of 30 May 1986) and all the provisions of Regulation 23 of the Construction Regulations to ensure a safe and hazard-free environment to all workers and other persons on site.

(u) Water environments (Regulation 24)

Where construction work is done over or in close proximity to water, the provisions of Regulation 24 shall apply.

(v) Housekeeping on Construction sites (Regulation 25)

Housekeeping on all construction sites shall be in accordance with the provisions of the environmental Regulations for workplaces (Government Notice R2281 of 16 October 1987) and all the provisions of Regulation 25 of the Construction Regulations.

(w) Stacking and storage on construction sites (Regulation 26)

The provisions for the stacking of articles contained in the General Safety Regulations (Government Notice R1031 of 30 May 1986) as well as all the provisions of Regulation 26 of the Construction Regulations shall apply

(x) Fire precautions on construction sites (Regulation 27)

The provisions of the Environmental Regulations for Workplaces (Government Notice R2281 of 16 October 1987) shall apply.

In addition the necessary precautions shall be taken to prevent the incidence of fires, to provide adequate and sufficient fire protection equipment, sirens, escape routes etc. all in accordance with Regulation 27 of the Construction Regulations.

(y) Construction welfare facilities (Regulation 28)

The Contractor shall comply with the construction site provisions as in the Facilities Regulations (Government Notice R1593 of 12 August 1988) and the provisions of Regulation 28 of the Construction Regulations.

(z) Non-compliance with the Construction Regulations 2003

The foregoing is a summary of parts of the Construction Regulations applicable to all construction projects.

The Contractor, as Employer for the execution of the contract, shall ensure that all provisions of the Construction Regulations applicable to the contract under consideration are complied with to the letter.

Should the Contractor fail to comply with the provisions of the Regulations 3 to 28 as listed in Regulation 30, he will be guilty of an offence and will be liable, upon conviction, to the fines or imprisonment as set out in Regulation 30.

The Contractor is advised in his own interest to make a careful study of the COTO, 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

C1.2.1 ENVIRONMENTAL MANAGEMENT

Add the following;

"The unit of measurement for item C1.2.1.1 is the month or part thereof that the service is required and provided during the approved contract period. The contract rate shall include full compensation for the regular monitoring of compliance with and reporting on the EMP in accordance with the specified requirements.

The unit of measurement for item C1.2.1.2 is the month or part thereof that the service is provided during the approved contract period. The contract rate shall include full compensation for the provision of a dedicated environmental officer (Registered with relevant professional registration body) including all employment costs, accommodation and transport costs and all other associated overhead costs

C1.2.5: SAFETY

Add the following:

The unit of measurement for item C1.2.5.1 shall be the lump sum. The lump sum shall include full compensation for assessing the risks associated with the Works, reviewing and taking cognisance of the Employer's health and safety specifications and/or requirements, preparing the Contractor's health and safety plan and for the submission of a copy of the plan to the Engineer. The unit of measurement for item C1.2.5.2 shall be the month, or part thereof for the duration of the approved contract period. Part of a month shall be calculated to two decimal places.

The contract rate shall include full compensation for implementing the health and safety plan, including the provision of a dedicated, full time health and safety officer, carrying out all the required site health and safety training and briefings, staff medical evaluations, monitoring and administering the health and safety plan and for supplying all transport, personal protection safety items, other health and safety equipment, safety notices and any other health and safety related items that are required on site. The contract rate shall also include the provision of a monthly health and safety compliance report to the Engineer.

C1.2.7: ROAD SAFETY AUDIT

Add the following:

The provisional sum allowed under item C1.2.7.3 shall be used to pay the actual cost of appointing an independent auditor and carrying out a Stage 5 pre-opening stage traffic safety audit as prescribed in the SARSAM and in Clause A1.2.3.20 b) and for preparing the audit report and submitting two copies of the report to the Employer and the Engineer.

The percentage under item C1.2.7.4 is a percentage of the amount spent under item C1.2.7.3 which shall include full compensation for all handling costs, profit and all other charges in connection with arranging and carrying out the specified audit.

C1.3: CONTRACTOR'S SITE ESTABLISHMENT AND GENERAL OBLIGATIONS

The lump sums under items C1.3.1.1 and C1.3.1.2 and the contract rate per month for item C1.3.1.3 shall together include full compensation for all the Contractor's costs, charges, overheads and profits in respect of all the Contractor's General Obligations as specified in Clause A1.3.2

C1.3.1.3 MOBILISATION PERIOD

The period between the Commencement Date and the date of Access to Site), which period (duration) is stated in the Contract Data. This part of Section D of the Specifications describes the requirements of the Mobilisation Period.

C1.3.2 CONTRACT SIGN BOARDS

The unit of measurement for item C1.3.2 is the total square metre (m²) area of the approved contract sign boards (two) provided and erected by the Contractor in the positions on site indicated by the Engineer. The contract rate for item C1.3.2 shall include full compensation for all costs associated with providing, erecting and for the later removal of the contract signboards as soon as the Works have been completed.

C1.4: FACILITIES FOR THE ENGINEER

The unit of measurement for items C1.4.1.1 to C1.4.1.5 shall be the square metre (m²) of each facility, measured according to the internal floor area. The contract rates shall include full compensation for the construction or provision of these Engineer's facilities all complete in accordance with the specifications given in the Contract Documentation. Where offices are provided in existing buildings the passageways, hallways and any other office space in excess of the Engineer's requirements shall not be measured for payment.

The unit of measurement for items C1.4.1.6 to C1.4.1.7 shall be the number of units provided. The contract rates shall include full compensation for the construction or provision of these Engineer's facilities all complete in accordance with the specifications given in the Contract Documentation.

The contract rates for items C1.4.1.1, C1.4.1.2, C1.4.1.3, C1.4.1.6 and C1.4.1.7, shall also include full compensation for clearing and grubbing the areas under and around the buildings, the excavation and backfilling of any foundations required, the loading and hauling of the excavated material to spoil if required, regardless of haul distance, and the provision and maintenance of a trafficable surface to provide all weather mud and dust free access for vehicles and pedestrians to and around the buildings

The provisional sum allowed under item C1.4.1.13 shall provide for the cost of arranging and paying for rented accommodation for the Engineer's site staff and for providing services at the rented accommodation as instructed by the Engineer. The provisional sum shall be paid in accordance with the provisions of the Contract Documentation.

C1.4.2: ITEMS MEASURED BY AREA

The unit of measurement for items C1.4.2.1 to C1.4.2.11 shall be the square metre (m²) of the item supplied and installed as specified. The area shall be determined from the authorised outside dimensions in plan. The contract rates shall include full compensation for the construction or provision of these items all complete in accordance with the specifications given in the Contract Documentation

C1.5: ACCOMMODATION OF TRAFFIC

C1.5.1 Accommodation of pedestrian and non-motorised traffic

The unit of measurement for item C1.5.1.1 shall be the month or part thereof that the accommodation of pedestrian and/or non-motorised traffic is required on site during the approved Contract Period. No distinction will be made with respect to the type and/or number of pedestrian crossings, walkways and cycle paths required.

The contract rate for item C1.5.1.1 shall include full compensation for the costs of complying with all the general obligations of the Contractor, including keeping pedestrians and non-motorised traffic informed of the accommodation arrangements and facilities, for the costs of placing, maintaining and relocating temporary signage and all other traffic control facilities as often as required and for any other related costs that are not covered by, or included in

C1.5.2 Accommodation of vehicular traffic

The unit of measurement for item C1.5.2 shall be the month or part thereof that the accommodation of vehicular traffic is required on site during the approved Contract Period. No distinction will be made with respect to the type and/or number of detours, deviations or partial / half width road sections used to accommodate the traffic.

The contract rate for item C1.5.2 shall include full compensation for complying with all the general obligations of the Contractor, including keeping motorists informed of the traffic accommodation arrangements and facilities, for the costs of placing, maintaining, relocating and protecting from damage all temporary and permanent signage and all other traffic control facilities as often as required for constructing the Works and for carrying out testing and inspections and for any other related costs that are not covered by, or included in.

C1.5.5: MAINTENANCE OF TEMPORARY DEVIATIONS

C1.5.5.9 GRADING OF TEMPORARY DEVIATIONS AND EXISTING ROADS USED AS DETOURS

The unit of measurement for item C1.5.5.9 shall be the kilometre of gravel surfaced temporary deviation which is graded smooth with a motor grader to remove all corrugations and to redistribute the bladed gravel material evenly across the road surface. The contract rate per kilometre shall include full compensation for providing and maintaining the motor grader and grading the road surface to restore the riding quality as specified in the Contract Documentation, regardless of any variations in the width of roadway being graded.

C1.5.5.10 WATERING OF TEMPORARY DEVIATIONS AND EXISTING ROADS USED AS DETOURS

The unit of measurement for item C1.5.5.10 shall be the kilolitre of water sprayed on the surface of temporary deviations as and when instructed by the Engineer in writing. The contract rate shall include full compensation for providing, transporting and spraying the water on the road surface.

C1.5.7: TEMPORARY TRAFFIC CONTROL FACILITIES

The unit of measurement for items C1.5.7.1(a), C1.5.7.1(b) and C1.5.7.2 shall be the number of delineators or traffic cones used on site. The contract rates shall include full compensation for the provision, placing and relocation of delineators and traffic cones as often as required. Payment for these items shall only be made once when they are first provided on site regardless of how many times they are repositioned and reused during the construction of the Works.

The unit of measurement for items C1.5.7.3 shall be the number of flagmen and traffic controllers respectively employed for a working shift in accordance with the requirements specified in Clause A1.5.7.11(e). The contract rate shall include full compensation for the provision of trained flagmen and traffic controllers and for all wages, Employer contributions, accommodation, transport and other staff related costs incurred by the Contractor, including their recruitment and training costs

The unit of measurement for items C1.5.7.5(a) to C1.5.7.5(f) shall be the number of illuminated traffic signs that are supplied and delivered to site as specified in the Contract Documentation and/or as specified by the Engineer. The contract rates shall include full compensation for the provision of the illuminated traffic signs, including poles and brackets, portable mounting frames and ballast and portable trailers where applicable, and for removing them from site when they are no longer required.

C1.5.8: TRAFFIC SAFETY OFFICER

The unit of measurement for item C1.5.8 shall be the months or part thereof during the approved Contract Period that each traffic safety officer is deployed on the site of the Works. The contract rate shall include full compensation for the provision of a trained and experienced traffic safety officer and for all wages, Employer contributions, accommodation, transport and other staff related costs incurred by the Contractor, including their recruitment and training costs.

The contract rate shall also include full compensation for the provision of a safety jacket utilizing retro-reflective and/or fluorescent panels in red, yellow and/or white, a cell-phone and anything else the traffic safety officer requires to fulfil his duties and obligations as specified in Clause A1.5.7.12

C2.1: GENERAL REQUIREMENTS AND TRENCHING FOR SERVICES

The lump sum tendered under item C2.1.1.1 shall be in full compensation for all the Contractor's obligations under Clauses A2.1.3.2, A2.1.3.3a), A2.1.3.3b) and A2.1.3.5 for the location, identification and protection of existing services and for safety and safeguarding and the programming for services.

The prime-cost item C2.1.1.2 shall be paid for work done by others in accordance with the provisions of the conditions of contract for work ordered or agreed by the Engineer. The tendered percentage for item C2.1.1.3 is a percentage of the amount spent under the prime-cost item, which shall include full compensation for the handling, supervision and liability costs of the Contractor and the profit in connection with providing the specified service.

The provisional sum under item C2.1.1.4 shall be paid for work done by the Contractor accordance with the provisions of the conditions of contract for work ordered or agreed by the Engineer.

C3.1: DRAINS

The unit of measurement shall be the cubic metre of material excavated in accordance with the authorised dimensions, measured in place before excavation. Only excavation for open drains as defined in Clause A3.1.7.2 shall be measured. Irrespective of the total depth of the excavation, the quantity of material in each depth range shall be measured and paid for separately.

Excavations shall be done using conventional construction methods and/or labour enhanced construction methods as specified. Payment made for either hard, boulder or stabilised existing road layers shall only be measured for the one applicable extra over category.

The tendered rates shall include full compensation for the excavation of the material to the required dimensions, lines, levels and grades, the trimming of the open drain and the loading and disposal/utilisation of the material as directed, including haul of 1,0 km when using conventional construction methods.

Loading and hauling, where applicable, including a haul of 1,0 km, shall be measured and paid under Section C1.7 of Chapter 1. Where the excavation of material is specified by means of labour enhanced construction methods, the tendered rates shall include loading and transport by wheelbarrow if the material is disposed of or utilised within a radius of 50 m, alternatively loading by hand onto transport vehicles for such disposal or utilisation elsewhere, within a haul distance of 1,0 km.

C3.1.2: Clearing, shaping and disposal of accumulated sediment in existing unlined open drains

The unit of measurement shall be a cubic metre of sediment, including accumulated existing cut slope rubble and vegetation, removed measured in place before removal. Where such measurement is impractical or impossible, as decided by the Engineer, quantity measurement shall be determined as 70 % of volume measured in haulage vehicles.

Excavations shall be done using conventional construction methods and/or labour enhanced construction methods as specified.

C4.1: BORROW MATERIALS

The unit of measurement shall be the number of compiled M&U plans for borrow pits and quarries. The tendered rates shall include full compensation for gathering all information and compiling the plans, for topographical surveys and for ensuring the implementation of the plans during the operation of the borrow pit or quarry.

C4.1.3 Construction and maintenance of temporary haul and access roads

The quantity shall be measured in place at the borrow pit or quarry before stripping. It shall be based on the thickness of overburden as measured in trial pits, or from topographical surveys carried out after the removal of the topsoil and surveys done after the removal of the overburden. Overburden less than 200 mm thick when removed with the topsoil shall be included in the topsoil measurement.

For removing overburden in borrow pits no distinction shall be made between the classes of excavation of the overburden material. For removing overburden in quarries distinction shall only be made between removing soft and hard material.

The tendered rates shall include full compensation for excavating the overburden, for moving the material to the outer limits of the borrow pit or quarry or for loading the material for stockpiling as applicable, for replacing the overburden in the borrow pit or quarry after completion of the excavation including loading and hauling from the stockpile when applicable, and for levelling the material.

C4.1.6 Providing crushing, screening and related plants

The unit of measurement shall be the number of complete plants supplied and erected on the project.

The tendered rates shall include full compensation for providing the plant, transporting the plant to the project, erecting, commissioning and finally dismantling it, and removing it when it is no longer required for the project.

Payment of this item shall be made in two instalments as follows:

- The first instalment, 85 % of the tendered rate, shall be paid after erection and commissioning of the plant.
- The final instalment, 15 % of the tendered rate, shall be paid after removal of the plant from the contract.

C4.1.7: Producing the material

The quantity shall be measured in place in the compacted earthworks or pavement layers. The quantities shall not include excess material, screened out material that is not used in the works, overfill material, or additional material placed for bulking (settlement during compaction).

The quantities for earthworks shall be measured from the difference between levelled cross sections at 20 m maximum intervals taken before and after the construction of the earthworks.

The quantities for pavement layers shall be calculated from the authorised dimensions of the layers.

Where the materials are placed in stockpile for some time before used on the road, the Engineer and the Contractor shall agree on the interim method of measuring the quantities for this item.

No haul shall be paid separately for moving material on the same borrow pit or quarry area. Hauling shall only be paid for material moved from another borrow pit or quarry area than where the crushing and screening plant are located. Haul shall then be measured from the point where the material is loaded to where it is off-loaded.

C4.1.8 Moving and re-erecting the crushing, screening and related plants on the site

The unit of measurement shall be the number of times on a site that a plant is dismantled after its initial establishment on site (which is measured and paid for under item C4.1.6), transported and re-erected, irrespective of the type of material produced.

The tendered rates shall include full compensation for dismantling the plant, loading, transporting, off-loading and re-erecting it at new positions, and recommissioning it.

C 4.4 COMMERCIAL MATERIALS

For commercial materials from private or non-commercial suppliers identified by the Employer and that must still be excavated, produced and/or stockpiled, the Employer may decide to have a cost breakdown of the individual activities such as excavation, crushing and so forth. The pricing of item C4.4.1 will then not be applicable, and measurement and payment shall be made in accordance with the applicable items in Section C4.1.

C4.4.1.1 and C4.4.1.3 The quantities for items C4.4.1.1 and C4.4.1.3 shall be measured in place in the compacted pavement layers and calculated from the authorised dimensions of the layers.

C4.4.1.6 PIONEER MATERIAL

The quantity for item C4.4.1.6 shall be taken as equal to 50 % of the loose volume of the material in the haul vehicles.

The tendered rates shall include full compensation for negotiations to procure and furnish the commercial materials, for loading the material at the source, hauling it to the road, and for off-loading. Temporary stockpiling of the material after procurement by the Contractor shall not be paid for.

The tendered rates for commercial materials from commercial suppliers shall also include full compensation for procuring the material. Additional crushing, screening and stockpiling of commercial material acquired from commercial suppliers shall not be measured and paid for separately.

C5.3 ROAD PAVEMENT LAYERS

C5.3.2 Construction of pavement layers

The tendered rates shall include full compensation for spreading the material, for breaking down oversize gravel material using one normal grid rolling operation or an equivalent operation, for removal of up to 5 % of the compacted layer volume of oversize material that cannot be broken down, for adding water for compaction purposes, for mixing, for levelling, for compacting to the specified density, for slush-compaction of G1 material layers or other layer that may be specified to receive slush-compaction and for finishing the layers in accordance with the specifications and the Contract Documentation.

The tendered rates shall also include for the removal of all material in the windrow after the compaction of the layer has been completed.

C5.3.6 Removal of oversize material

The unit of measurement shall be the cubic metre of oversize material which cannot be broken down on the road and is removed for re-crushing or removed to spoil as instructed by the Engineer in excess of the 5 % of the compacted layer volume of oversize material included in the rates tendered for item C5.3.2.

The volume measured for payment shall be taken as 70 % of the loose volume in excess of 5 % of the measured volume of the layer as measured in the haul vehicles. The tendered rate shall include full compensation for removing the oversize material from the pavement layers, loading it into the hauling vehicles and off-loading it at the point of disposal

C5.4 STABILISATION

C5.4.1 Pretreatment of gravel layers

No distinction be made in respect of the type of treatment agent used, the time taken for completion, or the specific layer being treated. The rate tendered shall furthermore apply to any combination of agents. Delivering the agent to the point of use and the distinction in respect of the manner in which the stabilising agent

is spread, whether it be by hand using bags or by mechanical bulk spreader shall be paid under item C5.4.5.

The tendered rates shall include full compensation for watering and compacting the surface of the placed material prior to spreading the pretreatment agent for mixing the specified amount of pre-treatment agent, for the addition of any water required, and all materials, supervision, labour, equipment, tools and incidentals necessary for completing the specified work including for leaving the layer dormant for a period of 24 hours after being treated

C5.4.5 Cementitious stabilisation agents for pavement layers

The tendered rates shall include full compensation for the supply and delivery of the agent to the point of use. The tendered rates shall also include for spreading the specified amount of cementitious stabilising agent, and all materials, supervision, labour, equipment, tools and incidentals necessary for completing the specified work. The layer thickness can be varied by up to 20 mm and the rate for this work shall remain applicable

C5.4.10 Provision and application of water for curing

The unit of measurement shall be the kilolitre of water provided and applied for curing a chemically stabilised layer. The tendered rate shall include full compensation for furnishing, transporting and applying the water.

C8.1 PRIME COAT

C8.1.1 Prime coat:

The tendered rates shall include full compensation for supplying the priming material, cleaning and watering the layer to be primed, applying the priming material and maintaining the primed surface as specified.

TOLERANCES

Replace the first paragraph with the following:

"The actual spray rates measured at spraying temperature shall not deviate by more than 8.0% from that ordered by the Engineer. The Engineer may, at his discretion, conditionally accept application rates falling outside this tolerance at reduced payment in accordance with Table below

Payment reduction factors for conditionally accepted prime coat

Deviation specified spray rate at spraying temperature. (%)	Payment reduction factor of tendered rate.
±8,0	1.00
±9,0	0.97
±10,0	0.95
±11,0	0.90
±12,0	0.85
±13,0	0.80

Any deviation outside these limits shall not be paid for, however, the Engineer shall have the right to instruct the contractor to make up any deficiency, or blind

excessive prime without additional payment. Where so instructed, the material for blinding shall consist of approved, but shall consist of screened 4,75mm nominal single size aggregate. The use of crusher dust for blinding shall not be permitted. If under-spraying occurs, and it is accepted by the Engineer, only the actual quantities applied shall be paid for.”

APPLICATION RATE

“The nominal application rate of the prime shall be 0, 8 ℓ/m². Unless directed otherwise by the Engineer or indicated on the drawings, the edges of the primed surface shall be 150mm wider than the edges of the surfacing.”

Add the following sub-clause:

“(j) Application in areas treated by reworking and construction of a new base shall be primed using a mechanical distributor complying. The edges of the previously constructed or existing surfacing shall be adequately protected by approved means to ensure that an overlap of prime not exceeding 50mm is sprayed onto the previously constructed or existing surfacing.”

TESTING

“No payment will be made if this condition is not adhered to. The contractor shall provide, at his cost, representative samples of every batch of prime delivered onto site.”

WEATHER AND OTHER LIMITATIONS

Replace paragraph (g) with the following:

“(g) When the moisture content of the upper 50mm of the layer is higher than 50% of the optimum moisture content determined according to TMH 1, Method A7”

C10.1 GENERAL REQUIREMENTS FOR SURFACE TREATMENTS

C10.1.11 Application of cover spray

This pay item shall only apply when an additional cover spray is ordered by the Engineer. Cover sprays included as part of the seal design shall be deemed to be included in the total rate for the pay item of the specific seal. The tendered rate shall include full compensation for furnishing the material and applying the cover spray as instructed.

C10.1.22 Bituminous single seal and slurry, including a cover spray if specified:

The tendered rates shall include full compensation, for furnishing all materials, demarcating the working area, spraying the binders, spreading the aggregates, rolling, mixing and applying the slurry, and all other incidentals necessary for completing the work as specified, including the watering of haul and construction roads in and about the site. The cost of providing the slurry seal over the final primed width shall be included in the rate for providing the seal with slurry over the bituminous surfaced width.

C11.1 PITCHING, STONEMWORK, CAST IN SITU CONCRETE FOR PROTECTION AGAINST EROSION

C11.1.2 Stone pitching

The tendered rate for each type of stone pitching shall include full compensation for furnishing all materials, making all excavations excluding trench and bulk excavations, compacting and trimming the excavated surfaces, forming the joints, placing stones and grouting, or wiring and grouting where applicable grassing and watering (applicable to Method 2) and for all other work necessary for completing the pitching as specified. The tendered rate for grouted stone pitching on a concrete bed shall also include full compensation for the concrete bed. The tendered rates shall also include full compensation for mixing and/or procuring concrete, mortar and grout as indicated.

MATERIALS

(a) Stone

Replace the 2nd paragraph with the following:

“Unless suitable stone can be located on site, the stone for pitching shall come from commercial sources but, from whatever source, its use shall be subject to the prior approval of the engineer.”

C11.2 NON-STRUCTURAL GABIONS

Excavation shall be done using conventional construction methods and/or labour enhanced construction methods as specified and measured. The tendered rates shall include full compensation for the excavation of the material to the required dimensions, lines, levels and grades, temporary timbering, shoring and strutting, including unavoidable overbreak, the trimming of the trenches and compacting the trench inverts, backfilling of over excavation and compacting the backfill, keeping excavations safe, dealing with any surface or subsurface water and the loading and disposal of the excess material as directed.

The tendered rates shall also include full compensation for any other operations necessary for completing the work as specified, but excluding surface preparation for bedding the gabions. Loading and hauling, where applicable, including a haul of 1,0 km, shall be measured and paid as specified in Section C1.7 of Chapter 1. Where the excavation of material is specified by means of labour enhanced construction methods, the tendered rates shall include loading and transport by wheelbarrow if the material is disposed of or utilised within a radius of 50 m, alternatively loading by hand onto transport vehicles for such disposal or utilisation elsewhere, within a haul distance of 1,0 km.

C11.4 ROAD RESTRAINT SYSTEMS

The tendered rates shall include full compensation for furnishing all materials and labour for erecting and galvanizing the guardrails, complete with posts, spacer blocks, bolts, nuts, washers and reinforcing plates, and excavating holes in all classes of material, concrete, backfilling and removing any surplus material. It shall also include full compensation for incidentals in respect of supplying and

erecting guardrails, end treatments, and turned down sections. Reflective plates to guardrails and drilling and blasting of holes shall be paid for separately

MATERIALS

(a) Guardrails

Add the following:

All holes in guardrail sections shall be drilled prior to galvanising. The Contractor shall submit SABS test certificates certifying the galvanising complies with the specification.

End treatment will involve the dipping of the last 3 sections of guardrails into the ground as detailed on the drawings.

(b) Guardrail posts

Add the following:

‘(i) Timber posts

New posts shall be supplied with the tops banded to prevent splitting.’

C11.6 ROAD SIGNS

The tendered rate for items C11.6.1.1 to C11.6.1.5 and items C11.6.1.7 to C11.6.1.12 shall include full compensation for procuring and furnishing all the materials, and for manufacturing and supplying the completed road signboard, including amongst others the supporting framework, reinforcement, cross bracing, struts, fixing brackets, angle-irons, channel profiles, galvanizing (if specified), painting, retro-reflective or semi-matt black lettering, symbols, numbers, arrows, emblems and borders, for attaching the road signboard to a road sign support structure and for all materials, equipment, labour, supervision, nuts, bolts, transport, handling, etc necessary for the manufacture, completion, delivery, installation of the road sign board complete as specified, and the removal and disposal of all vegetation obstructing the motorists’ view of the new or replaced sign board.

Payment for road sign supports shall be made under item C11.6.3, except for temporary road sign removal and re-erection which is paid for under traffic accommodation items. Payment shall distinguish between road signboards made from the various sign board materials specified

This section also covers the supply and erection of permanent danger plates a culverts and bridges at the locations indicated on the drawings or as directed by the Engineer

Concrete

Concrete for the footings shall comply with the requirements of the specification.

Road signboards

Add the following:

“The contractor shall make every effort to ensure that signboards are correct in all respect and before dispatching the boards from the manufacturer’s factory

shall provide the Engineer with a 100mm x 150mm colour photograph of each sign face for approval of the correctness of the legend. Such approval will not imply final acceptance of the board. If the Contractor is in any doubt as to the correctness of the sign detail, the sign designer shall be contacted for verification.”

Steel profile road signboards

Add the following:

“Where the letter or legends cross the horizontal joints of the sign panels, the letter shall be cut on the joint and both ends folded around the radius.

Retro-reflective material to adjoining Chromadek panels on a sign shall be practical visual match of the specified colour.”

DISMANTLING, STORING AND RE-ERECTING EXISTING ROAD SIGNS

Add the following:

“Existing overhead and ground mounted road signs that are being replaced by new signs shall be dismantled and disposed of by the Contractor. Where possible the dismantling of the signs shall not be before the replacement sign is erected and displayed. Where dismantling of the sign is required before erection of the replacement sign, the dismantling shall not take place until immediately before work is to commence on the replacement, and the replacement shall be completed and the new sign displayed as soon as possible thereafter (within 72 hours).

Dismantling shall include sign panels and ground mounted sign supports.

Ground mounted sign supports shall be cut off just below ground level. Material excavated for removal of buried poles shall be replaced, and any depression made good using excess material from excavation for new signs.

Pay items are provided in the Bill of Quantities. Payment will differentiate between different types of sign panels.”

C11.7 ROAD MARKINGS

The unit of measurement for painting the lettering, symbols, transverse lines or painted island and arrestor bed markings per required colour shall be a square metre, and the quantity to be paid for shall be the actual surface area of lettering. Symbols or transverse lines, painted island and arrestor bed markings completed in accordance with the drawings and Contract Documentation. The tendered rate per kilometre or per square metre as the case may be for painting the road markings shall include full compensation for establishing specialist teams and equipment, and for procuring and furnishing all labour and material, including the retro-reflective beads In the case of retro- reflective paint, and the necessary equipment, and for painting, protecting and maintenance as specified, including the setting-out of lettering, symbols and transverse lines, painted island and arrestor bed markings, but excluding setting out and pre-marking the lines. Separate rates for different types of application are applicable.

PAINT

Retro-reflective road-marking paint

Add to the following:

During actual painting the Contractor shall supply sealed samples of the paint to be used to the Engineer together with details of the paint batch numbers and testing carried out on these particular batches by the paint manufacturer to prove compliance with this specification. These samples shall be kept until the end of the defect's liability period.

ROADSTUDS

Add to the following:

"All square road-studs shall have a footprint of 100mm x 100mm and a height of 20mm. Round road-studs shall be 100mm in diameter and 20mm in height. Only non-metallic products with glass as reflective material shall be used. Shank road-studs shall be used on the outside slow lane shoulders and only where the pavement layers are appropriate."

APPLYING THE PAINT

Add the following:

"The Contractor's establishment on site and general obligation shall be deemed to fully include the establishment of the road-marking team, irrespective of the number of times the road-marking team is required to be on site or is required to move within the site."

C11.9 FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS

C11.9.1 Finishing the road and road reserve

No distinction shall be made between new works and renewal construction. The tendered rates shall include full compensation for cleaning, trimming, disposing of material, tidying and all other work to be done for finishing off the road and road reserve as specified.

Add the following

"The contractor shall pay special attention to the collection and removal of all waste materials originating from the construction activities. All materials trimmed or excavated from the road shall be collected and removed from the road reserve to the satisfaction of the Engineer.

C13 STRUCTURES

C13.1 Foundations for Structures

The tendered rate for each item shall include full compensation for providing, maintaining and decommissioning upon completion, of all the plant, equipment, labour, tools, incidentals and supervision to carry out the activity or construct the works in the item, unless otherwise stated.

Any prime cost or provisional sums shall be paid in accordance with the provisions of the conditions of contract. The charge or mark-up tendered or allowed for is a percentage of the amount actually paid under the prime cost or provisional sum. This percentage shall cover all the Contractor's handling, supervision, profit and liability costs to provide the services in the prime cost or provisional sum item.

C13.1.6 Access and drainage

The tendered lump sum shall include full compensation for providing access, which, inter alia, shall include constructing temporary banks, artificial islands or cofferdams, their protection, safeguarding and maintenance as well as any incidentals in respect of work below standing water.

75 % of the lump sum will be paid when the access is constructed. The remaining 25 % will be paid after the access has been removed.

Payment will be made for this work by way of a lump sum for each structure or series of structures appearing separately in the schedule of quantities. The lump sum shall be paid on a pro rata basis as the work progresses.

The tendered lump sum shall include full compensation for draining by pumping or in any other way and for any other work necessary for keeping the excavations dry or for working in the dry.

Where dewatering and keeping dry of excavations is not billed separately as per this item C13.1.6.2 it shall be deemed to be included in rates tendered and paid for excavation and backfill.

C13.2 Falsework, Formwork and Concrete Finish

General

"Notwithstanding approval given by the Engineer for the design and drawings prepared by the Contractor for the falsework and formwork and the acceptance of the falsework and formwork as constructed, the Contractor shall be solely responsible for the safety and adequacy of the falsework and formwork and shall indemnify and keep indemnified the Employer and Engineer against any losses, claims or damage to persons or property whatsoever which may arise out of or in consequence of the design, construction, use and maintenance of the falsework and formwork and against all claims, demands, proceedings, damages, costs, charges and expenses and risks whatsoever in respect thereof or in relation thereto.

For works on, over, under or adjacent to any railway line, walkway, existing road or any other facility which is controlled by a statutory authority, the Contractor shall comply, inter alia, with the requirements for the preparation and submission of drawings for falsework and formwork, and the submission of certificates for

the proper construction thereof, all in accordance with the official specifications of such authority.

After having constructed the falsework and formwork, and prior to placing the reinforcing steel and/or the concrete, the Contractor shall inspect the falsework and formwork. Dimensions shall be checked, unevenness of surface shall be corrected, and special attention paid to the adequacy and tightness of all bolts, ties and bracings as well as to the soundness of the foundations.

The Contractor shall give the Engineer at least 24 hours' notice of his intention to place the concrete to enable the Engineer to inspect all aspects of the completed work. However, before notifying the Engineer, the Contractor shall satisfy himself that the work complies in all respects with the specifications.

Concrete sections with dimension of smaller than 200 mm shall not be formed with sliding formwork unless authorised by the Engineer.

Where no provision has been made in the schedule of quantities for sliding formwork, the Contractor may, in a covering letter to the tender, submit a lump sum which reflects a saving in the cost for the use of sliding formwork in lieu of conventional formwork. The tendered lump sum quoted shall be accompanied by rates for pay items C13.2.7, C13.2.8, C13.2.9 and C13.3.3 all in accordance with the measurement and payment Clauses. Such submission shall be regarded as an alternative tender for the purposes of tender evaluation and shall in every respect comply with the provisions of Clause A13.2.4.

The Contractor shall at all times during the supply and erection of falsework and formwork assure that safety standards and requirements as prescribed in the Regulations are adhered to.

Falsework

The Contractor shall submit his design criteria and detailed drawings of the falsework to the Engineer. The design, signing of the drawings and inspection of the falsework prior to construction of the permanent works shall be undertaken by the Contractor's ECSA Registered Professional Engineer or Technologist falsework designer.

The Contractor shall make his own assessment of the allowable bearing pressure on the foundation material and shall design the footings and falsework to prevent overloading, differential settlement and unacceptable overall settlement and safety. In assessing the allowable bearing pressure, due account shall be taken of the effect of wetting on the foundation material.

The Contractor's falsework designer shall take account of the location of the structure and the possible ingress of water from sources such as watercourses, water table and saturation due to rainfall and assess the resulting effects on bearing capacity

In designing the falsework, cognizance shall also be taken of the redistribution of load which may occur on account of the effect of temperature, wind force, the prestressing of curved and skewed structures, stage construction, flooding and debris.

Cognizance shall also be taken of the lateral forces which may be induced by earth platforms, required for the support of falsework on the substructures

resulting in temporary or permanent stresses for which the sub-structures have not been designed.

Particular attention shall be given to providing transverse and diagonal bracing as well as rib stiffeners on cross bearers.

Formwork

Formwork shall be so designed as to be sufficiently rigid to ensure that the specified dimensional tolerances can be achieved under the combined action of self-weight, dead load and imposed loads as well as the additional loads resulting from the rate of concreting, the layer thickness of the concrete cast in one operation and the method of placing and compaction.

The formwork for concrete work including bridge decks shall be erected to levels calculated from the information given on the drawings for roadworks and bridges. The levels shall be adapted to make provision for the specified precamber as well as for the expected deflection and settlement of the fully loaded falsework and formwork. The levels shall be set out and checked at intervals not exceeding 2,50 m, to assure compliance with specified construction tolerances of the completed work.

For constructing the formwork, the Contractor may, subject to the provisions of Clause A13.2.5, use any material suitable for and compatible with the class of surface finish and dimensional tolerances specified for the particular member (unless specific type of formwork has been prescribed in the Contract Documentation).

Technical criteria for falsework and formwork removal

The Engineer shall indicate the minimum strength at which load bearing formwork and falsework for the concrete can safely be struck. In the absence of particular requirements, the following guidelines shall apply:

The stripping time for slabs and beam soffits shall be the greater of the values derived from consideration of the strength required to:

1. an equivalent in situ concrete strength equal to 2,0 times the stress to which it will be subjected,
2. a minimum in situ concrete strength of 10 MPa.

Where the above cannot be obtained the following **minimum** stripping times shall always apply:

Table A13.2.7-1: Removing falsework and formwork: Minimum times

Span Length	Days
Up to 3 m	4
3.0m up to 6.0m	10
6.0m and over	14

C13.3 Steel Reinforcement

The method statements and typical drawings submitted by the Contractor with his tender submission, describing key facets such as method, key plant, materials, personnel and programme constraints of the envisaged construction process, shall form the basis for the detailed method statements required for the works to be executed on the project.

These method statements shall be prepared and submitted to the Engineer for approval for each facet of the work at the start of construction, within time scales specified. The onus lies with the Contractor to ensure that the information is gathered and associated activities are completed expeditiously so as to avoid any delays in the commencement, continuation and completion of the required works. Unless otherwise specified or provided for in the Contract Documentation no permanent works shall be commenced until the Engineer's approval has been obtained. Due allowance shall be made for obtaining alternative materials, resubmissions and redesigns, all to the required/approved standards, methods and practices in attending to these requirements. Particular attention shall be paid to the early submission of materials-, concrete- and grout mix designs where parameters at various ages may be specified. No consideration for extension of the contract period will be entertained for delays incurred in meeting these requirements.

Trials, if applicable, shall be conducted and based on outcomes thereof, may require that changes be made to the relevant method statements. Once approved in writing by the Engineer, these shall become the method statements in accordance whereby the relevant portion of the works shall henceforth be executed. Notwithstanding, the Engineer may require revision from time to time if circumstances during construction arise which warrants change.

The Contractor shall, however, remain responsible for all work-methods, materials, plant and equipment used, notwithstanding acceptance by the Engineer.

The Contractor shall comply with the specified hold points relating to approvals required from the Engineer. A hold point is a stage of the work, where the Engineer's approval is required, before commencement or continuance of that particular activity by the Contractor, is permitted. Project specific requirements will be included in the Contract Documentation or agreed upon between the Engineer and the Contractor

The tendered rates shall include full compensation for supplying, delivering, cutting, bending, welding, trial weld joints, placing and fixing the steel reinforcement, including all tying wire, spacers and waste.

C13.4 Concrete

The Contractor shall design and be responsible for the performance of all concrete mixes used in structures. The mixture proportions selected shall produce concrete that is able to be sufficiently worked and finished for all uses intended and shall produce concrete of desired strength, durability and particular performance requirements in both the fresh and hardened phases as specified. The mix design shall be based upon obtaining an average concrete compressive strength sufficiently above the specified characteristic compressive strength

considering the expected variability of the concrete and test procedures. Concrete durability index and post-concreting cover testing shall individually comply with stated minimum or maximum values or specified nominal values adjusted by permissible deviations. Mix designs may be modified during the course of the work when necessary to ensure compliance with strength, durability parameters and consistence requirements, provided such changes meet the approval of the Engineer.

The concrete mix design and preconstruction laboratory test results shall be recorded and submitted for approval prior to the commencement of concreting activities. The concrete operations shall only commence with the approval of the concrete mix design. The Contractor shall adequately allow sufficient time in his programme for the design and approval of the concrete mix design, particularly where durable concrete is applicable.

All constituent materials shall be stored and handled so that their properties do not change, for example due to climate conditions, intermingling or contamination, and that their conformity with the respective standard is maintained.

Where concrete is supplied by a commercial source outside the direct control of the Engineer, the concrete supplier shall ensure compliance with the requirements of SANS 50206 (SANS 878), and the Contractor shall have full responsibility to implement process acceptance control testing in accordance with the specification. Commercial concrete suppliers shall ensure that the plant, measuring, mixing, transport and associated processes are audited by a recognised independent body in accordance with the following requirements for commercially sourced concrete:

- a) ISO 9002 (standardisation);
- b) ISO 14001 (environmental);
- c) ISO 39001 (road transport safety management);
- d) OHSAS 18001 (legal compliance); and
- e) SANS 50206 (SANS 878), ISO 22965-2 or ISO 9001 (quality management system for concrete production)

The audit shall be valid for a period of no greater than 12 months.

C13.6 Bearings

All bearings shall be designed to the European Standard EN 1337: Part 3 for Elastomeric Bearings.

The technical data for the elastomeric bearings will be specified on the drawings, and shall also be indicated on drawings prepared by the Contractor for submission to the Engineer related to the specific type of bearing proposed

The bearings shall be designed to accept the specified load combinations in conjunction with the maximum eccentricity and rotation, without overstressing any part in terms of working load requirements or exceeding the requirements for the serviceability limit.

C13.7 Joints

The expansion joint shall be designed to withstand the movements, displacements and rotations specified on the design drawings in conjunction with the loads described in the code of practice adopted for the design of the structure without exceeding in any member the requirement for serviceability limit state. Any strengthening of the supporting member required to resist forces imparted by the joint to the structure shall be for the Contractor's account.

The specified movements, displacements and rotations shall be withstood without the efficacy or riding quality of the road being impaired.

The joint shall be vibration free, resistant to mechanical wear and other forms of abrasion, and shall resist corrosion. shall have good riding quality characteristics, shall be highly skid resistant, and silent, also of watertight construction or have provision for the disposal of water, debris or grit collecting in the joint. The construction of the joint shall facilitate easy inspection, maintenance and repair.

Corrosion protection of all the steel surfaces, with the exception of the stainless-steel section, shall be as follows:

- a) Preparation of the surfaces by abrasive blasting to a finish equal to the Sa 3 finish of BS EN ISO 8501-01 medium profile.
- b) Sprayed metal coating of the surface with zinc in accordance with the requirements of BS EN 22063, to a thickness of not less than 100 microns. Steel sections may also be hot dipped galvanized in accordance with the requirements of SANS 1391 part 1 for Zn 150 coverage.
- c) Coating of the zinc-sprayed or galvanized surfaces shall be within 4 hours with a sealer compatible with the zinc and the subsequent coat of paint.
- d) Application of a Zinc Rich Epoxy primer to 50 – 70 microns dft
- e) Application of 2 coats of an Epoxy MIO undercoat to 100 microns mdft each.
- f) Application of a final coat of a 2 component acrylic polyurethane of 50 microns mdft and of a dark grey colour.
- g) Minimum total dry-film thickness 325 microns excluding sprayed metal coating.
- h) All proprietary joints shall have a joint termination into the barrier, parapet or sidewalk kerb which shall be turned up to an adequate height such that it shall sustain the water tests as specified elsewhere herein.
- i) Cover plates in barriers, parapets and sidewalk kerbs shall be manufactured from nonmetallic materials as specified on the drawings.
- j) All fixing systems of the nonmetallic cover plates to the concrete surfaces shall be stainless steel.

Prior to manufacture of the joints, the Contractor shall submit for approval detail drawings in accordance with the requirements of chapter 1 for each expansion joint. The design drawings shall be signed off by an ECSA Registered Professional Engineer or Technologist before manufacture and shall also be handled in with the record drawings of the structure.

The expansion joints delivered at the site shall be suitably marked to show clearly the sequence and position of installation

Waterstops shall be of natural rubber or flexible PVC and of the type specified or shown on the drawings.

Natural-rubber waterstops shall comply with the requirements of CKS 388.

Flexible PVC rubber waterstops shall comply with the requirements of CKS 389.

C13.8 Ancillary Structural Elements

Where alternative designs or materials are proposed by the Contractor to be used in certain elements of the structure these designs or the proposed materials shall be submitted to the Engineer for approval 28 days before the manufacture or supply of such elements.

Concrete barriers and parapets on bridges shall be constructed after the removal of the false work and the completion of the prestressing, but not before the bridge deck has been accurately measured so as to determine the final lines and levels. Service ducts in barriers, parapets and end blocks shall be fixed and cast in accordance with the requirements of Clause A13.4.7.11k(i) and the details shown on the drawings. Precast alternatives for parapets shall not be permitted.

C13.8.7 Numbers for structures

Number plates shall be fixed in the positions and according to the method of fixing shown on the drawings. Number plates shall be cast from nonmetallic materials. The minimum overall thickness shall be 11 mm and a background plate with a minimum thickness of 8,0 mm. The letter thickness shall not be less than 3,0 mm. Laminated PVC or other laminated materials shall not be permitted.

DETERMINING THE TOTAL APPROXIMATE DRY BULK RELATIVE DENSITY AND THE APPARENT DENSITY

Add the following at the end of this clause:

"For materials where the total water absorption, when determined according to TMH1 Methods B14 and B15, is in excess of 1,5%, the Apparent Density shall be calculated in accordance to the following formula:

$$(b - a)$$

$$(d - a) + \{ \frac{(b - a)}{w - 1.0} \} - (b - c)$$

This formula shall be used as an alternative to note (5) regarding soaking period, when so instructed by the engineer."

TESTS RELATING TO CHEMICAL STABILISATION

Add the following sub-clause:

"(d) The Wet-Dry Durability Test for cement and/or lime-treated materials using the hand-brush method (NCDRPW METHOD)

1. Scope

This method covers the procedure for determining the soil-cement losses obtained by repeated wetting, drying and hand brushing of hardened soil-cement specimens (see 5.4).

2. Apparatus

- 2.1 A moisture curing room capable of maintaining a relative humidity of 95 to 100 percent and a temperature of 22 to 25°C, or suitable plastic bags capable of holding specimens and carriers in an air tight condition in a water bath as described in 2.2 below.
- 2.2 A suitable water bath with thermostatic control capable of maintaining a temperature of 22 to 25°C.
- 2.3 A balance to weigh up to 10kg, accurate to 0.5g.
- 2.4 A drying oven capable of maintaining temperatures of $71 \pm 3^\circ\text{C}$ and $110 \pm 5^\circ\text{C}$.
- 2.5 A wire scratch brush made of 50mm by 1.6mm flat 26 gauge wire bristles assembled in 50 groups of 10 bristles and mounted to form five longitudinal rows and 10 transverse rows on a 200 by 65mm wooden block.

3. Method

3.1 Preparation of specimens

Prepare specimens in accordance with the procedure described in the Appendix to method A19 in the TMH 1 with the following exceptions:

Use the material passing the 37.5mm sieve and discard the material remaining on the sieve.

Use the apparatus and compaction method as described in TMH 1 method A7 (100% Modified AASHTO at predetermined OMC).

3.2 Curing of specimens

Rapid cure the specimens (see 5.6). Alternatively, and where instructed by the engineer, the specimens may be cured for seven days at a relative humidity of 95% to 100% and a temperature of 22°C to 25°C in a suitable curing room or in plastic bags and a suitable water bath.

3.3 Wetting, drying and brushing

After curing, remove the specimens from the curing room or plastic bags, allow to cool and submerge them in water at room temperature for a period of five hours. Remove the specimens from the water and place them in an oven at 71°C for 42 hours.

Remove the specimens from the oven. Give each specimen two firm strokes over the full surface area with the wire scratch brush. The brush must be held parallel to the long axis of the specimen or parallel to the ends as required to cover all areas of the specimen. Apply these strokes to the full height and width of each specimen with a firm stroke corresponding to approximately 13.5 kN force (see note 5.5).

3.4 Determination of soil-cement losses

After 12 cycles, dry the specimens to constant mass at 100°C and determine the oven dry mass of the specimens. The data collected will permit the calculation of the soil-cement losses of the specimens after the prescribed 12-cycle test.

4. Calculations

4.1 Calculate the soil-cement loss of the specimens as a percentage of the original oven-dry mass of the specimens as follows:

$$L = \frac{W - N}{W} \times 100$$

Where

- L = soil-cement loss (%)
- W = original calculated oven-dry mass (g) (calculated according to paragraph 3.5 in the Appendix to method A19 in the TMH 1).
- N = final oven-dry mass (g).

4.2 The percentage loss shall be calculated and reported to the nearest 0.1 percent. The results are normally required for stabilisation design purposes and should be reported graphically against relevant cement contents.

5. Notes

5.1 Mass determinations of the specimens before and after brushing are usually made at the end of each cycle during research or special investigations.

5.2 Care is required when assessing results obtained on very coarse graded materials as "plucking" out of the aggregate pieces during the brushing process could result in very high losses of material, which may however not be truly indicative of its potential erosion resistance.

5.3 If it not possible to run the cycle continuously because of Sundays or holidays, or for any other reason, the specimens should be held in the oven during the layover period.

5.4 The test was originally developed to determine wet-dry durability of cement-treated material. It can, however, be used with equal success on material tested with other chemical stabilizers, for example lime, or mixes of lime and milled blast furnace slag, or cement and milled blast furnace slag.

5.5 The pressure of the brushing stroke is determined as follows:

Clamp a specimen in a vertical position on the edge of a platform scale and zero the scale. Apply vertical brushing strokes to the specimen and note the force necessary to register approximately 1.36kg.

5.6 Rapid curing:

Seal each specimen airtight in a suitable container or plastic bag. Carefully place the briquettes on suitable holders or in pans and place in the oven at the relevant temperature and period given below:

Stabilizing agent	Temp (°C)	Time (Hours)
Cement	70 – 75	24 ±0.5
PBFC	70 - 75	24 ±0.5
Lime	60 ±2	45 ±1
Lime / FA	60 ±2	45 ±1
Lime / MBFS	60 ±2	45 ±1

TESTS ON PAVEMENTS

Straight-Edge Test for Surface Irregularities on Surfaces with a Coarse Surface Texture

Add to following:

The Contractor shall perform surface irregularity tests on base course by means of a 3,0 m straight-edge with the necessary wedge as described and shall have the straight-edge and wedge on site throughout the production of the base course for the use of himself during process control testing and for the use of the Engineer during acceptance control testing.

No separate payment shall apply to having the 3m aluminium straight edge available on site.

SCOPE

Add the following to:

Quality control shall be carried out in accordance with the requirements of Quality Control

PROCESS CONTROL BY THE CONTRACTOR

Add the following:

For the purpose of this Contract process or quality control by the Contractor comprises at least the following:

Soil Tests:

Field densities, maximum dry density and optimum moisture content determinations, CBR, UCS, indicator tests (grading and PI), moisture contents and chemical tests relating to stabilizing agent contents;

Binder tests

Concrete tests:

Slump and cube crushing strengths

NORTHERN CAPE DEPARTMENT OF ROADS AND PUBLIC WORKS
UPGRADING OF A SECTION OF MAIN ROAD 974 BETWEEN LAXEY AND PROVINCIAL
BOARDER NEAR HEUNINGVLEI PHASE 1
TENDER No. DRPW 023/2023

C3.3. PARTICULAR SPECIFICATIONS

In addition to the Standardised and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION AND PLAN	C128
PART D: STAKEHOLDER AND COMMUNITY LIAISON, AND TARGETED LABOUR AND TARGETED ENTERPRISES UTILISATION AND DEVELOPMENT	C148
PART E: OHS 1993 HEALTH AND SAFETY SPECIFICATION.....	C210
PART F: LABOUR INTENSIVE SPECIFICATIONS	C228

PART C: ENVIRONMENTAL MANAGEMENT SPECIFICATION AND PLAN

C1. IMPLEMENTATION RESPONSIBILITIES OF THE EMPR

The Applicant

The applicant is responsible for ensuring that the activity is implemented according to the requirements of the EMPr. The applicant must ensure that relevant professionals are appointed to perform functions as required by the authorities and legislation. The applicant will have the following responsibilities:

- To ensure that there is sufficient allocation of resources to the professional role players to perform their tasks in terms of the EMPr;
- In event that the environment is negatively affected, the applicant will be responsible for rehabilitation and restoring the affected areas to an acceptable level;
- The applicant must include the EMPr with all tender and contractual documents in order to ensure that all parties involved are bound to the terms of the EMPr;
- The applicant must provide the contractor with a copy of the EMPr and any other relevant documentation or supporting documents.

The Contractor

The contractor is bound to the terms and conditions of the EMPr by way of the contract with the applicant. The contractor must be familiar with the terms of the EMPr before commencement of the activities on site and must request clarification on any issues that are unclear. The main responsibilities of the contractor are as follows:

- The contractor must comply with all the terms and conditions of the EMPr and must ensure that all sub-contractors are inducted with the EMP and comply with the terms of the EMPr;
- The contractor must attend a site inspection and orientation session with the ECO to identify and be informed of the sensitive elements of the site and take cognizance of the boundaries of the construction area. The ECO must point out any particular site-specific elements of importance;
- The contractor must ensure that the construction crew attends an environmental briefing and training session presented by the ECO prior to commencing activities on site;
- The contractor must adhere to all verbal and written orders given by the Environmental Control Officer (ECO) or other responsible persons (project manager or site engineer) in terms of the EMPr.

Services and Duties of the Environment Compliance Officer (ECO)

The Environmental Control Officer (ECO) is an independent person, appointed by the applicant, who must monitor compliance with the environmental management programme. The main responsibilities and duties of the ECO are as follows:

- The priority of the ECO is to ensure that the site environment is not negatively affected by the proposed activities and that minimal environmental damage is done during construction and adequate measures are emplaced to ensure that future operations and maintenance does not significantly impact on the environment;
- The ECO will oversee the environmental aspects of the development and ensure compliance with the EMPr;
- The ECO shall liaise with relevant authorities and keep records of all correspondence with external interested and affected parties;
- To ensure that the proponent, construction team, the operational and maintenance workers are acquainted with their responsibilities;
- To ensure compliance with regulatory authorities requirements;
- To respond to changes in the project implementation not considered during the assessment phase, and respond to unforeseen events;
- To verify environmental performance through information on impacts as they occur;
- To establish proper communication channels and provide feedback for continual improvement.

Mandate and Reporting Duties of the ECO

One of the main responsibilities of the ECO is reporting to the competent authority which will be in form of monthly audit reports. These reports will consist of descriptions of the general state of the site and will include specific reference to non-compliance and corrective measures to address non-compliance and significant impacts. Site inspections will therefore form the basis for the ECO to compile these reports. In order to perform these duties efficiently, the ECO has the right:

- To enter the site and undertake monitoring and auditing at all times;
- To appoint the necessary specialists in order to monitor- or take corrective measures to address significant impacts.

An Environmental Log sheet will be kept keeping record of any non-compliance, incidents and impacts that have significant impacts on the environment.

Liaising duties of the ECO

In order to fulfil his/her duties the ECO will have to participate at all levels of the project. An integral part of this will be liaising with the following institutions/persons:

- Competent and relevant authorities;
- The applicant and contractor;
- All external Interested and Affected Parties;

Appointment duties of the ECO

The EMPr as compiled by the Environmental Consultant will be used by the ECO as basis for environmental monitoring and compliance auditing. These duties are termed as follows in the EMPr:

- The ECO will identify sensitive habitats and demarcate these habitats with danger tape or fencing;
- The contractor must attend a site inspection with the ECO to be orientated with the sensitive aspects of the site and take cognizance of the boundaries of the construction area. The ECO must point out any site-specific aspects of importance on the site.
- The ECO must form part of the project management team and form part of decision making relevant to the environment.

- The ECO shall liaise with relevant authorities and keep record of all correspondence with external interested and affected parties.
- The ECO must monitor the emergence alien/invasive species and weeds on a monthly basis. If such species are recorded, the ECO must instruct the responsible person to remove or control these species according to the most effective methods as given in relevant literature;
- The ECO must arrange an environmental briefing and training session with the contractor and his crew prior to commencement of construction activities.

C2. ENVIRONMENTAL INCIDENTS

In order for the EMPr to be efficient in case of any environmental incidents, the following criteria should be adhered to:

- In event of a significant environmental incident occurring the contractor must notify the ECO and/or the authorities within 24 hours of occurrence.
- Investigate the cause of the incident and compile an environmental incident report.
- Take corrective measures to mitigate the incident.
- Rehabilitate any residual damage to the environment.
- Introduce alternative operating procedures and/or technology to prevent a recurrence of the incident.

C3. CONSTRAINTS AND AVAILABILITY OF RESOURCES

The relevant basic documentation (including copy of the EMPr) as well as correspondence must be made available to the ECO in order to compile the necessary documentation for the environmental monitoring. Any constraints should be recorded.

C4. LEGAL REQUIREMENTS

Legislation and guidelines that will be considered during the Environmental Monitoring process are as follows:

- Nature Conservation ordinance, 1974 (Act no 19 of 1974)
- Conservation of Agricultural Resources Act, 1983 (Act no 43 of 1983)
- Environmental Conservation Act, (Act no 73 of 1986)
- Physical Planning Act, 1991 (Act no 125 of 1991)
- Occupational Health and Safety Act, 1993 (Act no 85 of 1993)
- Development and Facility Act, 1995 – DFA (Act no 67 of 1995)
- The Constitution of the Republic of South Africa, 1996 (Act No 108 of 1996)
- National Building Regulations and Building Standards Act, 1997 (Act no 103 of 1997)
- National Environmental Management Act 1998 - NEMA (Act No 107 of 1998)
- Local Government: Municipal Structures Act, 1998 (Act no 117 of 1998)
- National Forest Act, 1998 (Act No 84 of 1998)
- National Water Act, 1998 (Act No 36 of 1998)
- National Heritage and Resources Act, 1999 (Act no 25 of 1999)
- Promotion of Access to Information Act, 2000 (Act No2 of 2000)
- National Health Act, 2003 (Act No 61 of 2003)
- National Environmental Management: Biodiversity Act, 2004 (Act no 10 of 2004)
- National Roads Act, 7

C5. SUMMARY / MITIGATION PLAN-TABLE

The EMPr should be used as legal documents in order to compile the environmental auditing format. The EMPr for this project is included with Tables 1-11. These tables list the key activities and relate these activities with resulting environmental impacts identified during the environmental assessment process. Mitigation measures are also included with the aim of reducing the magnitude of negative impacts and to enhance potential positive impacts.

Table 1: General

Relevant Activities		In order to ensure that the construction works is carried out in an environmentally sensitive matter, strict compliance to the Environmental Management Programme and specifications is required.			
Environmental Statement					
EMPr Ref:	Environmental Impact/Aspect	Mitigation	Phase	Monitoring	Responsibility
T1.1	General	<p>The purpose of the EMPr is to:</p> <ul style="list-style-type: none"> • Encourage good management practices through planning and commitment to environmental issues. • Provide rational and practical environmental guidelines to: <ul style="list-style-type: none"> ➢ Minimise disturbance of the natural environment, ➢ Prevent pollution of land, air and water, ➢ 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, minimization, recycling, treatment or disposal of waste. • Train employees and contractors with regard to environmental obligations. 	All	N/A	All
T1.2	Training and Induction of Employees	<ul style="list-style-type: none"> • The contractor has a responsibility to ensure that all the people involved in the project are aware of, and familiar with, the environmental requirements for the project (this includes sub- contractors, casual labour, etc.). 	All	N/A	Contractor
T1.3	Complaints Register	<ul style="list-style-type: none"> • 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 should respond accordingly. • The following information must be recorded: <ul style="list-style-type: none"> ➢ Time, date and nature of complaint; ➢ Type of communication (telephone, letter, etc.); ➢ Name, contact address and telephone number of complainant; and 	All	Monthly	ECO

		<ul style="list-style-type: none"> ➤ 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: <ul style="list-style-type: none"> ➤ Time, date, location and nature of incident ➤ Actions taken and by whom. 			
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Table 2: Managing impacts on soil

Relevant Activities		<ul style="list-style-type: none"> ▪ Construction camp; Personnel discipline; ▪ Materials Stockpiles. 			
Environmental Statement					
EMPr Ref:	Environmental Impact/Aspect	Mitigation	Phase	Monitoring	Responsibility
T2.1	Degrading of soil structure	<ul style="list-style-type: none"> a) Before construction, vegetation and topsoil must be stripped and stockpiled separately to prevent removal and compaction by vehicles. It must be used for future rehabilitation purposes. b) Topsoil shall be stockpiled in heaps not exceeding 2.0m in height and be protected from erosion. c) Re-usable subsoil stripped from construction sites must be stockpiled separately and clearly identified as such. d) Soil must not be stockpiled on drainage lines or near watercourses. e) Deficiency of backfill material will not be made up by excavation within the remainder of the development area. Where backfill material is deficient, it must be made up by importation from an approved borrow pit. 	Construction	Weekly	Contractor ECO
T2.2	Soil erosion	<ul style="list-style-type: none"> a) Appropriate soil erosion and control procedures must be applied to all embankments that are disturbed and destabilized. 	Construction	Weekly	Contractor

		<p>b) Occurrence of erosion has to be monitored during construction and operational phases and corrective measures taken if necessary.</p> <p>c) Construct meadow drains and plant indigenous vegetation on the side slopes.</p> <p>d) Construct stone pitching and gabions at outlets of pipe culverts</p>	Operational	Monthly	ECO
T2.3	Pollution of soil	<p>a) Avoid contamination of soil with oil, diesel, petrol, waste or any other foreign matter, which may impact on the capability of the soil as a growth medium.</p> <p>b) All equipment to be inspected daily for oil or fuel leaks before it is operated. Leakages must be repaired on mobile equipment or containment trays placed underneath immobile equipment until such leakages has been repaired.</p> <p>c) Contaminated soil has to be:</p> <ul style="list-style-type: none"> ➤ Removed up to depth 300mm below the saturation mark; and ➤ Disposed at permitted landfill site. <p>d) The soil can be regenerated using by bio-remediation methods.</p> <p>e) Hazardous substances to be stored on lined surfaces and be surrounded by berms to prevent pollution.</p> <p>f) Divert storm water from stockpile and other sites sensitive to erosion.</p> <p>g) Use appropriate absorbent during clean-up of spills</p>	Construction	Weekly	Contractor ECO

Table 3: Managing impacts on surface and groundwater

Relevant Activities		<ul style="list-style-type: none"> ▪ Construction of roads, services infrastructure; ▪ Construction camp; ▪ Materials stockpiles; and ▪ Personnel discipline. 			
Environmental Statement					
EMPr Ref:	Environmental Impact/Aspect	Mitigation	Phase	Monitoring	Responsibility
T3.1	Effect on water quality	a) Where possible construction activities must be positioned away from drainage lines and areas with a perched water tables. b) All fuel, chemicals, oil, etc. must be confined to areas where the drainage of water can be controlled. Use appropriate structures and methods for storage and handling. c) No dumping of foreign material in streams, rivers, wetland and/or any other water bodies is allowed. d) No washing and or cleaning of clothes, eating utensils, tools or equipment allowed in water bodies. e) Adequate sanitation for all personnel to be supplied on site. f) No permanent stockpiling of any kind allowed within the 1:100 year flood line or within 10m of any water courses.	Construction	Weekly	Contractor
T3.2	Effect on water courses	a) No physical barriers other than approved erosion control measures must be erected in the watercourse which may result in impediments. b) Occurrence of erosion and silt generation has to be monitored during operational phase and corrective measures taken if necessary.	Operational	Yearly	ECO Applicant
T3.3	Storm water	a) The storm water from the road will be controlled by V-shaped drains. Storm water will be disposed of into the natural area at points where the volume of water becomes too much to be accommodated by the V-drain shaped drains. Energy breakers in the form of natural rock will be created at these disposal points and erosion control measures will be implemented.	Operational	Yearly	Applicant

Table 4: Managing of impacts on biodiversity

Relevant Activities		<ul style="list-style-type: none"> ▪ Construction of roads, services infrastructure; ▪ Site selection; and ▪ Personnel discipline. 			
Environmental Statement					
EMPr Ref:	Environmental Impact/Aspect	Mitigation	Phase	Monitoring	Responsibility
T4.1	Loss of Vegetation and Habitat	a) Areas of the natural vegetation must be demarcated and cordoned off during construction. Areas identified as rocky habitats should be conserved as zones of no-development and buffer zones should be allocated to such areas. b) The demarcation of these habitats must be done in consultation with the ECO. c) Siting of any structure must be done away from such areas.	Planning Construction	Monthly	ECO Contractor
T4.2	Death and Injury of animals	a) Avoid injury to or death of domestic and wild animals by reducing speed of construction vehicles. b) Trenches must be inspected daily to monitor for trapped animals.	Construction	Daily	Contractor ECO
T4.3	Illegal Removal of vegetation	a) Any evidence of plant theft (especially protected species) must be followed up with prosecution and penalties levied on the construction company. b) Construction teams will not, as a contractual obligation, be allowed to collect firewood or any other plant resources from surrounding vegetation, notably outcrops and riparian areas. Any evidence of this must be followed up with prosecution and penalties levied on the construction company	Construction	Daily	Contractor ECO
T4.4	Protected species	a) Prior to vegetation clearing, the development footprint must be surveyed for plant species of conservation concern. b) Protected plants occurring within the footprint should be relocated in consultation with an approved specialist after obtaining the necessary permits from authorities. c) All protected species occurring within the footprint should be clearly marked for the duration of the construction phase, and should remain intact and undisturbed. If this is unavoidable, the contractor must follow procedures as advised by the ECO.	Construction	Monthly	ECO Contractor

T4.5	Spreading of weeds	<p>a) Where alien invasive plants occur they must be uprooted, cut and /or chemically treated.</p> <p>b) The use of alien invasive plants for landscaping should be prohibited, and a long-term management plan for the eradication and control of existing alien invasive plants should be implemented.</p>	Construction Operational	Weekly Monthly	ECO Contractor
T4.6	Management of fauna	<p>a) No wild animal may under any circumstance be handled, removed or be interfered with.</p> <p>b) No wild animal may be fed on site.</p> <p>c) No domesticated animals (i.e. chickens and pigs) will be permitted at the staff village and/or campsite as well as on the remainder of the property (including dogs, cats).</p> <p>d) If applicable, regularly undertake checks of the surrounding natural vegetation, in fences and along game paths to ensure no traps have been set. Remove and dispose of any snares or traps found on or adjacent to the site.</p> <p>e) Problem animals and vermin need to be removed by an appropriate organization or authority, i.e. such as the Parks Board, the Society for the Prevention of Cruelty to Animals (SPCA) or a registered exterminator.</p> <p>f) Do not make use of any pesticides, unless approved by the Project Management Team.</p>	Construction Operational	Daily	Contractor ECO Owner

Table 5: Managing impacts on air quality

Relevant Activities		<ul style="list-style-type: none"> ▪ Construction camp: Personnel discipline; ▪ Materials stockpiles. 			
Environmental Statement					
EMPr Ref:	Environmental Impact/Aspect	Mitigation	Phase	Monitoring	Responsibility
T5.1	Air pollution & Generation of dust	<ul style="list-style-type: none"> a) Speed limit must be enforced in all areas to limit the levels of dust pollution. b) Air pollution caused during construction can be limited by using dust suppression methods such as water spraying. Water used for this purpose must be in quantities that will not result in the generation of run-off. c) The contractor's representative or environmental officer must notify all people living within 100m of the construction site of proposed activities. d) In the event of serious levels of dust pollution, the implementation of consistent dust monitoring by qualified consultants must be undertaken. e) Vehicles used on, or entering the site must be serviced regularly to ensure that they do not emit smoke or fumes. f) No refuse waste is to be burned on the premises or on surrounding premises. 	Construction	Daily	Contractor
T5.2	Noise pollution	<ul style="list-style-type: none"> a) Noise control measures must be implemented. All noise levels must be controlled at the source. b) All employees must be given the necessary ear protection gear if the noise levels exceed 70dB. c) Interested & Affected parties must be informed about impending excessive noise. d) Generators and pumps must be housed in casings to help reduce any noises in operation. e) No loud music or excessive noise generated by employees is allowed on site and in construction camps. f) Noise generating activities must be restricted to between 07h00 and 17h00 Monday to Friday unless arrangements have been made between all parties concerned. 	Construction	Daily	Contractor

Table 6: Managing impacts on aesthetics

Relevant Activities		<ul style="list-style-type: none"> ▪ Construction of roads, services infrastructure; ▪ Site selection; and ▪ Personnel discipline 			
Environmental Statement					
EMPr Ref:	Environmental Impact/Aspect	Mitigation	Phase	Monitoring	Responsibility
T6.1	Construction aspects	a) The contractor must ensure that the site is kept tidy at all times, that sufficient refuse bins are provided, and that they are emptied regularly. b) Refuse or building rubble generated must not be deposited on adjacent properties, road verges or open spaces. It must be contained on site, then removed and disposed of at an approved dumping site. c) Disturbed and open areas must be rehabilitated and re-vegetated as soon as possible after construction. d) No unnecessary removal of indigenous vegetation should be allowed but should rather be incorporated into the landscaping design. e) The construction site must be contained to prevent any visual intrusion and be kept in a clean and orderly state at all times.	Construction	Daily	Contractor ECO

Table 7: Managing impacts on heritage resources

Relevant Activities		<ul style="list-style-type: none"> ▪ Heritage sites; ▪ Graves; and ▪ Economic 		
Environmental Statement				
EMPr Ref:	Environmental Impact/Aspect	Mitigation	Phase	Responsibility
T7.1	Heritage sites	a) Any heritage sites identified must be reported to the ECO who will determine appropriate action b) Necessary permits to be obtained from SAHRA prior to removal or destruction of any heritage sites.	All phases	Applicant
T7.2	Graves	a) No disturbance of graves in close proximity of construction site/ road.	All phases	Applicant
T7.3	Economic	a) Local residents are to benefit from employment opportunities.	All phases	Applicant Contractor

Table 8: Waste Management

Relevant Activities		<ul style="list-style-type: none"> ▪ Construction camp: Personnel discipline; ▪ Materials stockpiles. 			
Environmental Statement					
EMPr Ref:	Environmental Impact/Aspect	Mitigation	Phase	Monitoring	Responsibility
T8.1	Construction disturbances and waste disposal	a) Concrete mixing will be done on pre-designed slabs underlined by PVC lining, on an area previously disturbed. Alternatively, maintain one mixing site and transport the concrete to the construction site. b) Any concrete spillage must be cleaned immediately. c) Littering on site and the surroundings areas is prohibited. Clearly marked litterbins must be provided on site. The contractor's representative must monitor the presence of litter on the work sites as well as the construction campsite. All bins must be cleaned. d) Waste must be disposed, as soon as possible and not be allowed to stand on to decay, resulting in bad odours and attracting vermin. e) Adequate sanitation and water supply must be installed for the construction personnel. f) All waste removed from site must be disposed at the municipal/permitted waste disposal site. g) The contractor must ensure that all temporary structures, materials, waste and facilities used for construction activities are removed upon completion of the project. h) The contractor must clean up and restore all disturbed areas and implement rehabilitation measures as required by ECO. i) Hazardous waste (oil, paint,etc) must be stored in suitable containers and disposed of at a registered hazardous waste disposal site.	Construction	Weekly	Contractor

Table 9: Managing of fire hazards, safety and security

Relevant Activities		<ul style="list-style-type: none"> ▪ Construction camps; ▪ Personnel discipline; ▪ Security; and ▪ Safety. 			
Environmental Statement					
EMPr Ref:	Environmental Impact/Aspect	Mitigation	Phase	Monitoring	Responsibility
T9.1	Fire precautions	<p>a) Take adequate precautions to ensure that fires are not started as a result of works on site: the Contractor will be held liable for any damage to property adjoining the site as a result of any fire caused by one of his employees.</p> <p>b) Establish and maintain fire breaks around the work sites as and when specified by the Project Management Team and as required by applicable legislation and the local authority.</p> <p>c) Do not permit any fires or open flames in the vicinity of a wetland, especially during the dry season. A minimum requirement for construction in a high fire risk area is a water truck or cart, with a minimum capacity of 5000 litres, equipped with pump and hose (minimum length 30m), which must be permanently on site.</p> <p>d) Ensure that the Work Site, the contractor's camp and all living quarters are equipped with adequate firefighting equipment. This includes at least rubber beaters when working in veld areas, and at least one fire extinguisher of the appropriate type irrespective of the site. Take immediate steps to extinguish any fire, which may break out on the construction site.</p> <p>e) No open fires are permitted on site, except in designated cooking area where adequate precautions need to be taken to prevent the spread of fire. Restrict contained fires for heating and cooking (i.e. in a fire drum) to designated areas on site. Prevent employees from creating fires randomly outside designated areas.</p>	Construction	Weekly	Contractor

T9.2	Fire management	a) Implement a fire management plan.	Operational	Yearly	Applicant
T9.3	Security	<p>a) The contractor's representative or environmental officer must inform all adjacent landowners of any after-hour construction activities and any other activity that could cause a nuisance e.g. the application of chemicals to the work surface. Normal working hours are between 07h00 and 17h00 Monday to Friday. Arrangements are to be made with the Local Authority for after-hours work.</p> <p>b) Staff members residing in the construction camp will not be allowed to cause a nuisance to any neighbouring homesteads or dwellings. In the event of a complaint received from the adjacent land owners, the privilege to reside on the property will be cancelled immediately.</p> <p>c) No random cooking fires are to be allowed on construction sites expect designated cooking areas.</p>	Construction	Daily	Contractor
T9.4	Safety	<p>a) Best practice methods must always be employed and appropriated regulations adhere to.</p> <p>b) No open trenches are permitted without the use of demarcation tape.</p> <p>c) Speed limits must be enforced in all areas, including public roads and private property to avoid potential accidents.</p> <p>d) There must be a first aid facility on-site.</p> <p>e) Regular auditing of safety requirements must be undertaken in order to monitor and control the problems before they become unmanageable.</p> <p>f) Workers' rights to refuse work in unsafe condition must be respected.</p> <p>g) A record must be kept of all incidents on site.</p> <p>h) Personnel must be trained in basic site safety procedures.</p> <p>i) Secure storage of materials on site particularly hazardous material e.g. chemicals and fuels.</p> <p>j) Adequate signage on and off the site about potential hazards must be provided.</p> <p>k) Controlled accesses will be constructed to manage the movement of vehicles and public in and out of the development.</p> <p>l) Members of the general public must not be allowed near the construction site.</p> <p>m) Necessary precautions must be taken at all times to safeguard the public and traffic while installation operations are in progress within residential areas and within the road reserve.</p>	Construction	Daily	Contractor ECO

		<p>n) Special conditions in accordance with the OHSA must be adhered to where refuelling is involved. The contractor must inform and educate the relevant employees in this regard.</p> <p>o) Do not store any fuel or chemicals under trees.</p> <p>p) Do not store gas and liquid fuel in the same storage area.</p> <p>q) Do not permit any smoking within 3m of any fuel or chemical storage area, or refuelling area.</p> <p>r) The contractor must keep a first aid kit and the telephone numbers of local emergency services in prominent positions at the staff quarters and the site office. All personnel must be made aware of these locations.</p> <p>s) The contractor on site during the construction phase must provide safety and security arrangements that should ensure that: The handling of equipment and material is supervised:</p> <ul style="list-style-type: none">➤ Construction vehicles are maintained and controlled by competent personnel➤ All excavated areas are clearly marked and that barrier tape is placed around them			
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Table 10: Managing Impacts on Social issues

Relevant Activities		<ul style="list-style-type: none"> ▪ Construction camps; ▪ Personnel discipline; and ▪ Roads. 			
Environmental Statement					
EMPr Ref:	Environmental Impact/Aspect	Mitigation	Phase	Monitoring	Responsibility
T10.1	Social disturbances	a) Prior to establishing the construction camp, the contractor shall produce a plan showing the positions of all structures, lay-down yards and other infrastructure for approval by the ECO. b) Fires will only be allowed in facilities or equipment specially constructed for this purpose. If required by applicable legislation, a firebreak shall be cleared around the perimeter of the camp and office sites. c) Construction & maintenance activities must be of such a nature as not to disturb the livelihood of adjacent property owners. d) A designated place for food preparation and eating must be established at the construction site. e) Dry chemical toilets must be made available at a ratio of 1 toilet per 10 staff, within the campsite perimeter and must be cleaned and serviced as requested by the service provider. f) Workers movements must be limited to the construction area only and must be enforced in terms of the contracts of appointment. Any complaints must be addressed accordingly and record must be kept thereof. g) The applicant must ensure that measures are in place to prevent/mitigate disruption of services as result of construction. h) Residents have to be notified 7 days in advance of disruptions to services.	Construction	Daily	Contractor ECO
T10.2	Access	i) Existing access to roads, schools, businesses and residential areas must not be impeded-on during construction. j) All access roads used must be maintained in good condition			

Table 11: Site clean-up and rehabilitation

Relevant Activities		<ul style="list-style-type: none"> ▪ Lack or delay of rehabilitation may negatively impact on the aesthetic nature of the area and also cause long-term environmental damage. 			
Environmental Statement					
Ref:	Environmental Impact/Aspect	Mitigation	Phase	Monitoring	Responsibility
T11.1	Rehabilitation of environmental damage	a) Construction staff may only use authorized temporary paths and roads. b) The Environmental Control Officer must ensure that all temporary structures, materials, waste and facilities used for construction activities are removed upon completion of the project. c) Upon completion of the construction period, the ECO will ensure that any/all temporary access roads are returned to a state no worse than prior to construction commencing. d) Once heavy machinery has cleared the bulk of these material stockpiles, the disturbed areas will be levelled and cleared of any foreign material manually. e) Fully rehabilitate all disturbed areas and protect them from erosion. f) Slopes must be designed according to predefined specifications, aimed at the prevention of soil erosion, of efficient storm water control, of the eventual re-establishment of vegetation and of ultimately achieving aesthetically acceptable landscapes. g) In general, no slopes steeper than 1(V):3(H) must be allowed. h) Cut slopes must not be steeper than 1:2(V:H) and rounded off on the top edge. i) Bulk and fine shaping must be executed according to design, aimed at the prevention of soil erosion, of efficient storm water control, of the eventual re-establishment of vegetation and of ultimately achieving aesthetically acceptable landscapes. j) On all man-made slopes, the following rehabilitation methods must be applied: <ul style="list-style-type: none"> ➤ Replacing and redistribution of stripped topsoil to a minimum depth of 200 mm. 	Post-construction	After construction	Contractor ECO

		<ul style="list-style-type: none">➤ Ripping at 300 mm but not more than 400 mm apart and parallel to contours, through the placed topsoil, to a depth of 100 mm at least, into the sub base soil below.➤ Sowing of specified grass seed mixture and fertilizer, if required.			
T11.2	Compliance	a) ECO to audit rehabilitation.	Post-construction	Once	ECO

PART D: STAKEHOLDER AND COMMUNITY LIAISON, AND TARGETED LABOUR AND TARGETED ENTERPRISES UTILISATION AND DEVELOPMENT

D1001.01 SCOPE

Section D of the Specifications describes the structured engagement with project Stakeholders and affected Communities to the project. It also guides the selection and the enhanced utilisation and development of Targeted Labour and Targeted Enterprises.

D1001.01 Principles for Project Liaison, Sub-contracting, and Labour Sourcing

The scope of the work described in this Section D of the Specifications shall be based on the Employer's 14 principles for project liaison, sub-contracting and labour sourcing in all NCDRPW projects, which are stipulated below:

- a. NCDRPW will establish a Project Liaison Committee (PLC) for the project to create a platform for project communication with the aim to facilitate successful, works execution, sub-contracting, and employment facilitation.
- b. NCDRPW Agent or Engineer will chair PLC's and provide secretarial support through the Consulting Engineer or its Agent. Representation on the PLC will comprise: NCDRPW; the Contractor; the Consulting Engineer or NCDRPW's Agent; business representatives; traditional authority representatives; provincial and municipal government representatives (not politicians); community representatives; and any other critical local stakeholder that may be deemed necessary by NCDRPW. While serving on the PLC, PLC members must declare any conflict of interest and recuse themselves if requested by the PLC Chairperson.
- c. Project Liaison Officer (PLO) selection to be done under the support of the PLC.
- d. The definition of a target area to be done under the supervision of PLC.
- e. The setup of database for contractors, sub-contractors and suppliers will be conducted with the input and support of the PLC. The final database will be disseminated to the PLC.
- f. The setup of databases for local labour in the target area will be done with the input and support of the PLC. A system of labour selection from the database must be agreed at the PLC.
- g. The databases for sub-contracting will be handed over to the Contractor for open tender processes. The labour database will be disseminated to the PLC and handed over to the Contractor to use for recruitment of local labour.
- h. Tender processes for sub-contracting must be conducted by Contractor using government principles (e.g. public opening of received bids, announcement of bidders and prices). Winning bidders shall be tabled by the Contractor in the PLC meeting for information purposes.
- i. Appeals to the tender process must be escalated to NCDRPW for an independent review.
- j. Capability assessments of sub-contractors and suppliers will be done with the input and support of the PLC, prior to the sub-contract tender stage commencing, to identify any deficiencies in skills and experience. For labour, skills assessments will be done at recruitment stage.
- k. Sub-contractor development support and training must be coordinated and

conducted with the input and support of the PLC.

- I. The PLC may identify works areas that are deliverable by local service providers, and areas where capabilities are not available locally. All works areas where capabilities are not available locally will be imported and local service providers will be given an opportunity to learn.
- m. The PLC and Consulting Engineer must ensure that formal contracting arrangements between the main contractor and the sub-contractor are in place in all projects.
- n. Communication will be streamlined through the PLC and used to manage expectations of local business and communities.

These principles must be applied to facilitate better project level liaison with project Stakeholders and affected Communities. In addition, these principles serve to ensure communication and transparency in the execution of the Works and to facilitate inclusivity in the allocation of projects to benefit black business and local communities.

D1002 DEFINITIONS AND APPLICABLE LEGISLATION

The definitions and legislation listed below informs the requirements of this Section D of the Specifications for Stakeholder and Community Liaison, Targeted Labour employment and Targeted Enterprise sub-contracting.

D1002.01 Definitions

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

a. Business Coaching

Business coaching establishes an atmosphere of mutual trust, respect, responsibility and accountability to motivate the emerging business owner and his team. To that end, the business coach must conduct an ethical and competent practice, based on appropriate professional experience and business knowledge.

b. Community

South African Citizens, as defined in terms of the South African Citizenship Act, 1995 (Act 88 of 1995), who permanently reside within the Target and Project Area(s) of the project.

c. Contract Participation

A process by which the Employer implements Government's objectives by setting targets to enhance Targeted Labour and Targeted Enterprises' utilisation and development, which the Contractor shall achieve as a minimum.

d. Contract Participation Goal (CPG)

- a) In the case of Targeted Enterprises, including manufacturers and suppliers, the amount equal to the value of goods, services and works for which the principal Contractor contracts to engage Targeted Enterprises in the performance of the Contract, expressed as a percentage of the tender value excluding escalation, contingency and value added tax associated with the targeting strategy that is identified in the Specification Data; or

- b)** In the case of Targeted Labour:
- i) the sum of the wages and allowances, for which the principal Contractor, Sub-contractor or Targeted Enterprises contract to engage Targeted Labour in the performance of the Contract, expressed as a percentage of the contract amount associated with the targeting strategy that is identified in the Specification Data; or
 - ii) the amount equal to the person days worked for which the principal Contractor, Sub-contractors or Targeted Enterprises contract to engage Targeted Labour expressed as a percentage of the total person days worked associated with the targeting strategy that is identified in the Specification Data.

e. Contract Participation Goal Plan (CPG Plan)

The plan which outlines how the Contractor intends to achieve the various CPG targets as stated in the Contract Data.

f. Contract Participation Performance (CPP)

The measure of the Contractor's progress in achieving the CPG.

g. Contract Skills Development Goals (CSDG)

The number of hours or head count of skills development opportunities that a Contractor contracts to provide in relation to work directly related to the contract or order up to:

- a)** completion in the case of a professional service contract;
- b)** the end of the service period in the case of a service contract; and
- c)** practical completion in the case of an engineering and construction works contract.

h. Designated Group

Unless otherwise permissible in terms of procurement regulations or the PPPFA, "Designated Group" means:

- d)** black designated groups;
- e)** black people;
- f)** women; or
- g)** people with disabilities;

i. Domestic Sub-contractors

A Domestic Sub-contractor is one in whose selection and appointment the Employer traditionally plays no part in other than simply giving consent when that is required under the terms of the main contract. The appointment of the sub-contractor is treated as something entirely for the benefit of Main Contractor and is a purely "domestic matter".

j. Final Contract Value

Final Contract Value as defined under Section D1003.04 - Contract Participation Goal (CPG) of the Specifications, also means Contract Price as defined in GCC 2015, sub-clause 1.1.1.10 (excluding CPA, adjustments for reduced payments, Rise and Fall adjustments, penalties, and VAT)

k. Guidance

Guidance is anticipating where one might go wrong, or where one is doing a task in a complicated, inefficient or ineffective way, and giving help, advice and direction as to how to achieve a better result. Guidance is mostly given by a person in the direct reporting line but can be given by anyone. Guidance is not imparting skills but suggesting ways to improve performance.

l. Labour

Persons:

- who are employed by the Contractor or a Sub-contractor in the performance of the Contract; and
- whose monthly earnings are derived from hours worked for a fixed hourly rate which is adjusted from time to time by legislation (as a statutory minimum) and the Contractor's or Sub-contractor's employment policies;

The personnel employed by the suppliers of goods and material are not defined as "Labour" for the purposes of this Contract.

m. Mentoring

Mentoring is a professional relationship in which an experienced businessperson assists another by giving advice and imparting their knowledge in developing special skills and knowledge that will enhance the less experienced businessperson's professional and personal growth. The objective is to equip the emerging business owner and his team to improve their decision-making skills, being focussed and make positive progress quickly.

n. Mobilisation Period

The period between the Commencement Date and the date of Access to Site), which period (duration) is stated in the Contract Data. This part of Section D of the Specifications describes the requirements of the Mobilisation Period.

o. Project Area

The area through which the road under construction traverse or which is adjacent to and/or in proximity to project operations.

Based on market research and/or requisite resources availability, Project Areas other than defined above may be identified where preference would be given to Targeted Enterprises for sub-contracting opportunities.

p. Project Liaison Committee (PLC)

The Committee that represents the Employer, Engineer, Contractor, project Stakeholders and the Communities affected by the project. It is important to note that:

- elected and/or nominated political office bearers shall not be members of the PLC, and
- the Engineer and Contractor becomes members of the PLC on their appointment and participate in the Committee within the scope of their respective roles and responsibilities.

q. **Project Liaison Officer (PLO)**

The person who acts as the liaison officer for the project. The PLO facilitates the selection of Targeted Labour to be employed by the Contractor and attends to the day-to-day project, Stakeholder, and Community matters that impact on the parties to the PLC.

r. **Stakeholders**

Any Stakeholder listed in the Employer's Communication Policy who is affected by the Employer's operations in the Project Area(s) and/or who has an interest or concern in the project, either as a decision maker, participant or affected party and may include, amongst others, the following entities:

- Relevant Provincial departments;
- Relevant Municipal departments;
- Traditional authorities;
- Community interest groups;
- Organised youth representation;
- Organised women representation;
- Organised disabled people representation;
- Other structured community groups such as religion, education, farming, etc.
- Local transport industry forums, e.g. Bus and taxi;
- Business sector forums;
- Road user forums;
- Environmental interest groups;
- Road safety interest groups;
- Any other recognised relevant and representative structure

s. **Sub-contractor**

An entity appointed by the Contractor to execute a portion of the Works as defined in the Conditions of Contract under GCC 2015 subclause 4.4 This includes both Domestic Sub-contractors and Targeted Enterprises.

t. **Target Area**

The geographic area defined in the Specification Data for Targeted Labour and which typically are:

- one or more Local Municipalities;
- one or more Wards that are predominantly located within the Project Area;
- one or more of the areas listed in the definition of Designated Groups.

u. **Targeted Enterprise**

A Targeted Enterprise is an entity to which the Contractor sub-contracts a percentage of the contract value as a condition of contract and which is:

- an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships;

In addition, Targeted Enterprises must be:

- a) CIDB registered where applicable;

- b) registered with National Treasury's Central Supplier Database;
- c) tax compliant prior to award of the sub-contract; and
- d) COIDA compliant prior to award of the sub-contract where applicable.

v. **Targeted Enterprise Construction Manager (TE Construction Manager)**

The full-time dedicated staff member or sub-service provider appointed by the Contractor to develop, implement and monitor the training, development and support of Targeted Labour and Targeted Enterprises. The Targeted Enterprise Construction Manager also mentors, guides and coaches the Targeted Enterprises.

w. **Targeted Enterprise Monitor**

The Targeted Enterprise Monitor is an independent service provider, or individual, appointed by the Employer, to audit the Contractor and his TE Construction Manager's activities with respect to their obligations to Targeted Enterprises.

x. **Targeted Enterprise Procurement Coordinator (TE Procurement Coordinator)**

The staff member or sub-service provider appointed by the Contractor to facilitate the procurement of Targeted Enterprise sub-contractors.

y. **Target Group**

It is a group of entities and/or persons selected from the Designated Group and may include both Targeted Enterprises and Targeted Labour.

z. **Targeted Labour**

Persons:

- who are unemployed; and
- who are then employed by the Contractor or a Sub-contractor (including Targeted Enterprises) in the performance of this Contract; and
- whose monthly earnings are derived from hours worked for a fixed hourly rate which is adjusted from time to time by legislation (as a statutory minimum) and the Contractor's or Sub-contractor's or Targeted Enterprise's employment policies; and
- permanently reside in the Target Area(s) or who are recognized as being residents of the Target Area(s) based on identification and association with, and recognition by, the residents of the Target Area(s); and
- who are stated as being Targeted Labour in the Specification Data.

The personnel employed by the suppliers of goods and material are not defined as "Targeted Labour" for the purposes of this Contract.

aa. **Trainee Targeted Enterprise**

A Targeted Enterprise as defined in this Section D of the Specifications, but which is selected and sub-contracted as a Trainee in terms of the Community Development Project associated with this Contract.

bb. Training

Training refers to the process of teaching a Trainee, usually in a classroom or simulated work environment situation where principles, theory, knowledge and skills are taught, and demonstrations are given. Assignments are set to ensure that the Trainee can apply what has been taught. Training is done by a specialist in the subject, and who is qualified and accredited to train. The objective is to improve the competency of the Trainee.

cc. Training and Skills Development Programme

The programme which outlines how the Contractor intends to achieve the CSDG targets, as per Section D1010 of the Specifications and in line with the CIDB Standard for Developing Skills through Infrastructure Contracts (refer to latest version on cidb.org.za), by applying the various training methods described in Section D1010 of the Specifications.

D1002.02 Applicable Legislation, Regulations and Standards

The following Acts, as amended from time to time, are predominant amongst those which apply to the Construction Industry and are listed here for reference purposes only:

- a) The Constitution of South Africa;
- b) Public Finance Management Act, 1999 (Act No. 1 of 1999);
- c) Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000) and its latest applicable regulations;
- d) Construction Industry Development Board Act, 2000 (Act No. 38 of 2000);
- e) Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- f) The South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7 of 1998);
- g) The Skills Development Act, 1998 (Act No. 97 of 1998);
- h) The Skills Development Levies Act, 1999 (Act no. 9 of 1999);
- i) The amended Construction Sector Codes published in Notice 931 of 2017 of Government Gazette No. 41287 on 1 December 2017 by the Department of Trade and Industry;
- j) The National Small Enterprises Act, 1996 (Act 102 of 1996) as amended.

The following Standards and Practice Notes, as amended from time to time, are applicable in terms of Targeted Labour and Targeted Enterprises and are used fully or portions thereof in this Section D of the Specifications:

- SANS 10845: 2015, Parts 5, 7 and 8; and
- CIDB Standard for Contract Participation Goals for Targeted Enterprises and Labour through Construction Works Contracts (refer to latest version on www.cidb.org.za).

D1003 TARGET GROUP PARTICIPATION

This part of Section D of the Specifications describes the Employer's requirements for the establishment of Target Group databases from which participants in the project will be selected for employment and sub-contracting.

It also describes the measurement of, and penalties or bonus to be applied, with respect to the CPG as defined in the Specification Data.

D1003.01 Objectives of Target Group Participation

Amongst others, the key objectives of Government are to extend economic opportunities and build entrepreneurial capacity in rural and underdeveloped areas and townships by:

- i) optimising the utilisation of local resources in the Project Area;
- ii) developing these local resources in the execution of the project; and
- iii) maximising the amount of funds retained within the Project Area.

To give effect to these objectives the Contractor shall, over the full duration of the contract, from site establishment up to the completion of the works:

- a. employ Targeted Labour from the Target Area(s) as stated in the Specification Data; and
- b. sub-contract Targeted Enterprises as stated in the Specification Data; and
- c. give preference to Targeted Enterprises which are from rural and underdeveloped areas and townships within the Project Area(s).

D1003.02 Targeted Labour Database

A system for the recruitment of Targeted Labour shall be agreed with the PLC prior to the commencement of labour recruitment. This system shall be fair and transparent.

Based on the system for recruitment, a Targeted Labour Database shall be compiled by the Contractor, with the assistance of the PLO, and the input and support of the PLC, for the Target Area(s) as stated in the Specification Data. Once the Database has been disseminated to the PLC, it shall be utilised to facilitate the selection of Targeted Labour as per the resources and skills required by the Contractor during the different construction stages.

The Targeted Labour Database shall be updated as and when required to reflect new employment seekers in the labour market.

Only Labour recruited from the Targeted Labour Database will be measured for Contract Participation Performance (CPP).

D1003.03 Targeted Enterprise Database

The Contractor shall, with the assistance and inputs of the PLC, compile a Targeted Enterprise Database from which Targeted Enterprises shall be sub-contracted to construct portions of the work as described in this part of Section D of the Specifications.

a) Market Analysis and Requisite Resources Availability Audit

The Contractor shall conduct a market analysis and requisite resources availability audit to determine the availability, expertise, abilities, and proficiency of Targeted Enterprises in the Project Area.

To inform the market analysis and requisite resources availability audit, the Contractor shall, as a minimum, use the National Treasury's Central Supplier Database (CSD) which can be obtained from the Employer's Supply Chain

Management department via the Project Manager, as well as the CIDB contractor database (if applicable).

The market analysis and requisite resources availability audit, and all updates thereof for the duration of the Contract, shall be submitted to the Engineer and the Employer's Project Manager in a format acceptable to the Employer.

Following the market analysis and a requisite resources availability audit, the Contractor shall apply the CPG Target Group criteria in the Specification Data to compile a **preliminary** Targeted Enterprise Database (see D1003.03(c) below).

b) Call for an Expression of Interest

In addition to the CSD and the CIDB database, the Contractor shall call for an expression of interest from Targeted Enterprises in the Project Area. The call for an expression of interest shall outline the anticipated eligibility, functionality, preference and compliance criteria, as well as the anticipated Works content.

c) Preliminary Targeted Enterprise Database

Based on the information obtained from the CSD, CIDB and the call for an expression of interest, the Contractor shall compile a Preliminary Targeted Enterprise Database.

The purposes of the Preliminary Targeted Enterprise Database are:

- a) for the Contractor to determine if the required resources and skills to execute the identified Targeted Enterprise work packages are available in the Project Area(s);
- b) for the PLC to verify that Targeted Enterprises on the Preliminary Targeted Enterprise Database are authentic in terms of the Specification Data and other Database criteria, and
- c) for the PLC to alert prospective Targeted Enterprises that are not on the Preliminary Database of the opportunity.

Based on the market analysis and requisite resources availability audit, and the information obtained from the call for an expression of interest, additional criteria for the Preliminary Targeted Enterprise Database may be tabled by the PLC to the Contractor to ensure Target Group participation as intended by the Employer.

d) Final Targeted Enterprise Database

Once the Preliminary Targeted Enterprise Database has been disseminated to the PLC, the Contractor shall invite Targeted Enterprises to tender for the Targeted Enterprise work packages. The Preliminary Targeted Enterprise Database shall remain a "live database" until the day of tender closure when a print-out of the CSD, based on the Database criteria, shall become the **Final** Targeted Enterprise Database for the tender and shall be disseminated to the PLC.

Any Targeted Enterprise may respond to the invitation to tender, but preference shall be given to those Targeted Enterprises that satisfy the tender criteria.

The Targeted Enterprise Database shall be updated at every instance that a new sub-contract tender or group of similar sub-contract tenders are to be let for Targeted Enterprise work packages.

Targeted Enterprises within the Project Area shall be encouraged and assisted to register on the CSD and to become compliant with all other statutory requirements.

D1003.04 Contract Participation Goal (CPG)

The CPG is the monetary value of the participation targets set by the Employer for Targeted Labour and Targeted Enterprises expressed as a percentage of the Final Contract Value. The participation targets comprise of the following:

% Targeted Labour (TL_{Total%}) = the sum of the % Targeted Labour employed by the Contractor, Sub-contractors and Targeted Enterprises.

% Targeted Enterprises (TE_{Total%}) = the % Targeted Enterprises, including the % Targeted Labour employed by Targeted Enterprises.

While the individual participation targets, i.e. TL_{Total%} and TE_{Total%} must be met, the total CPG (CPG_{Total}) is not the sum thereof, but are calculated as follows:

CPG_{Total} = Final Contract Value x [TL_{Total%} + (TE_{Total%} - Targeted Labour employed by the Targeted Enterprises)]

where

Final Contract Value is = the total value of the Contractor's final certified work measured at the date of issue of the Taking-Over Certificate. The Final Contract Value includes the value of scheduled work and extra work, but excludes any Contract Price Adjustment and adjustments for reduced payments, Rise and Fall, Retention Money, Penalties and VAT.

The Contractor shall strive to distribute and implement the participation targets and opportunities equally and continuously over the duration of the Contract. Where the Contractor deems such an equal and continuous distribution of the participation targets to be unachievable, he shall provide reasons and motivate it clearly in the preliminary CPG Plan submitted with the tender document.

Both the Targeted Labour and Targeted Enterprise participation targets may consist of sub-targets which are stipulated in the Specification Data, clause D1003. The Contractor is required to achieve these individual sub-targets. If the Contractor fails to achieve any one of the individual sub-targets and does not substantiate that such failure is due to quantitative underruns, the elimination by the Employer of items contracted to targeted enterprises, or any other reason beyond the Contractor's control which may be acceptable to the Employer, penalties shall apply as stated in Section D1003.05 of the Specifications, and as provided for in clause 5.13 of the GCC 2015.

The value of the Provisional Sum scheduled under item D10.05 will not necessarily make up the full value of the work required to meet the minimum target set by the Employer for Targeted Enterprises. It is the Contractor's responsibility to assess the work required to meet the targets and, if necessary, to engage additional Targeted Enterprises to execute work on the Contract as well to ensure that the minimum targets are achieved.

D1003.05 Contract Participation Performance (CPP)

The CPP is the monetary value of the Contractor's actual progress towards achievement of the CPG calculated as follows:

$$\text{CPP} = \text{CPG}_{\text{Actual}}$$

= total monetary value (excluding VAT) of Targeted Labour employed by the Contractor + total monetary value (excluding VAT) of Targeted Enterprises contribution, including Targeted Labour employed by the Targeted Enterprises.

The Contractor's CPP shall be monitored monthly to determine the extent to which it is striving to achieve the CPG. The basis of monitoring shall be a comparison of the actual expenditure on Targeted Labour and Targeted Enterprises with the planned expenditure for Targeted Labour and Targeted Enterprises as per the accepted CPG Plan. Monthly returns, in the format required by the Employer, shall be submitted by the Contractor with each interim Payment Certificate.

To assist in the measurement of the CPP the Contractor shall include the envisaged CPG programme in its initial contract programme which is to be submitted within 28 days after the Commencement Date. The CPG programme shall be updated in the accepted construction programme on acceptance of the CPG plan and with every subsequent revision.

As an incentive to encourage the Contractor to exceed the CPG, a bonus is offered, measured as follows:

ii) **CPP Bonus**

$$\text{The bonus} = 0.015 \times (\text{CPP} - \text{CPG}_{\text{Total}})$$

Any bonus due (or portion thereof) shall be calculated on the Final Contract Value. No bonus shall apply if either the Targeted Labour, Targeted Enterprises and/or any individual sub-targets for Target Groups are not reached.

iii) **CPP Penalties**

Conversely, failure to reach either the CPG or any individual Target Group targets shall render the Contractor liable for a penalty as prescribed in GCC unless there are compelling reasons why the target or sub-targets could not be achieved as stipulated in Section D1003.04 of the Specifications. Penalties for Targeted Labour and for Targeted Enterprises shall be calculated as follows:

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

where:

- E is the specified minimum percentage for local labour content
- E_o is the local labour content percentage which the Employer's Agent certifies as being achieved upon completion of the contract
- C_A is the contract amount which is the Contract Price (adjusted to exclude penalties and value added tax)
- P is the monetary value of penalty payable

$$\text{Penalty Targeted Enterprises} = 1.0 \times ((TE - TGE) + \text{Sum } (TE_n - TGE_n) - 1.2 \times TE_{mv} - 1.2 \times TE_{dp})$$

Where:

- n = Each lowest order sub-group of Targeted Enterprise stipulated in the Contract Data.
- TE = Monetary value (excluding VAT) of Targeted Enterprises calculated at the percentage stipulated in the Specification Data applied to the Final Contract Value
- TGE = Cumulative monetary value (excluding VAT) by Targeted Enterprises sub-contracted to the contract by the Contractor and 50% of the cumulative monetary value (excluding VAT) by Targeted Enterprise suppliers of goods and/or services.
- TE_{mv} = Cumulative monetary value (excluding VAT) by Targeted Enterprises being majority owned by black Military Veterans, sub-contracted to the Contract by the Contractor.
- TE_{dp} = Cumulative monetary value (excluding VAT) by Targeted Enterprises being majority owned by black Disabled Persons, sub-contracted to the Contract by the Contractor.
- (TE_n - TGE_n) = The monetary values calculated unless if any calculated value is negative, then it shall be a zero value.

$$P = \frac{0,20 \times (D - D_o)}{100} \times NA$$

Where

D = tendered Contract Participation Goal percentage.

D_o = the Contract Participation Goal which the Employer's representative, based on the credits passed, certifies as being achieved upon completion of the Contract.

NA = Contract Amount (excluding, CPA, Contingency and VAT)

P = Rand value of penalty payable

The total Penalty value shall be the sum of the Targeted Labour and Targeted Enterprises Penalty values unless the total Penalty value is negative then it shall be a zero value.

Interim penalty valuations, based on the accepted CPG Plan, shall be calculated to interim Payment Certificate values (excluding VAT) to establish the anticipated outcome, and to plan corrective actions for non-adherence to the CPG Plan.

Interim penalty valuations shall not be applied to the interim certificate value, but the Contractor shall by notice be placed on terms to correct as prescribed in sub-clause 7.6 of GCC 2015. Failure to correct by completion of the Contract will lead to an Employer's Claim.

Any Penalty payable shall be calculated on, and applied to, the Final Contract Value.

D1003.06 Accredited Registration

The CPP for Targeted Enterprises shall only be accepted if the respective Targeted Enterprises comply fully with the definition of a Targeted Enterprise, and documentary evidence to support the claim lodged with the Engineer before the work, goods or service may be considered as having been performed by a Targeted Enterprise. The responsibility for producing evidence of the respective documentation shall rest with the Contractor.

The Contractor shall assume responsibility for the compilation and maintenance of comprehensive records detailing each Targeted Enterprise's progress.

D1003.07 Contractor's Responsibility

In terms of the Conditions of Contract, all Targeted Labour recruitment and employment and Targeted Enterprises sub-contracting, as well as its associated risks, shall remain the sole responsibility of the Contractor.

The Employer's CPG requirements, and the compulsory utilisation of project specific Targeted Labour and Targeted Enterprises databases, shall not relieve the Contractor of its obligations under the Contract and shall not attract any liability to the Employer.

D1004 STAKEHOLDER AND COMMUNITY LIAISON AND SOCIAL FACILITATION

This part of Section D of the Specifications describes the Employer's requirements with respect to Stakeholder and Community liaison and social facilitation. It also describes the roles and responsibilities of the Project Liaison Committee (PLC) and the Project Liaison Officer (PLO).

D1004.01 Purpose of Stakeholder and Community Liaison

To give effect to the need for transparency and inclusion in the process of delivering services, the Contractor shall liaise with the project Stakeholders and affected

Communities for the duration of the Contract's life cycle. This shall be achieved through structured engagement with the PLC which was established by the Employer for this purpose.

D1004.02 Contractor's Responsibilities in Stakeholder and Community Liaison

The Contractor shall have the following general responsibilities in the Stakeholder and Community liaison process:

- i) Stakeholder and Community engagement shall be executed based on the Employer's social facilitation principles and processes described in this Section D of the Specifications.
- ii) The Contractor shall make use of the PLC as the official communication channel and utilise it to facilitate harmonious relationships, with project Stakeholders and affected Communities.
- iii) PLC members, to which the Contractor is a party, shall be held accountable to disseminate project information discussed at the PLC meetings to the entities that they represent.
- iv) As a party to the PLC, the Contractor shall delegate from among his site personnel a responsible person to participate in the PLC and its business.
- v) The Contractor shall provide the PLC with any assistance and information that it requires to execute its duties, which amongst others, include training, providing a meeting venue on site, provide Target Group reports, etc.

It is important to note that in terms of the Conditions of Contract, all Targeted Labour recruitment and employment, and Targeted Enterprises' selection and sub-contracting, as well as its associated risks, shall remain the sole responsibility of the Contractor.

The Contractor shall take cognisance of the Employer's PLC and PLO Forms, which shall be provided to the Contractor by the Engineer. While the Employer holds its own staff accountable for the deliverables listed in the checklist, the Contractor and the Engineer shall assist the Employer in accomplishing the deliverables.

The Employer's establishment of the PLC, and the Engineer providing a PLO to the Contractor, shall not relieve the Contractor of its obligations under the Contract and shall not attract any liability to the Employer.

D1004.03 Project Liaison Committee (PLC)

The PLC is the official communication channel through which the Employer, Engineer, Contractor and project Stakeholders and affected Communities communicates on project matters. This platform is also used to communicate the impact that the project has or may have on project Stakeholders and the affected Communities. This part of Section D of the Specifications describes the general processes pertaining to the PLC, as well as its role and responsibilities.

ii) Establishment of the PLC

A PLC has either been established prior to commencement of the Contract or shall be established as soon as possible by the Employer. The PLC consists of the Employer, Engineer, Contractor and representatives of project Stakeholders and affected Communities.

To ensure that all relevant Stakeholders are represented in the PLC, the Employer did, or will, consult with the Executive Mayor's office, as well as with the LED Department of the Local Municipalities in the Project Area. Once, the PLC has be

established, the Employer's further Stakeholder engagement activities shall not prevent the Contractor from continuing with construction.

Typical Stakeholder representation on the PLC may include:

- a. A PLC member from the relevant RRM PLC.
- b. Local Municipality LED Office.
- c. Traditional leadership representation.
- d. Forums representing people with disabilities.
- e. Forums representing women.
- f. Forums representing youth.
- g. Forums representing business sector.
- h. Forums representing transport sector.
- i. Any other Stakeholder forum/organisation recognised by the Employer and the Local Municipality's LED Office.

Every forum/organisation/constituency shall have one (1) representative on the PLC, which representation shall be confirmed by a duly signed nomination form.

It should be noted that the PLC is not a political platform. While Councillors may be invited to some PLC meetings, they may not be PLC members and hence, will not have voting rights when attending a PLC meeting.

iii) **Seating Allowance for PLC Members**

PLC membership is voluntary and PLC members shall not be remunerated for any time spent or work done associated with representing their constituency on the PLC.

Provision for the cost of liaison, social facilitation and PLC support has been made under pay-item D10.02(a). This pay-item provides for the Contractor's cost incurred in executing his responsibilities with respect to Stakeholder and Community liaison.

This pay-item may also be utilised to pay an allowance to PLC members for actual costs incurred in executing their PLC duties (other than time or work done related). The Contractor will determine and table to the PLC a realistic seating allowance which will be substantiated by an outline of the anticipated actual costs envisaged to be incurred by PLC members.

The seating allowance shall be increased annually based on the CPI figure contained in Table B2 of Statistical Release P0141 by StatsSA.

iv) **Induction of the PLC**

The Employer shall conduct an induction meeting with the PLC to acquaint PLC members with the following information.

- a. The role and responsibilities of PLC members.
- b. NCDRPW's Transformation Policy.
- c. How the Transformation Policy impacts on SMMEs.
- d. Relevant details of the Contract, e.g.
- e. Start and end dates
- f. Important milestones
- g. CPG targets
- h. Envisaged Targeted Enterprise packages
- i. Envisaged work for other SMMEs (non-CPG)

v) **Rules of Engagement for the PLC**

In the execution of their duties, members of the PLC shall adhere to the undertakings listed below and the Contractor shall inform the Engineer of any transgression of these undertakings.

- a. **General Matters and Membership**
 - A PLC member may not be a politically elected representative and political party representation will not be allowed in the PLC.
 - Ward Councillors may interact with the project team through the Mayor's Office.
 - If required, and in consultation with the Employer, a Political Steering Committee (PSC) may be established to address political matters. A PSC will only be established where the Project Area traverse over more than one municipal area.
- b. **Term of Office for the PLC**
 - The duration of PLC members' participating in the PLC (term of office) shall depend on the duration of the project.
 - If the Employer finds the performance of a PLC member to be below expectation or their conduct to be unacceptable, the affected member will be discharged from their obligations and a new nomination process shall commence.
- c. **Targeted Enterprise and Targeted Labour**

PLC members shall:

- ensure that they, or companies in which they hold equity, will not tender on the Contract for any work or sub-contract that may be issued. Should they tender, this will be treated as a conflict of interest and the tender proposal submitted will not be evaluated.
- not have private or business interests in any of the sub-contract tenders tabled to the PLC or considered in this Contract.
- shall recuse themselves from discussions that deal with a sub-contract tender if any other member is of the opinion that a member's participation in deliberations, which is rightly or wrongly construed as improper or irregular, may lead to the award of a sub-contract to a tenderer known to the member or to the member itself.
- recuse themselves from the operations of the PLC following a situation as described in paragraphs ii) above and shall cease to be a PLC member for this Contract.
- during the tender and tender evaluation processes, neither deliberately favoured nor prejudiced a person or tenderer, as intended, or contemplated in treasury Regulation 16, A8.3 (a), (b) & (c).
- ensure that no conflict of interest arises from members' involvement in the PLC and potential involvement in targeted labour recruitment and/or targeted enterprises procurement and/or any other supplier/sub-contractor/service provider procurement or involvement in the contract.

- d. Confidentiality
- PLC members shall accept that all information, documentation, and decisions regarding any matter serving before the PLC are confidential and undertake not to communicate decisions or discussions of PLC meetings to external or internal parties unless so directed and approved by the Project Manager.
 - Information for public dissemination shall be clearly indicated by the committee to ensure that sensitive information is only disseminated to the correct audience.
- e. Removal from Office
- PLC members who violate the provisions of these Rules of Engagement for PLCs will be removed from their role as a PLC member at the sole discretion of the Employer.
 - The Employer reserves the right to recover any costs from PLC members whose actions can be regarded as detrimental to the Employer or to the execution of the project.
 - The Employer also reserves the right to recommend criminal prosecution if the offence warrants such action.
 - The Employer reserves the right to dissolve the entire PLC should it believe that such an action is in its best interest, or that of the project. The Employer will not be obliged to reconstitute the PLC if such a dissolution occurs.

vi) **Responsibilities and Duties of the PLC**

The PLC shall execute specific duties during the design and construction phases of the project.

Some of the PLC's duties during the design and construction stages overlap and hence, for completeness, a description of the PLC's duties in both project stages is provided here.

The PLC shall execute the following duties:

- a. Project Design Stage
- Meet as often as required to discuss and resolve the project's design stage matters which are of interest or concern to the parties to the PLC.
 - Peruse the Project Liaison Committee duties outlined in this Section D of the Specifications and agree on the duties of, and procedures to be followed by, the PLC to fulfil its duties.
 - **Note:** The principles outlined in this section shall not be amended, but duties and procedures may be altered to be project specific and to improve the functionality of the PLC.
 - Act in accordance with the agreed terms of reference for the PLC.
 - Inform the Employer of any training that project Stakeholder and affected Community representatives of the PLC require to execute their duties.
 - Assist the Engineer to source suitable candidates, based on the Employer's qualifying criteria, for the position of PLO.

- Observe and verify that the qualifying criteria and procedures applied by the Engineer to select and employ the PLO were executed in a fair and transparent manner and were within the prescripts of the relevant labour legislation and regulations.
- Assist the Engineer to identify the project's Target and Project Area(s), from which Targeted Labour and Targeted Enterprises could be employed and sub-contracted respectively.
- Assist the Engineer to identify the project's Target Groups for inclusion in the Tender Documents and provide input and support to the identified Target Groups.

b. Project Construction Stage

- Meet formally prior to the Employer's monthly site meeting, or as may be required, to discuss and resolve project matters, which are of interest or concern to the parties to the PLC.
- Assist the Contractor to establish the selection criteria and process to employ Targeted Labour.
- Assist the Contractor to identify the eligibility, functionality, preference and compliance criteria to select and sub-contract Targeted Enterprises.
- Provide input and support for the Databases compiled by the PLO and the Contractor from which Targeted Labour will be selected and employed and Targeted Enterprises will be sub-contracted respectively.
- Verify that the criteria and methodologies applied by the Contractor to select and employ Targeted Labour and sub-contract Targeted Enterprises are executed in a fair and transparent manner and are within Government legislation and regulations and the Employer's Policies.
- Verify that the conditions of employment and the conditions of sub-contracting, in the employment of Targeted Labour and sub-contracting of Targeted Enterprises are applied in a fair and transparent manner and according to the Employer's employment and sub-contracting requirements.
- Make recommendations to the Contractor on the training needs, eligibility criteria and selection criteria for the provision of training to Targeted Labour, Targeted Enterprises, Designated Groups, project Stakeholders and the affected Communities.
- Verify that training and skills development programmes, which the Contractor committed to, are implemented and executed as approved and intended.
- Inform the entities whom they represent of any project matters which the respective party to the PLC wishes to communicate with each other.
- Inform the entities whom they represent of any project matters that are impacting or may impact, either positively or negatively, on the respective parties to the PLC.
- Inform the Contractor of Stakeholder and/or Community requests and/or needs which could possibly be addressed within the project's Scope of Work.
- Inform the Employer, Engineer and Contractor of any road safety concerns within the Project Area(s) and advise them of possible mitigating measures and/or road safety programs that will be most suitable for acceptance by the affected Communities to promote road safety.
- Assist parties to the PLC to agree on a dispute resolution mechanism to resolve any disputes that may arise between the parties to the PLC.
- Assist parties to the PLC to liaise with their respective entities to resolve any disputes amongst the parties which may occur due to the project.

vii) **PLC Meetings**a. **Frequency**

- Meetings will be conducted monthly or as required by the Stakeholders or the project matters.

b. **Notice of Meetings**

- The notice of the PLC meeting shall be given at least seven (7) calendar days prior to the meeting date.
- Where meetings have been diarised over a period by the PLC, it shall be the duty of each PLC member to ensure his/her attendance on the set dates.
- Where a PLC member has missed any meeting, he/she bears the onus of establishing the date and venue of the next meeting.

c. **Venue**

- The venue for PLC meetings shall be the project site office or any other venue agreed to by the members of the PLC and approved by the Employer' Project Manager.
- During the COVID-19 lockdown, or any other lockdown as announced by government, the meetings shall be held on an online platform such as WhatsApp, MS Teams, Zoom or similar.

d. **Agenda**

- An agenda shall be made available or displayed to all participants at the commencement of such meetings or the minutes of the previous meeting will serve as the agenda of such meetings.
- The agenda shall not be amended without prior approval from the Employer's Project Manager.

e. **Chairperson**

- PLC meetings shall be chaired by the Employer which will typically be the Employer's Project Manager, or a NCDRPW staff member, with decision--making delegation, or the Engineer. The Chairperson shall:
 - chair all meetings of the PLC,
 - co-ordinate all the activities of PLC,
 - ensure that members are fulfilling their tasks as assigned by the PLC,
 - see to the execution of decisions taken by the PLC,
 - ensure the validity of members' claim for allowance,
 - ensure compliance of all activities of the PLC with current rules, law and general NCDRPW policy, and
 - be a co-signatory to all official documents of the PLC.

f. **Secretariate**

- The Engineer's staff shall provide a secretarial service to take minutes of PLC meetings.
- Secretarial support other than taking minutes at PLC meetings shall be provided by the PLO.

g. **Quorum**

- The quorum for PLC meetings shall be constituted by 50%+1 ratio excluding co- opted members.

h. **Apologies and Non-attendance**

- Apologies shall be in writing except in emergency where the member apologising cannot communicate the apology in writing.
- Apologies may be sent through any media agreed to prior by the PLC for example through SMS or WhatsApp messaging or similar application.
- The organization, represented by a member who fails to attend three (3) consecutive meetings without an apology, will be informed in writing and asked to nominate a replacement member.

i. **Language**

- The meetings will be conducted in English to enable all participants at the meeting to understand the discussions of the meeting.
- However, care and consideration must be given to provide non-English speakers an opportunity to participate. Therefore, where desirable, any of the 11 official languages maybe be used to conduct the meeting. If another language other than English is used, the minutes of the meeting will need to be transcribed, translated, and recorded in English.

j. **Other**

- The PMT shall provide a finger lunch for PLC members at PLC meetings.

D1004.04 Project Liaison Officer (PLO)

The PLO facilitates the selection and employment of Targeted Labour and coordinates communication between the members of the PLC to address the day-to-day project, Stakeholder, and Community matters that impact on the parties represented in the PLC.

i) **Appointment of the PLO**

The Engineer appoints the PLO in accordance with the Employer's criteria for a PLO. The appointment of the PLO must be acknowledged and supported by the PLC.

Although the PLO provides social facilitation support to the Contractor, the PLO shall report to the Engineer or his delegated representative, e.g., the Resident Engineer.

ii) **Duties of the PLO**

The PLO shall execute specific duties during the design and construction phases of the project. These duties include the following:

- (i) Except for taking the minutes of PLC meetings, which is a duty of the Engineer, the PLO shall provide a secretariat function to the PLC which includes, amongst others, the following:
 - a. Schedule meetings;
 - b. Compile meeting agendas;
 - c. Compile document packages for meetings;
 - d. Distribute minutes of meetings;
 - e. Assist representatives of project Stakeholders and affected Community to formulate their communication to the PLC in writing;
 - f. Distribute written communication between the parties to the PLC;

- g. Keep records of all PLC correspondence and documentation; and
- h. Provide any other reasonable secretariat function required by the PLC.
- (ii) Attend all PLC meetings to report on the day-to-day project, Stakeholder and Community matters that impact on the parties to the PLC.
- (iii) Attend all monthly project site meetings to report on the day-to-day project, Stakeholder and Community matters that impact on the parties to the PLC.
- (iv) Attend any other meetings related to the project and in which any of the project Stakeholders, affected Communities, Targeted Labour and Targeted Enterprises are involved.
- (v) Maintain a full-time presence on site to monitor and address the day-to-day project, Stakeholder and Community matters that impact on the parties to the PLC.
- (vi) Maintain a full-time presence on site to assist the parties to the PLC in the day to day liaison with each other.
- (vii) Assist the Engineer and the Contractor to disseminate information to PLC members such as:
 - a. the basic Scope of the Works and how it will affect the Community;
 - b. the project programme and regular progress updates;
 - c. the anticipated employment and sub-contracting opportunities;
 - d. the project programme as it pertains to the employment of Targeted Labour and sub-contracting of Targeted Enterprises;
 - e. Occupational Health and Safety precautions; and
 - f. any other information relevant to project Stakeholders and the affected Communities.
- (viii) Be well acquainted with the contractual requirements as it pertains to Targeted Labour employment and training.
- (ix) Assist the PLC to establish and agree the criteria to follow when selecting and employing Targeted Labour.
- (x) Assist the Engineer and the Contractor in their resources and skills audits by providing a coordinating function between the Engineer, the Contractor, project Stakeholders, and the affected Communities.
- (xi) Ensure that the Contractor compiles the Targeted Labour databases based on the eligibility and selection criteria and that he updates it as and when required.
- (xii) Coordinate the selection and employment of Targeted Labour based on the agreed eligibility and selection criteria and based on the Contractor's labour and skills requirements.
- (xiii) Ensure that each Targeted Labourer enters an employment contract which adheres to current and relevant Labour legislation.
- (xiv) Ensure that each Targeted Labourer understands the conditions of his/her employment contract with an emphasis on the employment start date, end date and wages payable.
- (xv) Identify and inform the Contractor of any relevant training required by the Targeted Labour.
- (xvi) Attend all disciplinary proceedings to ensure that hearings are fair and conducted in accordance with the current and relevant Labour legislation.
- (xvii) Be proactive in identifying project Stakeholder and affected Communities' (including Targeted Labour and/or Targeted Enterprise Sub-contractor), requirements, disputes, unrest, strikes, etc. and bring it to the attention of the PLC.
- (xviii) Assist the parties to the PLC to resolve any disputes, which may occur due to the project.
- (xix) Other than the document records to be kept as mentioned above, keep record of all other documents and processes pertaining to the

employment of Targeted Labour.

- (xx) Produce and submit a monthly report to the PLC on PLC and other meetings attended by the PLO, as well as on Targeted Labour employment, and project Stakeholder, affected Community and any other project matters that impact on the parties to the PLC.

D1005 MOBILISATION PERIOD

The Mobilisation Period is defined in Section D1002 of the Specifications. This Section describes the requirements of the Mobilisation Period.

D1005.01 Purpose of the Mobilisation Period

The Mobilisation Period was introduced as an aid to the Contractor to:

- a) become acquainted with the Stakeholder and Community liaison requirements of the Contract as prescribed in this Section D of the Specifications;
- b) allow for the Contractor's planning to obtain the CPG as required in the Specification Data;
- c) allow for the Contractor's planning to obtain the Contract Skills Development Goals (CSDG) as required in Section D1010 of the Specifications,
- d) follow the processes prescribed in this Section D of the Specifications to employ the initially required Targeted Labour and enter the first sub-contracts with Targeted Enterprises; and
- e) provide the training required by Targeted Labour and Targeted Enterprises to commence with the construction of the Works.

Access to site for the Commencement of the Works shall thus only be issued once the following deliverables have also been submitted and/or completed by the Contractor:

- i) Submission of the CPG Plan, followed by acceptance of the Engineer.
- ii) Submission and the Training and Skills Development Programme, followed by acceptance of the Engineer.

D1005.02 Duties of the Contractor

During the Mobilisation Period, the Contractor shall execute the following duties:

a) **Compile a CPG Plan**

The Contractor shall compile an acceptable CPG Plan, which sets out how he intends to achieve the various CPG targets as stated in the Specification Data. The Contractor shall distribute and implement the participation targets and Targeted Enterprise work opportunities equally and continuously over the duration of the Contract, i.e. from site establishment to completion of the Works. Where the Contractor deems such an equal and continuous distribution of the participation targets to be unachievable, he shall provide reasons and motivate it clearly in the CPG Plan.

The CPG Plan shall provide the detail of the Targeted Enterprise work programme, as well as the contents and value of the work packages.

The Targeted Enterprise work programme shall be in line with the Works Programme and once the CPG Plan has been accepted by the Engineer, it shall be captured in the Works Programme.

The Mobilisation Period shall only be concluded once the CPG Plan has been accepted by, and all the duties above have been executed to the satisfaction of, the Engineer after consultation with the Employer.

The Employer and the Engineer shall monitor progress and adherence to the CPG Plan in the same manner as they would monitor the Works Programme.

Should the Contractor require an extension of the Mobilisation Period due to a delay not within his control, Contractual Procedure shall be followed, and the Contractor shall submit his Claim for an extension of time through the relevant Contractual Clauses of the Conditions of Contract.

b) Compile a Training and Skills Development Plan

The Contractor shall compile an acceptable Training and Skills Development Plan, which sets out how he intends to achieve the various CSDG targets as per the Section D1010 of the Specification and in line with the CIDB Standard for Developing Skills through Infrastructure Contracts (refer to latest version on www.cidb.org.za).

The Training and Skills Development Plan shall provide the detail of the training methods selected for implementation as described in Section D1010 of the Specifications and shall include an execution programme for acceptance by the Engineer, which shall demonstrate its correlation with the Works Programme.

The Mobilisation Period shall only be concluded once the Training and Skills Development Plan has been accepted by the Engineer after consultation with the Employer.

The Employer and the Engineer shall monitor progress and adherence to the Training and Skills Development Plan in the same manner as they would monitor the Works Programme.

c) **Sub-contracting of Targeted Enterprises**

During the Mobilisation Period the Contractor shall execute the following duties with respect to the sub-contracting of Targeted Enterprises:

- i) Liaise with the Employer, Engineer and the PLC to structure and finalise the work packages to be sub-contracted to Targeted Enterprises.
- ii) Liaise with the Employer, Engineer and PLC to determine the Targeted Enterprise Database criteria for the sub-contracting of Targeted Enterprises.
- iii) Compile the Targeted Enterprise Database(s) for input and support by the PLC.
- iv) Undertake a skills audit of the Targeted Enterprises which appear on the Targeted Enterprise Database(s).
- v) Based on the skills audit, and in consultation with the PLC, identify the pre-tender training requirements of Targeted Enterprises.
- vi) Provide an opportunity to Targeted Enterprises to receive the identified pre-tender training.
- vii) Tender the initial work packages and sub-contract the first group of Targeted Enterprises for commencement of the Works.

d) **Employment of Targeted Labour**

During the Mobilisation Period the Contractor shall execute the following duties with respect to the employment of Targeted Labour:

- i) Liaise with the PLC and the PLO on the compiled Targeted Labour Database(s) for the employment of Targeted Labour.
- ii) Undertake a skills audit of the Targeted Labour which appear on the Targeted Labour Database(s).
- iii) Based on the skills audit, and in consultation with the PLC, identify the training requirements of Targeted Labour to enhance their employability.
- iv) Provide an opportunity to eligible Targeted Labour to receive the identified training to enhance their employability.
- v) Select and appoint the first group of Targeted Labour for commencement of the Works.

e) **Training Requirements**

The Contractor will not be able to address all the training requirements identified for Targeted Labour and Targeted Enterprises during the Mobilisation Period and it is accepted that training will take place over the duration of the Contract.

The training provided to both Targeted Enterprises and Targeted Labour during the Mobilisation Period shall focus on the activities and/or skills required for the commencement of the Works and shall include the mandatory Occupational Health and Safety training.

D1006 THE ROLE OF THE ENGINEER

The role and responsibilities of the Engineer are clearly described in the Conditions of Contract. This section elaborates on the Engineer's duties with respect to Stakeholder and Community Liaison, Targeted Labour Employment and Targeted Enterprise sub-contracting.

Together with the Employer and the Contractor, the Engineer is also a party to the PLC and hence, is co-responsible for successful project Stakeholder and Community liaison.

In addition, the Engineer shall play a supporting role to the Contractor in the successful implementation of the Employer's Targeted Labour and Targeted Enterprise utilisation and development goals.

D1006.01 Duties During the Design Phase

During the design phase, the Engineer undertook a preliminary skills and resources audit of the Targeted Enterprises in the Project Area. The purpose of the audit was to:

- i) obtain an understanding of the Community's skills, both academically and occupationally;
- ii) obtain an understanding of the resources within the Community, i.e. Targeted Enterprise availability and capabilities;
- iii) establish the CPG targets for Targeted Enterprises and Targeted Labour for inclusion of the Specification Data; and
- iv) identify tender and other relevant training to be offered to Targeted Enterprises and Targeted Labour to prepare them for tendering and to enhance their employability.

D1006.02 Duties During the Construction Phase

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

(a) Targeted Enterprise Sub-contracting

- i) Make recommendations to the Contractor in identifying and structuring the work packages to be sub-contracted to Targeted Enterprises and approve the scope and extent of the work packages.
- ii) Verify that the Targeted Enterprise Database(s) has been updated prior to the letting of every new set of sub-contracts.
- iii) Approve tender procedures, tender documents, tender submission requirements and adjudication processes for the sub-contracting of Targeted Enterprises.
- iv) Review all tender adjudication reports and monitor that the criteria and procedures applied by the Contractor to sub-contract Targeted Enterprises are executed in a fair and transparent manner and are within the Employer's and Government's Supply Chain Management Policies.
- v) Verify that sub-contract agreements and the conditions of sub-contracting with Targeted Enterprises are fair and transparent and within the prescripts of the Contract requirements.
- vi) Monitor the management of Targeted Enterprise sub-contracts and ensure that conditions such as the application of penalties, the termination of contracts, etc. are applied in a fair and transparent manner and within the prescripts of the agreement.

(b) Targeted Labour Employment

- i) Verify that the Labour Database(s) from which Targeted Labour will be employed is updated prior to every new Labour intake.
- ii) Monitor that the criteria and procedures applied by the Contractor to employ Targeted Labour are executed in a fair and transparent manner and is within the Contract requirements.
- iii) Monitor that the conditions of employment of Targeted Labour are applied in a fair and transparent manner and within the prescripts of the current and relevant Labour legislation.

(c) Target Group Training Requirements

- i) Make recommendations to the Contractor in identifying the training requirements of Targeted Labour and Targeted Enterprises and approve the proposed training programmes.
- ii) Monitor that training programmes and support programmes, which the Contractor committed to, are implemented and executed as intended.

D1007 TENDER PROCESS FOR TARGETED ENTERPRISES

While the Contractor may utilise service providers, sub-contractors and suppliers of its choice and selected via its own internal processes, for the sub-contracting of Targeted Enterprises based on the Employer's Contract Participation Goals, the Contractor shall follow the prescripts of this Section D of the Specifications.

D1007.01 Targeted Enterprise (TE) Procurement Coordinator

The Contractor shall appoint a TE Procurement Coordinator to facilitate the sub-contracting of work to Targeted Enterprises as defined in the Specification Data. For Contracts with a value of less than R 100 million the Contractor may appoint a TE Procurement Coordinator from its site staff. For Contracts with a value of more than R 100 million the Contractor shall employ or sub-contract a dedicated TE Procurement Coordinator, whose sole responsibility will be the management of Targeted Enterprise procurement and sub-contracting matters.

The TE Procurement Coordinator shall be knowledgeable of, and have experience in, the management of road construction and ancillary works, National Treasury supply chain management legislation and regulations, and stakeholder relations management.

With the input and support of the PLC, the TE Procurement Coordinator shall conduct the tender processes and procedures for Targeted Enterprise sub-contracting as prescribed in this Section D of the Specifications and shall adhere to the Employer's and Government's Supply Chain Management Policies and requirements.

D1007.02 Procedures for Targeted Enterprises Sub-contracting

The Contractor shall utilise the Employer's proforma tender and contract document for Targeted Enterprise sub-contracting.

The identification and application of the eligibility and functionality criteria, and conducting the tender processes and procedures for sub-contracting include, amongst others, the following tasks:

(a) Tender Preparation

i) Compile preliminary list of sub-contracting work packages

Based on the Specification Data and the Scope of the Works, the Contractor shall compile a preliminary list of the work packages (scope of work and number of packages) that are anticipated to be sub-contracted to Targeted Enterprises.

The Contractor shall refer to the construction activities that have been identified as being suitable for construction by Targeted Enterprises as listed in Section D1009 of these Project Specifications, and to any other construction activities which are required to execute the Works in terms of this Contract, to determine how to unbundle or package subcontracts for Targeted Enterprises.

ii) Conduct a market analysis and resources and skills audit

Based on the preliminary list of work packages, the Contractor shall conduct a market analysis and resources and skills audits to determine the availability of the required resources and skills in the Project Area to execute the anticipated Targeted Enterprise work packages. The Contractor shall consult the following databases as a minimum:

- a. Construction Industry Development Board (CIDB)'s contractor database (not applicable to suppliers and non-construction services).
- b. National Treasury's Central Supplier Database (CSD) to be obtained from the Employer's Supply Chain Management Department.

iii) Call for an expression of interest

In addition to consulting the CIDB contractor database and National Treasury's CSD, the Contractor shall call for an expression of interest, which shall be published in newspapers and at locations as agreed by the PLC.

For each group of work packages, the call for an expression of interest shall outline:

- a. evaluation and selection criteria such as eligibility, preference and functionality.
- b. compliance requirements such as CSD and CIDB registration, tax clearance and COID.
- c. the anticipated scope of the works to be undertaken.

iv) Establish a Targeted Enterprise Helpdesk

Other than informing the Contractor's market analysis and resources and skills audits, the purpose of the call for an expression of interest is to alert Targeted Enterprises of the subcontracting opportunities and inform them of the anticipated eligibility, preference and functionality criteria, as well as of the compliance requirements.

The Contractor shall enhance the readiness of Targeted Enterprises to participate in the subcontracting opportunities by establishing a helpdesk at a suitable and easily accessible location in the Project Area.

The Contractor shall provide guidance to Targeted Enterprises in getting their statutory requirements in order in anticipation of the subcontracting opportunities. The helpdesk shall assist with, or provide guidance in, registering with the CSD and the CIDB, obtaining tax clearance and COID compliance and any other relevant qualifying requirements.

v) Compile Preliminary Targeted Enterprise Database

Based on the CPG targets listed in the Specification Data and the information obtained from the activities described in paragraphs ii) and iii) above, the Contractor shall compile a Preliminary Targeted Enterprise Database.

vi) Identify Targeted Enterprises, Target Groups and Project Area(s)

Based on the CPG targets listed in the Specification Data and the Preliminary Targeted Enterprise Database, the Contractor shall identify the:

- a. Targeted Enterprises (CIDB grades and types); and
- b. Designated Groups (woman, youth, etc.) which are anticipated to benefit from the subcontracting opportunities; and
- c. Project Area(s) from which Targeted Enterprises will be given preference for subcontracting opportunities.

vii) Compile a Contract Participation Goal (CPG) Plan

The Contractor shall utilise all the information gathered from the activities described in the paragraphs above to compile an acceptable CPG Plan. The plan shall contain:

- a. a list of work packages (scope of work and number of packages) to be subcontracted to Targeted Enterprises;
- b. procurement, award and execution dates for the work packages,

- distributed over the duration of the Works Contract (from site establishment to completion of the Works) to ensure continuous work opportunities;
- c. the preliminary Targeted Enterprise Database(s) for each work package;
 - d. the Targeted Enterprises (CIDB grades and types) and Designated Groups (woman, youth, etc.) which are to benefit from the subcontracting opportunities;
 - e. the Project Area(s) from which Targeted Enterprises will be given preference for subcontracting opportunities; and
 - f. the tender evaluation and selection criteria for the respective work packages.

viii) Acceptance of the CPG Plan

The Contractor shall submit the CPG Plan to the Engineer for acceptance after which it shall be tabled to the PLC for their information.

The Contractor shall ensure that the tender requirements and the outcome of different tendering scenarios are explained to the PLC, specifically with respect to the outcomes of evaluating:

- a. Eligibility criteria;
- b. Functionality structuring and scenarios;
- c. Price and Preference;
- d. Compliance requirements; and
- e. Negotiation processes (if applicable).

If required, the Contractor shall make amendments to the CPG Plan based on the Engineer's instructions.

ix) Compile tender documents

The Contractor shall compile the tender documents for each Targeted Enterprise subcontract work package.

In compiling the subcontract tender documents, the Contractor shall include in each tender document relevant Conditions of Tender and the GCC 2015 subcontract agreement. The Contractor shall compile each subcontract tender document in a manner that facilitates the achievement of all objectives and principles pertaining to the development of the Targeted Enterprises.

The draft subcontract tender documents shall be approved by the Engineer before letting the tender.

(b) Tender Process

i) Advertise the subcontract packages

The Contractor shall advertise and invite tenders from Targeted Enterprises for the respective subcontract packages. Advertisements shall be placed in local newspapers, on community notice boards, and any other place or medium as agreed with the PLC.

If the Employer have a pro-forma Tender Notice available, the Contractor shall use this document.

ii) Conduct a tender briefing and tender training session.

For each group of subcontract packages, the Contractor shall conduct a compulsory briefing session to explain the tender process, the evaluation and selection criteria and the scope of the works to the Targeted Enterprises.

An Attendance Register shall be completed by all attendees and Minutes shall be taken during the briefing session. The Minutes of the briefing session shall be distributed to all attendees as an Addendum to the Tender Documents.

The Contractor shall conduct a "how to complete a tender document" training session as a component of the tender briefing to interested Targeted Enterprises. The level of detail and hence the duration of the training session shall be informed by the findings of the resources and skills audit conducted during the Tender Preparation Phase.

The Contractor shall engage with the Employer's Regional Transformation Officer on the Employer's SMME Pre-tender Training and Development Programme and utilise this programme if it is available at the time in the Project Area. The Regional Transformation Officer's contact details shall be provided on award:

Notes of this training session shall be distributed to all attendees of the briefing session as an Addendum to the Tender Documents, irrespective if they have attended the training session or not.

A separate Attendance Register shall be completed for the training session for future reference.

iii) Minimum tender submission documents

It shall be a condition of tender that Targeted Enterprises include in their tender submissions the following documentation (if applicable, based on the subcontract type e.g. construction, supply or services):

- a. Proof of the Tenderer's B-BBEE contributor level.
- b. Proof that the Tenderer is an EME or QSE entity.
- c. Proof that the Tenderer is registered on National Treasury's CSD.
- d. Proof of the Tenderer's locality (address registered with the CIPC).
- e. Proof that the Tenderer is registered with the CIDB in the required grading and class (not applicable to suppliers).
- f. Proof that the Tenderer is compliant with the COID Act.
- g. Proof that the Tenderer is tax compliant.

iv) Tender closure and opening of tenders

Tenders for the subcontract packages shall close at a stipulated time and date. Tenders shall be submitted to the Contractor in the format and at the address prescribed by the Contractor in the subcontract Tender Data.

The tender opening shall be conducted by the Contractor who shall publicly announce and record the names of all bidders and their tender prices.

v) Finalise Targeted Enterprise Database

The purposes of the preliminary Targeted Enterprise Database are described in paragraph (a)(v) of the Tender Preparation phase above of which one is to alert Targeted Enterprises to assess their readiness to participate in the project's subcontractor opportunities.

The period between the Contractor's call for an expression of interest and the date of closure of the relevant subcontract tender allows for prospective Tenderers to become compliant to the database criteria. The preliminary database is thus a "live" database until the date of tender closure.

On the date of tender closure, the Contractor shall request the Employer's Supply Chain Management Department to print out a list from National Treasury's CSD, of entities that adheres to the Targeted Enterprise Database criteria. This list shall become the Final Targeted Enterprise Database for relevant sub-contract tender and shall be disseminated to the PLCr.

(c) Tender Evaluation

The Contractor shall evaluate the tenders and it shall be a condition of tender that tenders will only be accepted from Targeted Enterprises that fully comply with the definition of a Targeted Enterprise as described in Section D1002 of the Specifications.

The Contractor shall evaluate the tenders based on (1) Eligibility, (2) Functionality, (3) Price and Preference, and (4) Compliance.

i) Stage 1 – Eligibility

Tenderers shall be checked for their eligibility to tender for the advertised subcontract packages based on the following eligibility criteria:

- a. Proof that the Tenderer is registered with the CIDB (if applicable).
- b. Proof that the Tenderer is registered on National Treasury's CSD
- c. Proof that the Tenderer is registered with the CIPC.
- d. Proof that the Tenderer is a level 1 to 4 B-BBEE contributor.
- e. Proof that the Tenderer is an EME or a QSE.
- f. Proof that the Tenderer falls within one or more of the designated groups as per the Specification Data (if applicable).

Eligible Tenderers shall be further evaluated against the functionality criteria.

ii) Stage 2 – Functionality

No Targeted Enterprise may be prohibited from responding to the invitation to tender, however, preference shall be given to those Targeted Enterprises that adheres to the tender criteria which, amongst others, shall be measured by means of a functionality evaluation.

To ensure Targeted Enterprise participation as it is intended by the Employer and as defined in the Specification Data, Functionality shall be scored based on the type of subcontract package, e.g. construction or the supply of goods or services and at least three (3) or more of the criteria listed below shall be applied.

The points allocated for the listed criteria shall be clearly demonstrated to tenderers as a matrix in the tender document.

Tenderers must score a minimum of 75% for functionality and Tenderers that do not obtain the threshold shall not be evaluated further.

(a) Locality

For lower CIDB grade packages, the points allocated for Locality typically has a higher weighting in the total evaluation points but shall not be more than 65% of the total evaluation points.

Points scored shall be based on the Targeted Enterprise's registered address with the CIPC.

- i. If the Targeted Enterprise is more than twelve (12) months old

and the company address:

- a. was changed with the CIPC in the twelve (12) months prior to the tender advertisement; or
- b. does not correlate with the company address recorded on the CSD,

the Targeted Enterprise shall provide additional proof of its address in the twelve (12) months preceding the tender advertisement date and that the address is current by submitting the following:

- (a) for urban areas:
 1. signed lease agreement confirming occupation in the preceding twelve (12) months; or
 2. mortgage statement confirming ownership in the preceding twelve (12) months; and
 3. a current utility bill (not older than three (3) months) confirming that occupation is current; or
- (b) for semi-urban and rural areas
 1. an affidavit from the relevant ward councillor or traditional authority, signed and stamped by a registered commissioner of oaths, which confirms that the business has been operating from the said address in the preceding twelve (12) months.
 - ii. If Targeted Enterprise is less than twelve (12) months old and the company address:
 - a. was changed with the CIPC in the twelve (12) months prior to the tender advertisement; or
 - b. does not correlate with the company address recorded on the CSD,

the oldest registered address on either the CIPC or the CSD will be accepted as the Targeted Enterprise's address for the purpose of scoring locality points.

- a. If the Targeted Enterprise intends to operate from a branch office for the purpose of the anticipated subcontract, the same additional proof that the company has been operating from the branch office in the twelve (12) months prior to the tender advertisement date must be provided as listed in the paragraphs above.
- b. If the above additional proof of address cannot be provided, locality points shall be awarded based on the tenderer's address registered with the CIPC in the twelve months prior to the tender advertisement date.

(b) Experience

For lower CIDB grade packages, the points allocated for Experience typically has a lower weighting in the total evaluation points.

The points allocated for Experience shall not be more than 35% of the total evaluation points.

(c) CIDB grade and class

The points allocated for CIDB grade and class shall not be more than 35% of the total evaluation points.

CIDB grade and class shall not be used as an evaluation criterion for packages pertaining to the supply of material, goods and/or services.

In addition to the eligibility criteria for preferential procurement functionality points may also be allocated for the following Designated Groups:

- i. Tenderer is 51%+ owned by black people.

The points allocated for Designated Groups shall not be more than 15% of the total evaluation points.

One, two or three of the Designated Groups listed above may be selected to count towards the score for Designated Groups.

If any one of the Designated Groups listed above is already an eligibility criterion, it must not be included as a functionality criterion as well.

The inclusion of any of the Designated Groups listed above shall be based on the Contractor's Resources and Skills Audit.

iii) Stage 3 – Price and Preference

Tenderers that obtained the minimum threshold for functionality shall be further evaluated on their Price and Preference submissions, i.e.:

- a. Price = 80 / 90 %
- b. Preference = 20 / 10 %

The highest scoring tenderer for each subcontract package shall be checked for compliance.

The Contractor shall state in the tender advertisement and in the tender documents that only one subcontract package shall be awarded to an entity at any one time for this project, meaning that a Targeted Enterprise may be awarded a work package and on conclusion thereof may be awarded a subsequent work package, but more than one work package may not be awarded simultaneously for this project.

If a tenderer tendered for more than one subcontract package and scored the highest points in more than one package, the Contractor shall award to the tenderer the work package that has the most economic benefit to the Employer.

iv) Stage 4 – Compliance Check

The highest scoring tenderer for each subcontract package shall be checked for compliance with respect to the following criteria:

- c. Proof that the Tenderer is compliant with the COID Act (excl. CIDB 1 and 2 subcontractors).
- d. Proof that the Tenderer is tax compliant.

If the highest scoring tenderer fails to meet any of the compliance criteria, he will be given seven (7) calendar days to become compliant.

If the highest scoring tenderer fails to submit the requested compliance information in the required timeframe, he shall be deemed non-compliant and the evaluator shall check the second highest tenderer for compliance. This process is repeated until a compliant tenderer has been identified.

(d) Appoint successful Targeted Enterprises

i) Table the Tender Report to the PLC

The Contractor shall present the Tender Report for each sub-contract package to the Employer and the Engineer and thereafter table it to the PLC prior to award of the sub-contract.

ii) Negotiating tender sum and/or rates with Targeted Enterprises

a. **Rates**

If the Contractor choose to include work for which he has tendered rates in the subcontract package and the tenderer who scored the highest points tendered higher rates than that of the Contractor, the Contractor may negotiate rates and the final sum with the tenderer.

If the Contractor fails to negotiate a reasonable tender sum or rates with the tenderer, he may:

approach the second highest points scoring, compliant tenderer for negotiation. This process may be repeated up to the third highest points scoring compliant tenderer, where after the package shall be retendered. The Contractor shall be limited to negotiate down to 25% above his own rates (this process must be clearly explained prior to negotiation, when the tender report is tabled to the PLC); or

accept the highest points scoring tenderer's higher rates and total sum and remunerate the sub-contractor at the sub-contractor's tendered rates from the Lump Sum which the Contractor has tendered for the fluctuation between the Contractor's rates and that of the Targeted Enterprise sub-contractors.

b. Provisional Sum

If the Employer has provided a Provisional Sum for the work items in the subcontract package, the Contractor shall report on the feasibility of the highest point scoring compliant tenderer's tender rates and tender sum to the Employer and the Engineer.

If the highest points scoring compliant tenderer's rates and tender sum are deemed market related by the Engineer, the Contractor shall obtain the Employer's approval to utilise the Provisional Sum provided for the work items.

If the highest points scoring compliant tenderer's rates and tender sum are deemed not market related and the Employer does not approve the utilisation of the relevant Provisional Sum, the Contractor may negotiate with the tenderer for market related rates and tender sum.

If the Contractor fails to negotiate market related rates and a tender sum with the tenderer, he may:

- (a) approach the next highest point scoring, compliant tenderer for negotiation. This process may be repeated up to the third highest points scoring compliant tenderer, where after the package shall be retendered; or
- (b) accept the highest points scoring tenderer's rates and total sum and remunerate the sub-contractor from the Lump Sum which the Contractor has tendered for the fluctuation between the Contractor's rates and that of the Targeted Enterprise sub-contractors. The Contractor shall not pay rates or tender sums that is more than 15% higher than what are deemed market related by the Engineer.

iii) Low tender sums submitted by Targeted Enterprises

The Contractor shall report to the Employer and the Engineer on the feasibility of tendered rates, sums or provisional sums of tenderers who tendered exceptionally low. Exceptionally low rates, sums or provisional sums are those that are more than ten percent (10%) less than what the Contractor tendered or, in the case of a Provisional Sum, what is deemed market related by the Engineer.

If the tendered rates, sums or provisional sums of those tenderers who tendered exceptionally low are deemed by the Engineer to still be feasible, the Contractor may continue to include these tenders in his tender evaluation.

If the tendered rates, sums or provisional sums of those tenderers who tendered exceptionally low are deemed by the Engineer to not be feasible, the Contractor may disqualify these tenders from his tender evaluation.

The Employer strongly discourages the appointment of Targeted Enterprises that did not tender feasible rates, sums or provisional sums. If all prices submitted are deemed exceptionally low by the Engineer, the subcontract package shall be retendered.

The consequences of exceptionally low prices must be clearly outlined in the Tender Report and clearly explained to the PLC prior to award or retendering of the subcontract packages.

iv) Payment to the Contractor

The Employer shall not remunerate the Contractor, other than what have been provided for in the payment items, for accepting higher tender sums tendered by Targeted Enterprises.

If the Contractor accepts tender sums that are higher than what have been provided for in the Contractor's tendered rates or the Employer's provisional and/or prime cost sums, the costs shall be paid by the Contractor from the Lump Sum which he tendered for the fluctuation between the Contractor's rates and that of the Targeted Enterprise sub-contractors.

v) Entering the Subcontract Agreement

The Contractor's TE Procurement Coordinator shall assist successful Targeted Enterprises to enter into a subcontract agreement with the Contractor as described in this Specifications.

D1008 GENERAL RESPONSIBILITIES OF THE CONTRACTOR TOWARDS TARGETED ENTERPRISES

The Contractor shall have the responsibilities described in this Section, D1008 of the Specifications, towards all Targeted Enterprises subcontracted in terms of the CPG as stated in the Specification Data.

(a) The Employer's Independent Targeted Enterprise Monitor

The Employer shall, appoint an independent Targeted Enterprise Monitor, who shall audit the Contractor with respect to his obligations to Targeted Enterprises and who shall report his findings to the Employer's Project Manager and the Engineer.

(b) Failure to Comply with Responsibilities Towards Targeted Enterprises

If the Contractor, in the opinion of the Employer's Project Manager or the Engineer, fails to comply with its responsibilities towards Targeted Enterprises, the Engineer shall issue a written warning to the Contractor, stating all the areas of non-compliance. The Contractor's time to correct shall be stated in the letter and shall be in accordance with the relevant specifications for the aspects of non-compliance.

A copy of the letter of warning shall be forwarded to the Employer's Project Manager and the Targeted Enterprise Monitor shall monitor that corrective action is taken by the Contractor.

Failure by the Contractor to comply with a deadline, will be sufficient grounds for the Employer to apply a penalty or institute a claim in accordance with the relevant Conditions of Contract.

D1008.01 Targeted Enterprise (TE) Construction Manager

The Contractor shall appoint a dedicated TE Construction Manager whose sole responsibility shall be to assist the Contractor with the execution of his responsibilities towards Targeted Enterprises and Target Groups as prescribed in this Section D of the Specifications, with an emphasis on D1008 and D1010.

The TE Construction Manager may be appointed from the Contractor's existing staff or may be employed or sub-contracted for the purpose of this Contract. Irrespective of the contractual relationship between the TE Construction Manager and the Contractor, the TE Construction Manager shall not perform any other duties than that of a dedicated TE Construction Manager on a full-time basis for this Contract.

a) TE Construction Manager's Obligations

Amongst others, the TE Construction Manager shall facilitate the training, mentoring, development and support of Targeted Enterprises as per the Contractor's approved Training and Skills Development Programme (see Section D1010 of the Specifications).

The TE Construction Manager shall submit monthly TE Progress Reports in the Employer's reporting format if available. The report shall be submitted to the Employer's Project Manager and Regional Transformation Officer, the Engineer and the Contractor, at least one week prior to the monthly site progress meeting.

This report shall include, amongst others:

- i) Details of TEs trained, e.g., number, hours, value, modules, credits obtained, etc.
- ii) Details of TEs sub-contracted, e.g., number, packages, values, etc.
- iii) Details of TEs performance on the work packages, and skills gaps to be addressed, etc.
- iv) Details of TEs growth and sustainability, e.g., CIDB grading upgrades, business success, etc.
- v) Details of disputes and the associated interventions and/or resolutions.

b) TE Construction Manager's Qualifications and Experience

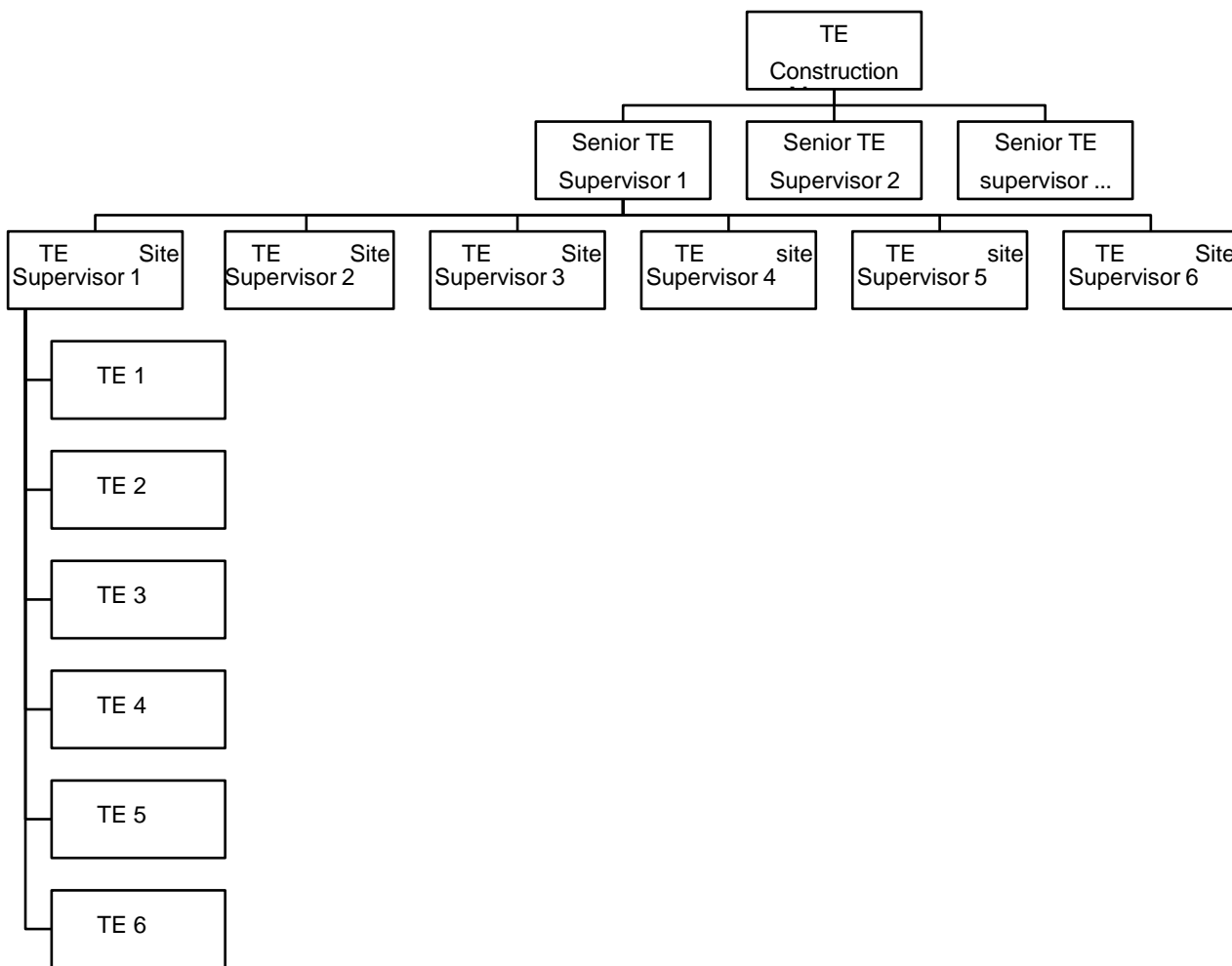
The TE Construction Manager shall have, as a minimum, a National Diploma: Management of Civil Engineering Construction Processes (NQF Level 5) or an equivalent qualification.

He shall have at least 5 years' experience as a Site Agent, managing construction processes in the fields of roads maintenance, new roads construction, roads rehabilitation, roads structures, etc. In addition, he shall have ample knowledge of, and experience in, the requirements of training and mentoring in the road construction environment.

c) TE Construction Manager's Team

The TE Construction Manager shall have on his team one (1) TE Site Supervisor for every six (6) Targeted Enterprises which are in their respective construction phases and one (1) Senior TE Supervisor for every six (6) TE Site Supervisors.

The qualifications and/or experience of TE Site Supervisors and Senior TE Supervisors shall be relevant and of a suitable level to enable them to supervise the level of Targeted Enterprise and the specific works under construction. Below is an indicative organogram of the TE Construction Manager and his team.



D1008.02 General Obligations

The Contractor shall, with the assistance of the TE Construction Manager, comply with the following general obligations:

- i) Assist the Targeted Enterprises in instituting a quality assurance system;
- ii) Provide adequate training, coaching, guidance, mentoring and any other identified and approved assistance to Targeted Enterprises and their employees;
- iii) Provide support and any other identified and approved assistance to ensure that the Targeted Enterprises meet their obligations and commitments with respect to their sub-contracts,
- iv) Assist Targeted Enterprises to monitor and manage the schedules, costs, and cash flows of their sub-contracts.
- v) Endeavour to avoid sub-contract disputes and if disputes do arise, facilitate a process to find an amicable solution.
- vi) Ensure that the CPG objectives are achieved.

D1008.03 Sub-contract Agreements

The Contractor shall conclude subcontract agreements with each subcontracted Targeted Enterprise and which is based on the GCC 2015 Conditions of Sub-contract for Construction and be consistent with the terms and conditions of this Contract.

a) Monitoring of Sub-contract Agreements

The proforma subcontract agreement for each group of work packages shall be tabled to the Employer's Independent Targeted Enterprise Monitor for his review and confirmation that sub-contract agreements are in terms of the Employer's requirements and policies.

In addition, the PLC may request proof that subcontract agreements were entered into with the subcontracted Targeted Enterprises. The PLC may also request insight into the Conditions of Subcontract and Subcontract Data.

To protect Targeted Enterprises' competitive advantage and/or tender strategy, only the subcontract agreement shall be available to the PLC for perusal and not the pricing structure and/or Schedule of Quantities.

A copy of each subcontract agreement shall be filed with the Engineer after confirming that it is in accordance with the provisions of this Contract.

D1008.04 Payment of Targeted Enterprises

Targeted Enterprises shall be paid the rates and/or provisional sums which they have tendered, or which have been negotiated as described in this Section D of the Specifications.

a) Payment of Provisional and General Obligations

Provision shall be made in the subcontract agreement for the Targeted Enterprise's preliminary and general obligations (P&Gs), which shall be calculated as a minimum of 15% of the value of the scheduled subcontract work items.

Where the Contractor's subcontract work is not paid from a Provisional Sum, the P&Gs of the Targeted Enterprise shall be paid from the Lump Sum tendered by the Contractor for the P&Gs of Targeted Enterprises.

P&Gs shall be paid to Targeted Enterprises as per Section C1.3.1 of the COTO specification payment items, i.e.:

- i) C1.3.1.1 paid in 3 instalments of 50%, 35% and 15%;
- ii) C1.3.1.2 paid as a percentage of the total value progressively per certificate;
- iii) C1.3.1.3 paid monthly for the sub-contractor's contract duration.

b) Monitoring of Payment of Targeted Enterprises

The Employer's independent Targeted Enterprise Monitor shall audit the Contractor's Payment of Targeted Enterprises to ensure timeous and correct payment in terms of

the Employer's requirements and Policies and shall report his findings to the Employer's Project Manager on a regular basis.

D1008.05 Quality of Work and Performance of Targeted Enterprises

a) Ensuring Quality of Work and Performance

The purpose of the Employer's CPG is to, amongst others, enhance the utilisation and development of Targeted Enterprises. Thus, while the Contractor remains responsible for the quality of work and performance of Targeted Enterprises, he may not neglect the developmental requirements in the sub-contracting of Targeted Enterprises.

It is thus emphasised that the Contractor's TE Construction Manager shall closely monitor and supervise all Targeted Enterprises and shall train, coach, guide, mentor and assist each Targeted Enterprise in all aspects of management, execution and completion of its subcontract. This shall typically include assistance with planning of the Works, sourcing and ordering of materials, labour relations, monthly measurements and invoicing procedures. The extent and level of such training, coaching, guidance, mentoring, and assistance to be provided by the Contractor shall be commensurate with the level of subcontract applicable and shall be directed at enabling the Targeted Enterprise to achieve the successful execution and completion of its subcontract.

b) Failure by the Targeted Enterprise to Comply

If the Targeted Enterprise, in the opinion of the Engineer, fails to comply with any of the criteria listed below, the Engineer shall issue a written warning to the Contractor stating all the areas of non-compliance. A copy of the letter of warning shall be forwarded to the Employer's Project Manager and the Employer's independent Targeted Enterprise Monitor. The criteria are as follows:

- i) Deliver acceptable standard of work as set out in the specifications;
- ii) Progress in accordance with the time constraints in the subcontract agreement;
- iii) Punctual and full payment of the workforce and suppliers;
- iv) Site safety;
- v) Accommodation of traffic.

c) Assist the Targeted Enterprise to Make Good

The Contractor shall in terms of the sub-contract agreement give reasonable warning to the Targeted Enterprise when any contravention of the terms and conditions of the subcontract agreement has occurred or appears likely to occur.

The Contractor shall, together with the Targeted Enterprise, identify the causes that led to failure to comply and jointly develop a plan to rectify, which plan shall be submitted to the Employer's Project Manager and the Engineer for information purposes.

Based on the plan to rectify, the Contractor shall give the Targeted Enterprise reasonable opportunity to make good any such contravention, or to avoid such

contravention, and shall render all reasonable assistance to the Targeted Enterprise in this regard.

d) Monitoring Execution of the Plan to Make Good

The Employer's independent Targeted Enterprise Monitor shall review plans to rectify and monitor the execution thereof to ensure that Targeted Enterprises are given a fair opportunity to rectify within a developmental environment. He shall report his findings to the Employer's Project Manager monthly.

D1008.06 Dispute Avoidance and Resolution Procedures

When any disputes arise, the Contractor shall within seven (7) calendar days inform the Employer's Project Manager, the Employer's Targeted Enterprise Monitor, and the Engineer, in writing, of the details of the dispute.

a) Facilitate Dispute Avoidance

Prior to taking any action, the Contractor shall commence with a facilitation process by arranging a formal meeting with the Targeted Enterprise with the aim to find an amicable solution to the dispute. The meeting shall be attended by the Employer's Project Manager, the Employer's Targeted Enterprise Monitor, and the Engineer to ensure a fair and transparent process in reaching a settlement.

If the parties are unable to find an amicable solution, the Contractor shall explain fully to the Targeted Enterprise the provisions in the sub-contract agreement to address disputes. If action is necessary, it shall be discussed with the Employer's Project Manager and the Engineer prior to any action being taken.

b) Support to Targeted Enterprise during Dispute Resolution Process

While the Employer's Project Manager and the Engineer will observe the dispute resolution process to ensure fairness and transparency, the Targeted Enterprise may request consultation and assistance from the Targeted Enterprise Monitor. The Targeted Enterprise Monitor will assist the Targeted Enterprise with the interpretation of the Conditions of Sub-contract and will guide the Targeted Enterprise during the dispute resolution process.

c) Issuing a Letter of Warning to Targeted Enterprise

The Contractor shall issue a letter of warning to the Targeted Enterprise, whom shall have 21 calendar days from the date of receipt of the letter of warning by the Contractor to address and rectify the issues raised by the Engineer, except for issues pertaining to Site Safety and Accommodation of Traffic, for which the reaction time shall be in accordance with the relevant specifications for those aspects of the Works, but which shall not be longer than 24 hours.

d) Failure by the Targeted Enterprise to Comply

Failure by the Targeted Enterprise to comply with a deadline, will be sufficient grounds for the Contractor to apply a penalty or terminate the subcontract agreement provided that the Employer and the Engineer are satisfied that the Contractor has made every effort to correct the performance of the Targeted Enterprise.

The Targeted Enterprise may dispute any ruling given or deemed to be given by the Contractor or the Engineer, within 21 calendar days after receipt thereof by submitting a written Dispute Notice to the Contractor, in terms of the relevant Conditions of Sub-contract.

On request by the Targeted Enterprise, the Targeted Enterprise Monitor will assist the Targeted Enterprise with the interpretation of the Conditions of Sub-contract and will guide the Targeted Enterprise during the dispute resolution process.

D1009 WORK SUITABLE FOR EXECUTION BY TARGETED ENTERPRISES

To assist the Contractor in achieving his CPG, the following work items have been identified as being suitable for execution by Targeted Enterprises:

- a) Erection and maintenance of the Contractor's camp site
- b) Clearing and grubbing.
- c) Provision of traffic control facilities.
- d) Management of traffic control facilities and traffic safety as part of the accommodation of traffic.
- e) Construction and clearing of drains.
- f) Installation of prefabricated culverts including inlet and outlet structures.
- g) Concrete channelling and concrete linings for open drains.
- h) Construction of concrete paving, kerbs and channels.
- i) Construction of small concrete and other structures.
- j) Construction of walkways.
- k) Pitching, stonework and protection against erosion.
- l) Construction of gabions.
- m) Erection of guardrails.
- n) Landscaping.
- o) Fencing.
- p) Road signs.
- q) Road markings.
- r) Finishing the road and road reserve.
- s) Site security services.
- t) Haulage of materials
- u) Supply of plant.
- v) Supply of fuel.
- w) Specialised subcontract work such as:
 - i) Laying of surfacing.
 - ii) Structural concrete such as culvert and bridges.
 - iii) Crushing of materials.
 - iv) Precast manufacture.
 - v) Earthworks, layerworks construction.

From the above work items, the following have been identified as suitable for execution by CIDB CE1 and CE2 Targeted Enterprises:

- a. Side drains.

- b. Clearing and grubbing.
- c. Construction and clearing of drains.
- d. Pitching, stonework and protection against erosion.
- e. Any other work identified by the Employer to be executed in the Target Area.

The work to be carried out by Targeted Enterprises is not limited to the work listed above and the Contractor may need to engage Targeted Enterprises on other aspects of the Works to achieve the CPG.

A Provisional Sum for the work by CIDB 1 and 2 Targeted Enterprise sub-contractors is allowed under pay item D10.05.

D1010 TRAINING, COACHING, GUIDANCE, MENTORING AND ASSISTANCE

The Contractor shall with the input and support of the PLC develop a Training and Skills Development Programme which shall be managed by the Contractor's TE Construction Manager.

D1010.01 Purpose of the Training and Skills Development Programme(s)

Skills development forms an integral part of the Employer's Transformation and Community Development Policies and hence, it is important to the Employer that Targeted Labour and Targeted Enterprises be equipped with skills that can be used to gain meaningful future employment and secure subcontracting opportunities.

It is, therefore, a requirement of this Contract that the Contractor provide adequate training, coaching, guidance, mentoring and assistance to the Targeted Labour and Targeted Enterprises to ensure skills development within the Construction Industry.

D1010.02 Skills Audit and Analysis

To develop the Training and Skills Development Programme(s), the Contractor shall conduct a skills audit and analysis of Labour on the Targeted Labour database and the Targeted Labour of sub-contracted Targeted Enterprises to determine their levels of education, existing qualifications, and skills sets. The outcome of the skills audit and analysis shall be used to develop a Training and Skills Development Programme(s) that will benefit both the employee and the Construction Industry at large.

Included in the skills audit and analysis shall be a separate section, analysing the education, qualifications and skills sets of the Targeted Enterprise's owners and their supervisors sub-contracted by the Contractor to develop a Training and Skills Development Programme that will develop and improve the ability of small business owners and their supervisory staff to better manage their enterprises.

D1010.03 Developing the Training and Skills Development Programme

The Employer shall be involved in the decision making and quality control pertaining to the development and implementation of the Training and Skills Development Programme facilitated through this Contract.

The Employer has no service agreement or memorandum of understanding with any education and training quality assurance body and, therefore, does not function as the “Employer” as defined under any three-party-agreement between the Trainee, the Training Provider and the Employer.

However, the Employer requires similar outcomes to that of formal learnership programmes and the Contractor shall structure a Training and Skills Development Programme in a manner that permits continued access to further learning and qualifications within a defined programme.

The complete Training and Skills Development Programme shall be developed during the Mobilisation Period, accepted by the Engineer after consultation with the Employer and tabled to the PLC for their information before any training commence.

D1010.04 The Training Service Provider

While the Contractor’s TE Construction Manager will manage the Training, Development and Support Programme and mentor Targeted Enterprise subcontractors from a practical point of view, the Contractor shall subcontract a Training Service Provider to implement the theoretical training components of the Programme by applying the Employer’s Supply Chain Management Policy for second tier procurement.

a) Accreditation of the Training Service Provider

The Training Service Provider entity shall be accredited, and have in its employ Practitioners, Assessors and Moderators who are registered, with the Construction Education Training Authority (CETA). Proof of accreditation and registration shall be current, valid and list the NQF levels and Unit Standards for which the entity and its staff are accredited.

b) Qualifications and Experience of the Training Service Provider

The training and competency levels required of the Training Service Provider and his staff are outlined in the table below:

TABLE D1010/1: QUALIFICATIONS FOR TRAINING STAFF

Designation	Title and Unit Standard No.	NQF Level	Credit
Practitioner	Train the trainer; No 7384	4	16
Assessor	Conduct outcome base assessment; No 115753	5	15
Moderator	Conduct moderation of outcome-based assessment; No 115759	6	10

In addition to the above qualifications, and in keeping with current CETA practical experience requirements for registration as a Practitioner, NQF Level 4 Unit Standards shall only be presented by Practitioners with NQF Level 5 (one level up) credentials.

The Employer further requires that Assessors and Moderators shall have at least 5 years' experience as a Site Agent, managing construction processes in the fields of roads maintenance, new roads construction, roads rehabilitation and structures.

Elective Unit Standards are typically more vocational orientated and may require specialist input. It is thus not a requirement that individual Practitioners and Assessors shall have all the necessary skills for all the different categories of Unit Standards. The Training Service Provider may and shall therefore, when necessary, appoint Practitioners and Assessors on an ad hoc basis with the levels of experience which are required for the Unit Standards to be presented.

D1010.05 Training and Skills Development Programme: General Requirements

The Training and Skills Development Programme shall consist of Learnerships that include multiple, but related Unit Standards which are (1) relevant to the Works to be constructed, (2) aimed at achieving the skills development objectives of the Programme, and (3) lead towards a formal qualification in the Construction Industry.

Learnerships shall include both the theoretical and practical components of each Unit Standard and shall be in accordance with the various laws and regulations contained in the South African Qualification Authority (SAQA) statutes.

a) Training Programme: Requirements and Considerations

The Skills Audit and Analysis shall inform the Contractor of every employee's Recognised Prior Learning (RPL) skills and competencies, which shall be taken into consideration in the development of the Training and Skills Development Programme so that the RPL skills and competencies, together with the Training Programme Unit Standards offerings, will lead to a full Learnership outcome and hence a formal qualification.

It is recognised that the Training and Skills Development Programme may consist of several Unit Standards but totalling insufficient credits for a full Learnership qualification. Nevertheless, the competencies and credits achieved in the Programme shall contribute to a full Learnership by a later acquisition of the outstanding Unit Standards required for the full Learnership.

The Training and Skills Development Programme shall be structured in a manner to prioritise those Unit Standards that will equip Trainees with the minimum skills and competencies required to become economically involved in the execution of the Works as soon as possible.

The Training Service Provider shall apply the SAQA Learnership criteria of which the basic elements are listed below to demonstrate the Employer's requirements:

- i) Minimum credits for qualification;
- ii) Fundamental Unit Standards and credit values;
- iii) Core Unit Standards and credit values;
- iv) Elective Units Standards and credit values;
- v) Assumption that NQF Level 3 literacy, numeracy, and computer competencies exist;
- vi) RPL processes;
- vii) Exit level outcomes.

The above criteria are not exhaustive, and the Training Service Provider shall apply the systems and processes required by the relevant SAQA and other related legislation pertinent to training. The Training Service Provider shall regularly consult the SAQA website (www.saqqa.org.za) to ensure that the most current Unit Standards are presented. In the event of any conflict, the legislated requirements shall apply.

While structuring the Learnership offerings, the Training Service Provider shall distinguish between the levels of learning required. The bulk of the training shall focus on NQF Levels 4 and 3. NQF Level 5 training is not anticipated but may be suitable for qualifying staff of established small contractors. The qualification titles for the respective NQF Levels are:

- a. NQF Level 3 National Certificate: Construction Roadworks.
- b. NQF Level 4 National Certificate: Supervision of Construction Processes
- c. NQF Level 4 National Certificate: Business Management
- d. NQF Level 5 National Diploma: Management of Civil Engineering Construction Processes

It may be necessary to include additional Core Unit Standards, e.g. "Tendering" or "Entrepreneurship" as an additional Unit Standard for NQF Level 4, to achieve the Contract's development objectives. The identification of any additional Unit Standards shall be discussed with the Engineer and shall not be implemented without prior approval.

Before qualifying, Trainees will be expected to demonstrate competence in a practical situation that integrates the assessment of all specific outcomes, for all Unit Standards in the Learnership Programme.

All training shall take place within normal working hours, or as agreed with the trainees.

b) Selection of Trainees

To complete a Learnership successfully requires minimum literacy and numeracy competencies as defined by SAQA. The Training Service Provider shall utilise the skills audit and analysis and conduct additional skills analysis to benchmark the literacy and numeracy levels of Targeted Labour and Targeted Enterprises and their employees. This information shall guide the Training Service Provider in formulating the Trainee selection methodology(ies) and process(es). The Training Service Provider shall make provision for:

- i) baseline assessments, e.g. conducting RPL enquiries and tests; and
- ii) a skills gap programme consisting of Fundamental Unit Standards, to facilitate the selection process.

Trainees identified as having already acquired some tertiary training, particularly in the field of Civil Engineering, may be suitable for a specialised Trainee programme or a higher NQF Level programme. The Training and Skills Development Programme shall, therefore, make provision for Trainees with a variety of competency levels and shall make provision for different levels of training.

It should be noted that where this Section D of the Specifications refers to the selection and training of Trainees, any person, employed by any national, provincial or local authority, being it full time or part time, is expressly excluded from being considered for this training.

c) Learning Material

Learning material is required for each Unit Standard. This learning material is the equivalent of prescribed textbooks for other qualifications. Each Trainee shall receive a copy of the learning material to learn the contents and to use it as a reference source after obtaining the qualification.

The SAQA Unit Standard curriculums define the contents of the learning material. The learning material shall not only comply with the SAQA and CETA guidelines but shall be technically and practically aligned to road construction and/or road maintenance. Any input from a subject matter expert required to ensure the appropriateness of learning material contents shall be included in the Training Service Provider's costs.

The requirements to be addressed in learning material as outlined by the SAQA Unit Standard curriculums are, amongst others, the following:

- i) purpose of the Unit Standard;
- ii) specific outcomes (typically 4 per Unit Standard);
- iii) assessment criteria (typically 4 per specific outcome);
- iv) range as is defined for each specific outcome;
- v) critical cross-field outcomes for the Unit Standard;
- vi) Unit Standard essential embedded knowledge.

d) Student Experiential Training or Learnerships or Internships

The Employer may deploy students to the construction site to obtain experiential training. The Contractor shall provide experiential training to these students in accordance with the relevant academic institution's requirements, which is typically a university, a university of technology, or a TVET.

The Contractor shall also provide students with all the tools (including appropriate information technology hardware and software) and site office space necessary to carry out engineering work as if they were the Contractor's own permanent staff.

Reporting on training progress of each student shall be compiled according to the formats and intervals set by the relevant academic institution.

e) Keeping of Records

The Training Service Provider shall keep comprehensive records of the training provided to each Trainee and shall ensure that Trainees' successful completion of successive Unit Standards are entered onto the national SAQA database. After the successful completion of generic skills courses, each Trainee shall be issued with a certificate indicating the course contents as proof of attendance and completion. The Contractor shall keep a register of certificates issued. Whenever required, the Contractor shall provide copies of such records to the Engineer.

f) Skills Development Requirements

i) Contract Skills Development Goals (CSDG)

This section establishes a minimum CSDG which is to be achieved in the performance of a Contract (*as per the CIDB Standard for Developing Skills through Infrastructure Gazette Notice No. 48491 of 28 April 2023*) in relation to the provision of different types of workplace opportunities linked to work associated with a Contract which culminates in or leads to:

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

The Contractor shall achieve or exceed the CSDG in the performance of the Contract. The Contractor may, if need be, devolve their obligations onto Subcontractors.

The CSDG shall not be less than the contract amount multiplied by 0.25 percent (%) for Civil Engineering work (CE). For this reason, the Contractor shall insert the CSDG amount in form C2.2 Summary of Pricing Schedule.

ii) Achieving Contract Skills Development Goal (CSDG)

The Contractor shall achieve the CSDG by providing employment opportunities to Trainees requiring structured workplace learning using one or a combination of any of the following methods in relation to work directly related to the Contract:

Method 1: Structured workplace learning opportunities for Trainees (LoL) towards the attainment of a part or a full occupational qualification.

This training method shall apply to Targeted Enterprises and Targeted Labour.

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

This training method shall apply to Targeted Enterprises and Targeted Labour.

Method 3: Work integrated learning opportunities for University of Technology or Comprehensive University students (LoUS) completing their national diplomas.

This training method shall apply to P1 and P2 Trainees, or Trainees with a 240 credits qualification. Both the permanently employed and temporary employed Trainees shall be considered under this training method.

Method 4: Structured workplace learning opportunities for candidates (LoC) toward registration in a professional category by a statutory council listed in Table 1 of the Standards.

This training method shall apply to Candidates with 480 credits qualification. Both the permanently employed and temporary employed Trainees shall be considered under this training method.

No single method shall contribute more than 75 percent of the CSDG. Permanently employed Trainees may not account for more than 33 percent (%) of the CSDG, and not more than one method may be applied to any individual concurrently in the calculation of the CSDG.

iii) CSDG Credits

The CSDG shall be calculated by multiplying the number of people employed by the Contractor and placed for continuous training opportunities in a three- month period by the notional values contained in Table 3 of the Standard, or as revised in a Gazette notice.

The Contractor may source beneficiaries of the CSDG from a Skills Development Agency (SDA) recognised by the CIDB.

All beneficiaries shall be registered with a construction Skills Development Agency (SDA) recognised by the CIDB.

iv) Denial of Credits

Credits towards the CSDG shall be denied should the Contractor not fulfil all the requirements listed in clause 3.4 (a) to (f) of the Standards.

v) Compliance with Requirements

The Contractor shall comply with the requirement as set out in clause 4 of the Standards.

vi) Records

The Contractor shall submit all the documentation required in terms of clause 4 of the Standards, in a timely manner and according to a prescribed format where applicable.

The Engineer shall certify the value of the credits counted towards the CSDG, if any, whenever a claim for payment is issued to the Employer and shall notify the Contractor of this amount.

The Contractor shall, upon termination of the opportunities provided to satisfy the CSDG, certify the quantum and nature of the opportunity and submit the certificate, counter-certified by the relevant individual, to the Engineer for record-keeping purposes.

vii) Sanctions

Failure to achieve the CSDG shall render the Contractor liable for a penalty as prescribed in clause 5.13 of the GCC 2015. Penalties shall be as follows:

- a. $\text{Penalty} = 0.5 \times \{[\text{LoAs} + \text{LoLs} + \text{LoUSs} + \text{LoCs}]\}$

Where:

LoLs = Monetary Value of the shortfall for structured workplace learning opportunities for Trainees towards the attainment of a part or a full occupational qualification;

LoAs = Monetary Value of the shortfall for structured workplace learning opportunities for apprentices or other artisan Trainees towards the attainment of a trade qualification leading to a listed trade (GG No. 35625, 31 August 2012) subject to at least 60% of the artisan Trainees being holders of public FET college qualifications;

LoUSs = Monetary Value of the shortfall for work integrated learning opportunities for University of Technology or Comprehensive University students completing their national diplomas (LoUS);

LoCs = Monetary Value of the shortfall for structured workplace learning opportunities for candidates towards registration in a professional category by a statutory council listed in Table 1 of the Standards (LoC), and

- b. Delay the issuing of the Performance Certificate until all the required records described in clause 5 of the Standards are received.

g) Generic Skills Training

Generic skills shall be taught where the need has been identified and approved by the Employer and the Engineer.

The Contractor shall make representation to the Employer and the Engineer, who shall approve candidates that should attend such courses as they deem appropriate. Those selected shall receive formal generic skills training in a programmed and progressive manner. The PLC may also identify a need for generic skills training.

Typical training programmes could comprise some or all of the following modules:

- i) Basic hygiene and HIV/AIDS awareness;
- ii) Road safety;
- iii) Basic management of the environment;
- iv) Tourism awareness and opportunities;
- v) Managing personal finance;
- vi) Adult Basic Education and Training (ABET);
- vii) Community based training programmes (e.g. knitting, computer skills, plant/machine operator, etc.).

All generic skills training shall be accredited by the relevant Sector Education and Training Authority (SETA) and shall be provided with accredited entities and/or individuals.

h) Community Training

Community training shall be taught where the need has been identified. Affected Communities may submit their training needs to the PLC for the Contractor's consideration and inclusion into the Training and Skills Development Programme.

While considering the training needs of affected Communities, the Engineer shall inform the PLC of the Contract's training limitations, as well as of the training that could be undertaken through the Contract. Trainees from the Community shall be identified through the Community structures, and with the input and support of the PLC. Trainees selected from the Community shall receive formal skills training in a programmed and progressive manner in compliance with subclause D1010.04. Priority shall be given to training that will equip Community members with skills that will enhance their employability.

All community skills training shall be accredited by the relevant Sector Education and Training Authority (SETA) and shall be provided with accredited entities and/or individuals.

i) Training Facilities

The Contractor shall be responsible for providing everything necessary to offer the various training workshops and modules including:

- i) a suitable venue with sufficient furniture, lighting and power,
- ii) all necessary stationery consumables and study material,
- iii) transport for attendees.

D1011 LABOUR ENHANCED CONSTRUCTION

The Contractor's attention is drawn to the fact that it is an objective of the Contract to maximise the labour content of certain operations or portions thereof. In this regard, where the specified work allows for a choice between mechanical or labour-enhanced means, the former should generally be kept to the practical minimum.

Before commencing with any labour enhanced operations the Contractor shall discuss his intentions with the Engineer and shall submit to the Engineer on a monthly basis, daily labour returns indicating the numbers of temporary personnel employed on the Works and the activities on which they were engaged.

It should be noted that activities that are conventionally done by labour methods, e.g. gabions, shall not qualify under this Section D of the Specifications.

D1012 COMMUNITY DEVELOPMENT

D1012.01 Corporate Social Investment (CSI)

The Contractor shall demonstrate its willingness to actively participate in the social development initiatives for local Communities affected by the Contract. To this end, the Contractor shall provide details of CSI initiatives it will actively pursue under Corporate Social Investment.

D1012.02 Community Development Component

Community Development (CD) components to the Contract are primarily training and skills development programmes to benefit an identified Community and Trainee Targeted Enterprises selected from this Community.

The owners and supervisors of Trainee Targeted Enterprises receive SAQA accredited training towards an accredited qualification which consists of theoretical and practical components.

The theoretical training is conducted by the Contractor's Training Service Provider while the practical training, which is the construction of the CD Works, is undertaken by the Trainee Targeted Enterprises under the mentorship and supervision of the Contractor's dedicated TE Construction Manager.

a) CD Project(s)' Service Provider(s)

CD Projects identified for implementation in association with this Contract will be let for tender by the Employer as **separate Contracts**.

The name(s) and contact details of the Service Provider(s) appointed for the implementation of the CD Project(s) will be provided to the Contractor on award of the Contract or as soon as the Service Provider(s) has/have been appointed.

The Contractor shall collaborate and cooperate with the CD Project(s)' Service Provider(s) and take cognisance of the CD Project(s)' programme in compiling the programme of the Works Contract.

b) CD Project(s) Associated with this Contract

The Employer is to identify a CD Project associated with this Contract (but not forming part of this Contract for The Training and Construction Management Services of a Community Development Project).

D1013 MEASUREMENT AND PAYMENT

Item	Unit
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D10.01 Target Group Participation

(a)	Contract Participation Performance bonus	Prime Cost (PC) Sum
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The prime cost sum for item D10.01(a) shall cover any CPP bonus due as specified in clause D1003.05.

Note:

No separate payment shall be made for any costs incurred by the Contractor, whether direct or indirect, for his efforts in accomplishing the specified requirements, and which are not recoverable from the pay-items allowed. Such costs shall be deemed to have been included in the rate offered under pay sub-item C1.3.1.3 Contractor's Establishment on Site and General Obligations: Time Related Obligations.

Item	Unit
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D10.02 Stakeholder and Community Liaison and Social Facilitation

(a)	Cost of liaison, social facilitation and PLC support	Prime Cost (PC) Sum
(b)	Handling cost and profit in respect of sub-item D10.02(a)	Percentage (%)

The prime cost sum for item D10.02(a) shall cover the direct costs incurred by attending members of the PLC. The rate of compensation shall be fair and agreed by the Engineer in accordance. The tendered percentage for sub-item D10.02(b) shall include full compensation for all handling costs and profit of the Contractor associated with sub-item D10.02(a).

The liaison with, and assistance provided by the Contractor to the PLC to perform its duties shall not be paid from the prime cost sum. The Contractor's costs to liaise with the PLC and render such assistance shall be deemed to have been included in its rate offered for pay sub-item C1.3.1.3 Contractor's Establishment on Site and General Obligations: Time Related Obligations.

Item		Unit
D10.03	Tender Process for Targeted Enterprises	
(a)	Contractor's charge for the management and execution of the Targeted Enterprise procurement process:	
	(i) Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise subcontractors of CIDB 1 and 2 contractor grading	Number (No)
	(ii) Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise subcontractors of CIDB 3 and 4 contractor grading	Number (No)
	(iii) Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise subcontractors of CIDB 5 and higher contractor grading	Number (No)
	(iv) Procurement process for the totality of all tenders concluded for the appointment of Targeted Enterprise suppliers	Number (No)
(b)	Targeted Enterprise Procurement Coordinator	Month

The unit of measurement for sub-item D10.03(a) shall be the number of individual subcontract agreements concluded with Targeted Enterprise sub-contractors and suppliers in accordance with the procurement process described in this Section D of the Specifications.

The tendered monthly rate for sub-item D10.03(b) shall include full compensation for the provision of the relevant personnel on a full-time basis to carry out the requirements in terms of sub-item D10.03(a) and the full contents of this Section D of the Specifications.

Each tendered rate shall be in full compensation for the management and execution of the Targeted Enterprise procurement process in the relevant CIDB contractor grading designation scheduled, including for the appointment of a TE Procurement Coordinator (if required), the pre-tender training of eligible Targeted Enterprises, the compilation, printing, binding and issue of the tender documents for each tender, for the advertising of each tender, for the provision of the venue and the conducting of each compulsory briefing session for tenderers, for the conducting of each tender opening process, for the adjudication of the tenders received for each tender, for the preparation of each tender adjudication report and the review thereof in conjunction with the Employer, Engineer and the PLC, for the award of each tender and for the conclusion of the subcontract agreement with each successful Targeted Enterprise tenderer, and any other relevant requirement described in this Section D of the Specifications.

Item	Unit
D10.04	Responsibilities of the Contractor towards Targeted Enterprises
(a) Contractor's establishment, management, management support, assistance, coaching, guidance, mentoring and supervision of Targeted Enterprises	Month
(b) Targeted Enterprise Construction Manager	Person Month
(c) Targeted Enterprise Site Supervisors	Person Month

The tendered monthly rate for sub-item D10.04(a) shall include full compensation for the registration of all the subcontract agreements and the management of all the Targeted

Enterprise subcontracts, including for the provision of the necessary management, support, coaching, guidance, mentoring and supervision of the Targeted Enterprise subcontractors.

The tendered monthly rate for sub-items D10.04(b) and (c) shall include full compensation for the provision of the relevant personnel on a full-time basis to carry out the requirements in terms of sub-item D10.04(a) and the full contents of this Section D of the Specifications.

Item	Unit
D10.05	Construction Works by Targeted Enterprises
(a) Payments associated with the construction works executed by Targeted Enterprise sub-contractors of CIDB 1 and 2 contractor grading designation appointed in terms of Section D of the Specifications	Provisional (Prov) Sum
(b) Handling costs and profit in respect of payment associated with sub-item D10.05(a)	Percentage (%)
(c) Fluctuation between the main contractor's rates and that of the Targeted Enterprise sub-contractors	Lump Sum (LS)
(d) Preliminary and General Obligations of Targeted Enterprise sub-contractors appointed in terms of Section D of the Specifications	Lump Sum (LS)

The Provisional Sum for sub-item D10.05(a) is provided to cover the cost of the construction works, including preliminary and general obligations carried out by the Targeted Enterprise subcontractors of CIDB 1 and 2 contractor grading designation as certified by the Engineer, in separate payments for each Targeted Enterprise in accordance with Section D of the Specifications. Expenditure under

sub-item D10.05(a) shall be limited to the Provisional Sum amount stated in the Pricing Schedule. Construction works by Targeted Enterprise sub-contractors of CIDB 1 and 2 contractor grading designation exceeding the Provisional Sum amount shall be measured for payment from the applicable work items in the Contractor's pricing schedule.

The tendered percentage for sub-item D10.05(b) is the percentage of the amount spent under sub-item D10.05(a) and shall include full compensation for the Contractor's handling costs, profit or any other costs associated with the work conducted by the Targeted Enterprise sub-contractors, which are not provided for in other pay items.

The Lump Sum tendered under item D10.05(c) is for fluctuation of the Targeted Enterprise sub-contractor rates more than the contractor's tendered rates, for work not paid under items D10.05(a). Payment of the Lump Sum shall be on a prorata basis to provide compensation for the fluctuation between the tendered rates of the Main Contractor and that of the Targeted Enterprise sub-contractors until the Lump Sum is depleted. Any costs incurred due to fluctuation in tendered rates more than that tendered for under item D10.05(c) will be for the Contractor's account. Item D10.05(c) is applicable where the Target Enterprise sub-contractor's tender amount is higher than the Main Contractor's tender amount. The Lump Sum will cover the fluctuation for all the tendered rates of the sub-contractors.

The Lump Sum tendered under item D10.05(d) is for the Preliminary and General Obligations of Targeted Enterprise sub-contractors (excluding CIDB 1 and 2 contractor grading designation paid from the Provisional Sum). Payment of the Lump Sum shall be on a prorata basis to provide compensation for the P&Gs of Targeted Enterprise sub-contractors until the Lump Sum is depleted. Any costs incurred for the P&Gs of Targeted Enterprise sub-contractors more than that tendered for under item D10.05(d) will be for the Contractor's account.

Item	Unit
D10.06 Training, coaching, guidance, mentoring and assistance	
(a) Training Costs	
(i) Accredited NQF training	Provisional (Prov) Sum
(ii) Accredited generic skills training	Provisional (Prov) Sum
(iii) Community skills training	Provisional (Prov) Sum
(iv) Handling cost and profit in respect of sub- items D10.06(a)(i), (ii) and (iii)	Percentage (%)
(b) Student experiential training	
(i) Student stipends	Prime Cost (PC) Sum
(ii) Provision of experiential training	Person Month
(c) Other costs during training	Provisional (Prov) Sum
(d) Training venue	Lump Sum (LS)

The Provisional Sums under sub-items D10.06(a) shall include all charges for the provision and delivery of the service including an accredited Training Service Provider (if required), learning material and any other requirement as described in Section D1010 of the Specifications.

The rate tendered under sub-item D10.06(a)(iv) shall be deemed to cover all costs required to organise accredited trainers to provide training and shall include the Contractor's handling cost, profit, record keeping, reporting and all other costs associated with sub-items D10.06(a)(i), (ii), and (iii).

The prime cost sum under sub-item D10.06(b)(i) shall cover the monthly stipend as prescribed by the Employer to be paid to students receiving experiential training.

The unit of measurement for sub-item D10.06(b)(ii) shall be the person-month, with pro- rata payments made for partial months for training provided based on 23 workdays per month.

The rate tendered under sub-item D10.06(b)(ii) shall include full compensation for the Contractor to provide training to the students provided by the Employer inclusive of all costs to communicate with the Employer and any other body or organisation in respect of work assigned to the students. The rate tendered shall include telephone calls and charges, stationery and information technology hardware, software, connection or licence costs and lost production, profits and all other incidentals as well as all administrative and overhead costs.

The Provisional Sum under pay item D10.06(c) shall cover the Contractor's costs for payment of wages of employed trainees attending training courses during working hours, for the provision of meals to trainees, for provision of transport and for all other incidentals required for the trainees and approved by the Engineer. No mark-up is payable to the Contractor under this item.

The unit of measurement for pay item D10.06(d), shall be the Lump Sum. The sum tendered shall include full compensation for the provision of the training venue, for all necessary lighting, power, furniture, stationery, consumables and study material and all other costs necessary to maintain the venue for the duration of the contract. Payment of the Lump Sum shall be made in two instalments as follows:

- a) The first instalment, 75% of the Lump Sum, shall be paid after the Contractor has met all his obligations regarding the provision of the training venue as specified.

The second and final instalment, 25% of the Lump Sum, shall be paid after the provision of all the accredited training as specified in the document.

No payment, nor pro-rata payment, shall be made for trainees that, once selected, do not attend or only partially complete structured training courses. The Contractor's own staff may attend the courses provided. However, such attendants from the Contractor's staff shall not be considered for measurement and payment purposes unless they also qualify as Targeted Labour.

PART E: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

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E1. Introduction

In terms of Construction Regulations 2014, Regulation 5(5) The Department of Public Works Roads and Transport, as the Client and / or its Agent on its behalf, we are taking the responsibility to prepare this Health and Safety Specifications Upgrading of a Section of Main Road 974 between Laxey and Provincial Boarder near Heuningvlei Phase 1. Contractors who are making bid or appointed to perform construction work for the Client must prepare their safety plan in accordance with this specification.

As stated under Section 7 of the Occupational Health and Safety Act (Act 85 of 1993), the Principal Contractor shall be responsible for the Health and Safety Policies which shall be prominently displayed and signed by the Chief Executive Officer, in the workplace where his employees normally report for service.

1.1. Background to the health and safety Specification

This Health and safety specification is governed by the Occupational Health and Safety Act (Act 85 of 1993) and its amended Regulations. Notwithstanding this, recognizance should be taken of the fact that no single Act or its set Regulations can be read in isolation. Furthermore, although the definition of Health and Safety Specifications stipulates 'a document specification of all health and safety requirements pertaining to associated works on a construction site, so as to ensure the health and safety of persons', it is required that the entire scope of the Labour legislation, including the Basic Condition of Employment Act be considered as part of the legal compliance system.

With reference to this specification document this requirement is limited to all health, safety and environmental issues pertaining to the site of the project as referred to here-in. Despite the foregoing it is reiterated that environmental management shall receive due attention.

1.2. Purpose of the health and safety Specification

Due to the wide scope and definition of construction work, every construction activity and site will be different, circumstances and conditions may change even on a daily basis. Therefore, due caution is to be taken by the Principal Contractor when drafting the health and safety plan based on these Health and Safety Specifications. Prior to drafting the health and safety plan, and in consideration of the information contained here-in, the Principal Contractor shall set up a Risk Assessment Program to identify, determine the scope and details of any risk associated with any hazard at the construction site, in order to identify the steps needed to be taken to eliminate, reduce, and control such hazards.

The purpose of this specification document is to provide the relevant Principal Contractor with any information other than the standard conditions pertaining to construction site which might affect the health and safety of persons at work and/or in connection with the use of plant and machinery, and to protect persons other than persons' at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of construction work for the Upgrading of a Section of Main Road 974 between Laxey and Provincial Boarder near Heuningvlei Phase 1.

1.3. Implementation of the health and safety Specification

Principal Contractor is obligated to implement measures to ensure the health and safety of all people and properties affected under its custodianship or contractual commitments, and is further obligated to monitor that these measures are structured and applied according to the requirements of these health and safety specifications.

E2. Occupational health and safety management system

The health and safety specification pertaining to Upgrading of a Section of Main Road 974 between Laxey and Provincial Boarder near Heuningvlei Phase 1, cover the subject containing the index and is intended to outline the normal as well as any special requirements of the Principal Contractor pertaining to the health and safety matters (including the environment) applicable to the project in question. These specifications should be read in conjunction with the Act, Construction Regulations and all other Regulations and safety standards. The stipulations in this specification, as well as those contained in all other documentation pertaining to the project, including contract documentation and technical specifications shall not be interpreted, in any way whatsoever, to countermand or nullify any stipulation of the Act, Regulations and Safety Standards which are promulgated under, or incorporated into the Act.

2.1. Scope and description of project

The final scope of work as per the investigation conducted to date, involve the reconstruction of the entire section of the road, provision of 3.7m lane width, surfaced and gravel shoulder of 1.5m

The scope of work for the entire Km 20.00 is detailed as follows;

- The existing surface shall be rip to spoil.
- The existing base material shall be ripped and stockpiled for re-use.
- The existing sub base material shall be ripped and stockpiled for re-use..
- The entire road section shall be extended to a uniform width of 13.4m composing a single carriageway of 3.7m wide per lane and 3.0m wide shoulders on both sides of the road
- Open earth channels shall be shaped and compacted along the road length.
- Damaged culverts shall be replaced, while blocked culverts shall be cleaned out. In situation where road is widened, the pipe culvert shall be extended to required length.
- Road signs and marking shall be in according to COTO specifications respectively

2.2. Interpretation

2.2.1. Application

This specification document is a legal compliance document compiled in terms of the OHS Act and Construction Regulations 2014 and it is therefore binding. The document must be read in conjunction with other relevant legislation.

2.2.2. Definition

The definition as listed in the Occupational Health and Safety Act (Act 85 of 1993) and Construction Regulations 2014 shall apply.

2.3. Minimum Administrative requirement

2.3.1. Application for Construction work permit.

Client who intends to have construction work carried out, must at least 30 days before that work is to be carried out apply to the Provincial Director in writing for a Construction work permit to perform construction work if the works contract is of a value exceeding Forty Million Rand or Construction Industry Development Board [CIDB] grading level 8.

2.3.2. Notification of intention to commence Construction work

Principal Contractor must notify the Provincial Director of the Department of Labour in writing at least 7 days before construction work commences. A copy of this notification must be held in the Principal contractor's health and safety file on site. Proof will only be accepted when the Department of Labour stamp appear on the document.

2.3.3. Duties of the Principal Contractor and Contractors

Principal Contractor must:-

- 2.3.3.1. Provide and demonstrate to the client a suitable, sufficiently documented and, coherent site specific health and safety plan, based on the client's documented health and safety specification,
- 2.3.3.2. Ensure that potential contractors submitting tenders have made sufficient provisions for health and safety measures during the construction process
- 2.3.3.3. Ensure that no contractor is appointed to perform construction work unless the principal contractor is reasonably satisfied that the contractor that he or she intend to appoint, has the necessary competencies and resources to perform the construction work safely;
- 2.3.3.4. Appoint each contractor in writing for the part of the project on the construction site
- 2.3.3.5. Ensure that the periodic site audits and document verifications are conducted at interval mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days
- 2.3.3.6. stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons
- 2.3.3.7. Ensure that all his or her employees have a valid medical fitness specific to the construction work to be performed and issued by an Occupational Health Practitioner
- 2.3.3.8. No contractor may allow or permit any employee or person to enter any site, unless that employee or person has undergone health and

safety induction training pertaining to the hazards prevalent on the site at the time of entry.

NOTE; all documentation must be done according to Construction Regulations 2014 and Occupational Health and Safety Act (Act no.85 of 1993) and Compensation for Occupational Injuries and Diseases Act (Act 130 of 1993)

2.3.4. Competence of Principal contractor's and Contractors responsible person

The Principal Contractor and Contractors' competent persons must fulfil the criteria as stipulated in terms of the definition 'Competent' in accordance with the Construction Regulations 2014

2.3.5. Compensation for Occupational injuries and Diseases Act [COIDA] Act 130 of 1993

The Principal Contractor and Contractors must hold a proof of workman's compensation assurance registration in the form of a letter of Good standing before they commence with the work on site. They must be in good standing at all times while carrying out work on site.

2.3.6. Health and Safety Organogram

The organogram is a diagram that shows how an organization is structured, and how the positions in the organization are related to each other. In case where appointments have not yet been made, the organogram shall reflect the intended positions.

The organogram must be updated when there are changes in the Site Management Structure, and dated accordingly. The organogram serves as a quick reference to who is responsible for what in which area.

2.3.7. Preliminary Hazard Identification and Risk Assessment, Progress Hazard Identification and Risk Assessment Review

A contractor must, before the commencement of any construction work and during such construction work, have risk assessment performed by a competent person appointed in writing, which risk assessment form part of the health and safety plan to be applied on the site, and must include:

2.3.7.1. The identification of the risk and hazards to which persons may be exposed to;

2.3.7.2. An analysis and evaluation of the risks and hazards identified based on a documented method;

2.3.7.3. A monitoring plan

2.3.7.4. A review plan

A contractor must ensure that copies of the risk assessment of the relevant site are available on site for inspection.

2.3.8. General record keeping

The Principal contractor and Contractors must keep and maintain all the necessary Health and Safety records to demonstrate compliance with these

specifications, the OHS Act 85 of 1993, and Construction Regulations 2014. They must also ensure that all records of incidents / injuries, emergency procedures, training, planned maintenance inspections, monthly contractor audits are kept in the health and safety file(s) held in the site office. Principal Contractor must ensure that every contractor keeps its own health and safety file, maintains the file and make it available on request (the file must include the Contractor's health and safety plan and all relevant records). Such Contractor safety file must be audited by the Principal Contractor on a monthly basis with audit reports kept as proof.

2.3.9. Accident or Incident reporting and Investigation

2.3.9.1. The Principal Contractor is responsible to oversee the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to receive first aid or be referred for medical treatment by a doctor, hospital or clinic. (General Administrative Regulation 9)

2.3.9.2. As it is stated under Occupational health and Safety Act 85 of 1993, Section 24. Thus read:-

2.3.9.2.1. Each incident occurring at work or arising out of or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which, or in consequences of which any person dies, become unconscious, suffer the loss of a limb, or is otherwise injured or become ill to such a degree that he likely to be unable for a period of at least 14 days either to work or to continue with the activity for which he was employed, shall within the prescribed period and in the prescribed manner, be reported to an inspector by the employer or the user of the plant or machinery concerned, as the case may be.

2.3.9.2.2. The Principal Contractor is responsible for the investigation of all road traffic accidents relating to the construction site and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

2.3.9.2.3. Notwithstanding the requirements of Section 24 of the Act, ALL incidents shall be investigated and reported on in writing, irrespective of whether such incident gave rise to injury or damage.

2.3.9.3. Complying with this Health and Safety Specification only does not mean complete compliance to the site health and Safety on site, the specification serves as a guide to help the Principal Contractor and Contractor to comply. The Contractor has an Obligation to comply with all other legislations relevant to be complied with including the Occupational Health and Safety Act 1993.

- 2.3.9.4. The contractor shall provide adequate first aid facilities as may be required or permitted by Client, Agent or Inspectors.

Key personnel are to be trained first aiders and have a current training certificate. Trained first aiders should be clearly identifiable. First Aid stations should be clearly marked and regularly checked by the contractor. Where the treatment of an injured or sick person requires the use of a first aid room the facilities provided by the Contractor may be used. The above first aid facilities are to be made available to all persons working on or visiting the site.

- 2.3.9.5. The contractor shall report all accidents to the Department of Labour and Client. All serious or potentially serious accidents/incidents are to be thoroughly investigated by the contractor and written reports produced indicating the proposed remedial actions. The contractor shall give a copy of all reports to the Client , such records has to be appropriately recorded and kept by the Employer for inspection by the Inspector .

2.3.10. Legal Appointments

Legal Appointment	
CEO	OHS Act 85 of 1993, S-16(1)
Assistance CEO	OHS Act 85 of 1993, S-16(2)
Health and Safety Representatives	OHS Act 85 of 1993, S-17
Health and Safety Committees	OHS Act 85 of 1993, S-19
Mandatory Agreement	OHS Act 85 of 1993, S-37(2)
Contractor appointment	CR 2014, R-7(c) (v)
Construction Manager	CR 2014, R-8(1)
Construction health and Safety officer	CR 2014, R-8(5)
Construction Supervisor	CR 2014, R-8(7)
Assistant Construction Supervisor	CR 2014, R-8(8)
Risk Assessor	CR 2014, R-9(1)
Fall protection developer	CR 2014, R-10(1)(a)
Excavation Supervisor	CR 2014, R-13(1)(a)
Demolition work supervisor	CR 2014, R-14(1)
Material hoist	CR 2014, R-19(8)(a)
Construction Vehicle and mobile plant operators	CR 2014, R-23(d)
Temporary electrical installer	CR 2014, R-24(c)
Stacking and storage Supervisor	CR 2014, R-28(a)
Fire equipment inspector	CR 2014, R-29(h)
First Aider	GSR , R-3

2.4. Site Operational Requirements

2.4.1. Health and Safety Representative

The principal contractor and all contractors must ensure that Health and Safety Representative(s) are appointed under consultation with the employees. The

health and safety representatives must be competent to carry out their functions. The appointments must be in writing. The health and safety representatives could carry out monthly inspections keep records of the inspection and report all findings to the responsible person or safety officer forthwith and at monthly health and safety committee meetings. At least one health and safety representative is required by all employers on site.

2.4.2. Health and Safety Committees

The Principal contractor must ensure that project health and safety committee meetings are held monthly with minutes kept. Meetings must be chaired by the Principal Contractor's responsible person. All contractors' responsible persons and health and safety representatives must attend the Principal Contractors monthly health and safety committee meetings. The following topics must be tabled at meetings:

- 2.4.2.1. Management appointment
- 2.4.2.2. Risk management
- 2.4.2.3. Sub-contractors legal compliance issues
- 2.4.2.4. Injuries and Incidents
- 2.4.2.5. Hazards and risk assessment
- 2.4.2.6. Safety procedures
- 2.4.2.7. Method statement

2.4.3. Health and Safety Education and Training

2.4.3.1. Induction training

The Principal contractor must ensure that all site personnel including all sub-contractors undergo the agreed health and safety induction training session held and managed by the Principal contractors before any employee/ worker start work on the project. A record of attendance must be signed and kept in the health and safety file.

2.4.3.2. Awareness

The Principal Contractor must ensure that, on site, periodic toolbox health and safety talks take place at least twice in a week. All site personnel including sub-contractors must attend safety talks at such intervals and keep proof thereof. These talks should deal with risks relevant to the construction work at hand; they should be based on the job-specific risk assessment and safe working procedures. Records of attendance must be kept in the Principal Contractors health and safety file. All contractors' employees must attend safety awareness, toolbox talks carried out by their supervisors, the attendance registers must be copied to the Principal Contractor together with information on the information discussed at the session.

2.4.3.3. Competence

All competent people must have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise,

control and / or carry out. This must be assessed on a regular basis. i.e. training, evaluation and periodic audits by the Client. The Principal Contractor is responsible to ensure that Competent Contractors are appointed to carry out construction work on site.

2.4.4. Emergency procedure

Principal contractor must advise the Client in writing of any emergency situations, together with a record of action taken / action to be taken. A contact list of all service providers [Fire department, Medical and Hospital, Ambulance, Police] must be maintained and made available to site personnel. The emergency plan will need to be reviewed from time to time as conditions/ environment changes.

2.4.5. First aid boxes and First aid equipment

Where more than five employees are employed at a workplace, the employer shall provide a first aid box near the workplace which shall be available and accessible for the treatment of injured at that workplace. At least one person must be readily available during working hours, which is in possession of a valid certificate of competency in First aid, issued by a person or organisation approved by the chief inspector for this purpose.

2.4.6. Personal Protective Equipment [PPE]

SUBJECT	REQUIREMENT
PPE needs analysis	Need for PPE identified and prescribed in writing PPE remain property of Employer
Head Protection	All persons on site wearing Safety Helmets including Sub-contractors and Visitors (where prescribed)
Foot Protection	All employees on site wearing Safety Footwear including Gumboots for concrete / wet work and non-slip shoes for roof work. -Visitors to wear same upon request or where prescribed
Eye and Face Protection	<u>Eye and Face (also Hand and Body) Protection</u> (Goggles, Face Shields, Welding Helmets etc.) used when operating the following: <ul style="list-style-type: none"> • Jack/ Kango Hammers • Angle / Bench Grinders • Electric Drills (Overhead work into concrete / cement / bricks • Explosive Powered tools • Concrete Vibrators / Pokers • Hammers & Chisels • Cutting / Welding Torches • Cutting Tools and Equipment • Skill / Bench Saws

	<ul style="list-style-type: none"> • Spray Painting Equipment etc.
Hearing Protection	<p><u>Hearing Protectors</u> (Muffs, Plugs etc.) used when operating the following:</p> <ul style="list-style-type: none"> • Jack / Kango Hammers • Explosive Powered Tools • Wood/Aluminium Working Machines e.g. saws, planers, routers
Hand Protection	<p><u>Protective Gloves</u> worn by employees handling / using:</p> <ul style="list-style-type: none"> • Cement / Bricks / Steel / Chemicals • Welding Equipment • Hammers & Chisels • Jack / Kango Hammers etc.
Respiratory Protection	<p>Suitable/efficient prescribed <u>Respirators</u> worn correctly by employees handling / using:</p> <ul style="list-style-type: none"> • Dry cement • Dusty areas • Hazardous chemicals • Angle Grinders • Spray Painting etc.
Protective Clothing	<p>All jobs requiring protective clothing (Overalls, Rain Wear, Welding Aprons etc.) Identified and clothing worn</p>
PPE Issue & Control	<ul style="list-style-type: none"> • Identified Equipment issued free of charge. • All PPE maintained in good condition. (Regular checks). • Workers instructed in the proper use & maintenance of PPE. • Commitment obtained from wearer accepting conditions and to wear the PPE. • Record of PPE issued kept on H&S File. • PPE remain property of Employer,

2.4.7. Occupation Health and Safety Signage's

Notices and signs must be erected on the entrance

2.4.7.1. No un-authorized entry

2.4.7.2. Visitors to report to the site office

2.4.7.3. General warning signs

2.4.7.4. Construction signage with PPE images i.e. Helmets, Work suites, Gloves, Goggles, Dust must / Respirator, Safety Boots, NO Fire arms.

Site Safeguarding Nets, Canopies, fence to protect members of the public from entering the site.

2.4.7.5. SIGNALS AND ROADWORKS

Temporary traffic signals may be provided at roadwork construction sites for the following purposes:

To successively give right of way to two-way traffic approaching from opposite directions, along a single traffic lane, in place of a manually operated STOP – GO sign;

To control the movement of traffic, including site vehicles, where a public road enters or crosses a road that is under construction;

As an interim measure to control traffic where a permanent traffic signal is to be provided, altered or placed as part of a roadwork's project

- 2.4.7.5.1. Temporary traffic signals should be installed and operated only where warranted as follows:

Where there is undue delay or danger to public traffic at the junction of a public road and road under construction as a result of construction operations, provided that the overall disbenefit to public traffic does not exceed the benefit to construction traffic

Where it would be to exercise manual control by means of a STOP –GO sign during hours of darkness

- 2.4.7.5.2. Temporary traffic signals should preferably not be operated for longer periods than 6 months. If required for longer than 6 months, the installation of permanent signals should be considered

- 2.4.7.5.3. These principles of traffic signal control at permanent installation apply equally to temporary installations. This means that the numbers and locations of signal faces, the compulsory provision of background screen (backboards), sight distances, etc. also apply to temporary traffic signals. The speed limit at the traffic signals shall also not exceed a maximum of 80 km/h

- 2.4.7.5.4. It is recommended that three yellow retro-reflective strips to be provided on the signal posts and that white retro reflective borders be used on backboards. Temporary traffic signals are often used in locations with poor background lighting and where they may be more subject to failure than permanent signals.

2.4.8. Public and Site Visitor health and safety

Public walk ways and roadways must be kept clean and free of construction material to prevent any negative impact on the public. Public roadways and walkways will have to be cleaned on a regular basis, daily inspections to be conducted by the principal contractor with action to be taken without delay. Site visitors must be briefed on the hazards they may be exposed to as well as what measures are in place or should be

taken to control these hazards. The Construction Regulations require that a record of these 'inductions' be kept on site.

Where loading / offloading of equipment / Plant/ rubbles or other material takes place adjacent to public roadways or walkways, flagmen will be required to direct vehicles and pedestrians away from the loading / offloading area. Traffic cones will also be required to demarcate that zone.

2.4.9. Access to site

It is advised that a visitor book with site rules leaflet be kept at the site office and all visitors to be directed to such point where they must read through the site safety information and sign the visitor book. It will be the Principal Contractors prerogative to decide whether site visitor require supervision while on site. Visitor hard hats must be kept in the site office.

Security measures – Access control, with a register book at the gate.

During weekend:

They must have access to telephone or other means of communication

2.4.10. Night work

After hours, there must be sufficient lighting.

No night work will be allowed within the hazardous zone on this project.

2.4.11. Transportation of workers

The Principal Contractor and Contractors may not transport persons together with good or tools unless there is an appropriate area or section to store the tools or equipment.

Contractor must adhere to the National Road Traffic Act

2.4.12. Construction health and safety officer

A full time construction health and safety officer will be required on this project. And he or she must be registered with SACPCMP.

2.4.13. Health and Safety audits, Monitoring and Reporting

The Principal Contractor is obligated to conduct monthly audits on all contractors appointed by him and keep audit reports in their health and safety file. The Client / Agent will conduct monthly audits on the Principal Contractors safety management plan, ad-hoc health and safety audits, Coordinating and monitoring of all Occupational health and safety attributes of the project for the implementation all shall be done with the client / Agent as per their schedule. Reporting shall be done on each site progress meeting.

2.5. Plant, Machinery and Equipment

2.5.1. Construction Vehicle and Mobile Plant

The contractor shall ensure that employees are trained, competent and authorised to drive or operate any plant or equipment that they may use, whether regularly or on an occasional basis. Training records should be

maintained and may be requested by the client or client's representative Agent and Inspectors.

Document evidence of such authorisation shall be provided as required. Only training which is specific to the actual plant or equipment to be used will be considered acceptable. All equipment provided shall be in good order and suitable for the use for which it is intended for. The contractor shall ensure that site plant and equipment are inspected and thoroughly examined at regular interval by person(s) who are appropriately skilled and authorised to do so and records of such inspection / examinations are maintained in a register which may be available for examination by the Client or Client's representative Agent and Inspectors upon request. When selecting equipment the contractor shall take into account the working conditions and potential site hazards. All construction plant shall be maintained in such a manner that smoke is not emitted.

Reverse alarm must be installed on construction vehicles

2.5.2. Hired plant and Machinery

The Principal contractor must ensure that any hired plant and machinery used on site is safe for use and complies with the minimum legislation requirements. The necessary requirement as stipulated by the OHS Act, Construction Regulations 2014 and Driven Machinery Regulations 2015 shall apply. The Principal Contractor shall ensure that operators hired with machinery are competent and that competency and medical certificates are kept on site in the health and safety file.

2.5.3. Traffic Control

The principal contractor shall ensure that a fulltime traffic safety officer be appointed in writing, upon the commencement of construction activities. The Traffic safety officer shall be tasked with regular inspections and movement of road traffic signs as per the approved traffic accommodation plans and will report to the safety officer.

This document must indicate the potential risk to the public or environment posed by all vehicles travelling to and from the areas of construction for the purpose of the construction work, and purposes methods to minimise these risks, such a plan must include the following:

2.5.3.1. Design of traffic Management Plan

2.5.3.2. Site Specific base line risk assessment

2.5.3.3. Protection of pedestrians

2.5.3.4. Specific signage and distances applicable

2.5.3.5. Applicable training

2.5.3.6. Appointment of road safety officers

2.5.3.7. Management after hours / weekend/ adverse weather conditions

2.5.3.8. Setup and clearing of signage.

2.5.4. General Machinery

The principal contractor and contractors must ensure that compliance with the Driven machinery regulations, which includes carrying out risk assessments on the machines, inspecting machinery regularly is appointed.

2.5.5. Vessels under Pressure [VuP] and Gas Bottles

All such cylinders must be supported at all times. Only trained authorised personnel may use compressed gas.

Flammable gases and oxidising gases must be kept strictly separate.

2.6. Physical Requirements

2.6.1. Earthworks [Including trenching and bulk excavation]

Principal Contractor must ensure that when earthworks are being conducted that particular area must be barricaded to ensure that no unauthorised person do enter this area.

All employees working in that particular area must wear reflective vest and this would include all visitors to the earthworks site.

Before any earthworks may start the Principal Contractor must familiarise himself of any services in the direct earthworks area.

2.6.2. Edge protection and penetration

The principal contractor must ensure that all exposed edges and openings are guarded and demarcated at all times until permanent protection has been erected. The principal contractor must use hard barricading when contemplating the protection of openings.

2.6.3. Fire Extinguishers and Fire Fighting equipment's

The Principal Contractor and relevant contractors shall provide adequate, regularly serviced fire fighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs must be posted as required. A minimum of four 9kg dry chemical powder fire extinguishers must be available in and around the site office establishment and stores. Fire extinguishers must be placed at all work zones/ areas, in strategic locations. Wherever "hot work" is taking place, additional fire extinguishers must be on hand.

2.6.4. Deliveries, Waste removal, stacking and Storage of material

The Principal contractor and other relevant contractors must ensure that there is an stacking and storage supervisor who is appointed in writing, to ensure that all equipment is stacked and stored safely on level compacted ground. Waste must be kept within designated construction zone. The principal contractor will be responsible for ordination and managing this function.

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.

E.3 Measurement and Payment

3.1. 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 during the construction process. All associated activities and expenditure are deemed to be included in the Contractor's tendered rates and prices.

3.2. Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons referred to in clauses 7.1 to 7.5 shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

3.3. Records and Registers

The keeping of health and safety-related records and registers as described in 8 is regarded as a normal duty of the Contractor for which no additional payment will be considered, and which is deemed to be included in the Contractor's tendered rates and prices.

E.4 COVID-19 Measures

Due to COVID – 19 (SARS-CoV-19 virus), Contractors need to prepare and maintain a hygienic and safe working environment for all employees and all other project stakeholders. According to the Occupation Health and Safety Act No. 85 of 1993, Section 8(1), it is stated that "Every employer shall provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health of his employees".

When preparing to start Construction, the contractor must submit the following required documentation to ensure that we have a good safety management system that will be implemented to ensure that the site is safe:

1. COVID-19 OHS Plan.
2. Standard Operation Procedure (Safe Work Procedure) Detailing all activities to be done, and how social distancing measures will be in place.
3. Risk Assessment on COVID-19.
4. Disinfect Programme – Indication how many times the site offices and mobile plants/vehicles will be disinfected and the method to be utilised.
5. Daily Screening of all employees, COVID-19 Screening form to also be kept in OHS File (Downloadable on the Department of Health site).
6. COVID-19 PPE Issue Register.
7. Safety Data Sheet (MSDS) for the hand sanitizers to be utilized.
8. Toolbox talk manual for COVID-19 to be used.

9. Site Safety and Hygiene checklist (e.g have all employees received cloth masks; sufficient sanitisers and hand soaps in place; disinfection of work areas; screening of employees done)
10. Sufficient supply of Masks/Facial Shields (2 per employees), hand sanitizers and gloves (Proof of Purchase).

Please note that an induction should be conducted to all employees and visitors by the Contractor's OHS Officer on COVID-19 measures (eg. Correct use of cloth face mask, sanitizers, gloves etc).

PART F: LABOUR INTENSIVE SPECIFICATIONS

F.1 Scope

This specification covers the Labour Intensive Construction specifications to be met by the Contractor to ensure compliance with the Expanded Public Works Programme requirements. The Employer's objective is to deliver public infrastructure using labour intensive methods in accordance to EPWP Guidelines.

This specification shall be read with the Guidelines for the Implementation of Labour Intensive Infrastructure Projects under the Expanded Works Programme 2nd Edition.

Works and/or portions of work are to be carried out using labour intensive methods and this contract falls under the Expanded Public Works Projects. Where the whole of the works is not so restricted, the portion, or portions of the Works which are required to be carried out using labour intensive methods have been identified in the Bill of Quantities and are marked LI.

F.2 Labour-intensive works

Labour intensive works shall be constructed/maintained using local workers who are temporarily employed in terms of the scope of work.

F.3 Applicable labour laws

The current applicable labour laws under Labour Intensive Construction are;

- a) Current Ministerial Determination
- b) Code of Good Practice for Employment and Conditions of Work for the Expanded Public Works Programme; issued in terms of the Basic Conditions of Employment Act

F.4 Payment

The works, or parts of the works so designated as LI are to be constructed using labour intensive methods **ONLY** else there will be no payment even if work is accepted.

F.5 Labour issues

After award of the contract, the Contractor shall,

- a) use local labour which shall mean that workers for the project will be sourced from the targeted areas. Refer to Clause 11.1 of C1.2.2. Local community members shall mean South African citizens who reside and render services within those particular targeted areas.
- b) comply with recruitment procedures that falls in line with the Project Steering Committee Policy Document which is subject to amendments and reviews if necessary. This shall be read in conjunction with the standard EPWP recruitment procedures which shall take precedence over the recruitment procedures.
- c) provide accredited training of participants where deemed necessary
- d) consider targeted labour
- e) provide appropriate hand tools
- f) not default in payment to labourers and employees

F.6 Labour information

The contractor shall submit all labour information in a format and timeframe specified by the Employer. If the information is inadequate the Engineer shall not submit the payment certificate to the Employer for payment of the relevant outputs.

F.7 Minimum wage rate

The standard minimum wages for unskilled labourers as per industry guidelines for civil construction works shall apply as minimum pay based on the Project Steering Committee Policy Document which is subject to amendments and reviews if deemed necessary.

F.8 Labour-intensive competencies of supervisory and management staff

Contractors shall only engage supervisory and management staff in labour intensive works that have completed the skills programme including Foreman/Supervisors at NQF Level 4 “National Certificate: Supervision of Civil Engineering Construction Processes” and Site Agent/Manager at NQF Level 5 “Manage Labour Intensive Construction Processes” or equivalent QCTO qualifications.

**NORTHERN CAPE DEPARTMENT OF ROADS AND PUBLIC WORKS
UPGRADING OF A SECTION OF MAIN ROAD 974 BETWEEN LAXEY AND PROVINCIAL
BOARDER NEAR HEUNINGVLEI PHASE 1
TENDER No. DRPW 023/2023**

C4. SITE INFORMATION

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C4.1.1. LOCALITY PLAN, PROJECT DESCRIPTION, DESCRIPTION OF SITE AND ACCESS

The project is located on Road Upgrading of Section of MR974 between Laxey and Heuningvlei in John Taolo Gaetsewe District in Northern Cape Province in Joe Morolong Local Municipality.

C.4.1.1.1 Locality Plan



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**NORTHERN CAPE DEPARTMENT OF ROADS AND PUBLIC WORKS
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C4.2. CONDITIONS ON SITE: GEOTECHNICAL REPORT

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C4.3. DRAWINGS

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C5. EPWP GUIDELINES

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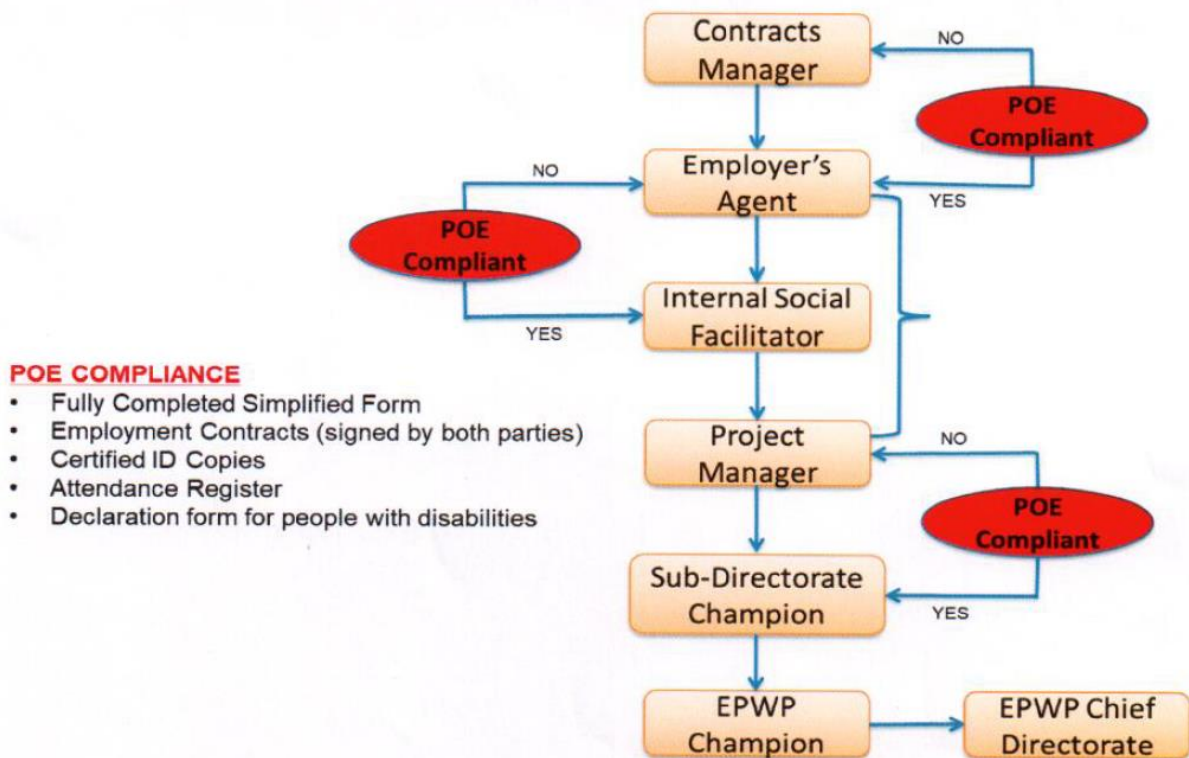
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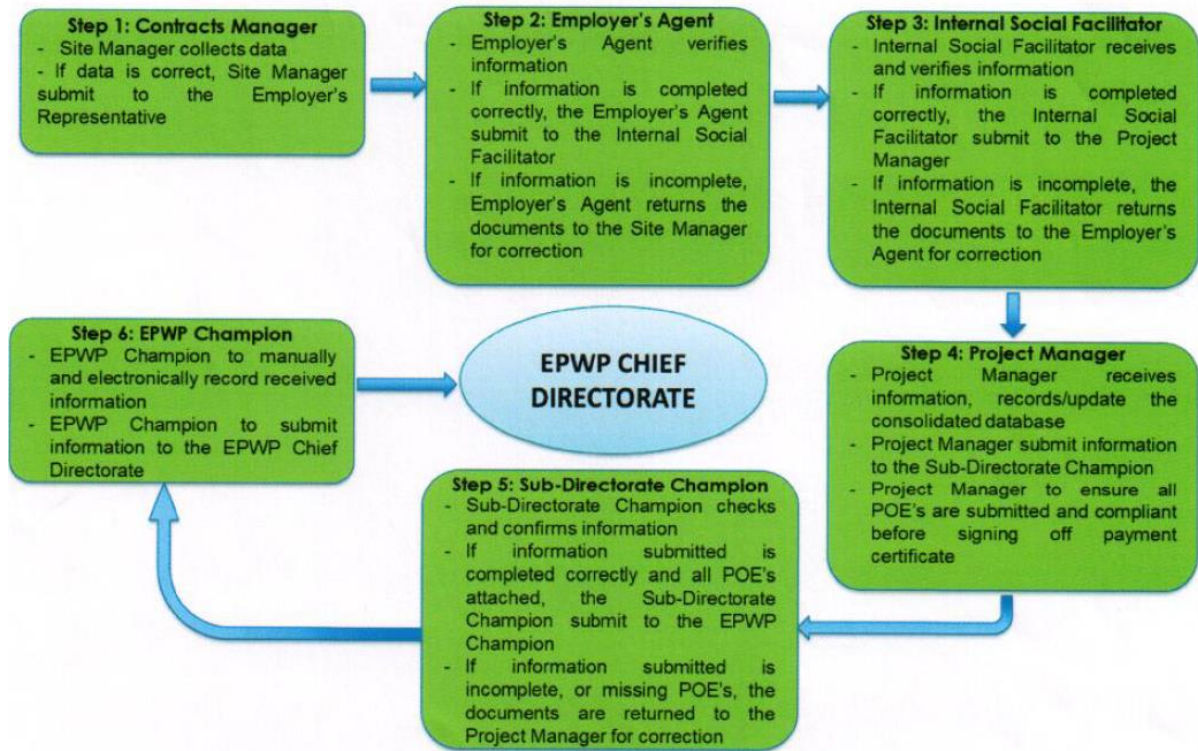
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C5.1. GUIDELINES FOR THE IMPLEMENTATION OF LABOUR INTENSIVE INFRASTRUCTURE PROJECTS UNDER THE EXPANDED PUBLIC WORKS PROGRAMME 3rd EDITION 2015 (ELECTRONIC)

Found at: www.epwp.gov

EPWP DATA PROCESS FLOW – ROADS INFRASTRUCTURE





C5.2. PARTICIPANTS INFORMATION (NATIONAL, PROVINCIAL AND MUNICIPAL) TEMPLATE

PARTICIPANTS INFORMATION FORM

Please provide participants information on this sheet for each month of the year

Month of report:	
Contractor Name:	
CIPRO company registration number:	
Type of contractor:	
Project Name:	
Project Type:	
Source of Funding:	
Province:	

Physical outputs for month:	
Project number:	
Total Project Expenditure for month:	
Contract Number:	
Invoice Number:	
Project Start Date:	
Project End Date:	
Certified by Project Manager:	
Date of certification:	

MONTH

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First Name	Initials	Last Name	I.D Number	DOB	Gender	Has disability	Education level	Start date	Number of labour days for the month	Daily wage rate for the month	Total wages paid for the month	Total number of training days for the month
				dd/mm/yyyy	M or F	Y or N	See codes at bottom of list	dd/mm/yyyy			DO NOT ENTER DATA IN THIS COLUMN	
											0	
											0	
TOTALS (DO NOT ENTER DATA IN THIS LINE)									0		0	0

Education levels-use the codes(1,2,3) on the excel spreadsheet

- (1) Unknown
- (2) No schooling
- (3) Grade 1-3 (Sub A-Std 1)
- (4) Grade 4 (Std 2) ABET 1
- (5) Grade 5-6 (Std 3-4) ABET 2
- (6) Grade 7-8 (Std 5-6) ABET 3
- (7) Grade 9 (Std 7) ABET 4
- (8) Grade 10-11 (Std 8-9)
- (9) Grade 12 (Std 10)
- (10) Post Matric

