

PORT ST JOHN'S LOCAL MUNICIPALITY
CONTRACT NO.:PSJLM – MIG-2020/21-59
CONSTRUCTION OF BUKHWEZENI ACCESS ROAD

Part C3: Scope of Work

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Status

Should any requirement or provision in the parts of the Scope of Work conflict with any requirement of any Standardised Specification, or any drawings, the order of precedence, unless otherwise specified, is:

Drawings

Scope of Work (Parts C3.1, C3.4, C3.5 and C3.6)

COLTO Standardised Specifications

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C3.1 Description of the Works

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C3.1 Description of the Works

C3.1.1 Employer's Objectives and Overview of the Works

The proposed Bukhwezeni access road is in ward 13 of Port St. Johns Local Municipality. The road once constructed is expected to directly benefit two villages of Bukhwezeni and Nyazi villages. The total number of households to benefit is 600 with a population of 4000 people. The scope of works includes but not limiting the following:

C3.1.2 Description of Site and Access

The project is located in PSJLM in the Eastern Cape Province. It is accessible via R61 from Port St Johns Town towards Lusikisiki which branches at T-Road to Bambisana Hospital 25km away. Access to site is along Nyazi which branches approximately 5km to Bukhwezeni Villages.

C3.1.3 Extent of the Works

The scope of the principal contract includes the following activities:

C3.1.3.1 Roadworks

(i) Extent

The contract consists of the site establishment, site clearing, bulk earthworks, rip & re-compacting roadbed, drainage structures, importation of gravel wearing course and appurtenant works.

(ii) Pavement Design

- Earthworks associated with suitable horizontal and vertical alignment for whole length of 9 km.
- Subgrade - 150mm Gravel Material G7 minimum in-situ material compacted to 93% modified AASHTO.
- Wearing course – 150 mm G5/G6 compacted to 95% Modified AASHTO.

(iii) Cross Section

- Two unsurfaced 2.5 m minimum lanes with 2.5% camber.

BUKHWEZENI ACCESS ROAD (WARD 9)

The scope to be done is 9km

The scope of works include but not limiting the following:

Construction of a new 9km gravel access road

Earthworks associated with suitable horizontal and vertical alignment for whole length of 9km.

Subgrade - 150mm Gravel Material G7 minimum in-situ material compacted to 93% Modified AASHTO.

Removal of hard rocks

Provision of associated storm water drainage facilities.

Concrete work on steep sections

Provision of erosion protections.

Road signs and other miscellaneous item.

C3.1.3.2 Structures

There are several drainage structures to be constructed under this contract and are as follow:

- (i) Pipe culverts;
- (ii) Inlets and outlets
- (iii) Grouted Stone packed in inlet and outlet structures.
- (iv) Concrete works
- (v) Low level Stream

C3.1.3.3 Services

The services affected are neighbouring Households, electrical poles and existing and/or new water mains

C3.1.4 Other Simultaneous Contracts

None.

C3.1.5 Site Security

The Contractor shall take every precaution to ensure safety on site and to protect the Works and temporary works from theft and vandalism. The Contractor will be responsible for the safety and security of his personnel, materials on site and the Works in general at all times.

The Contractor shall therefore acquaint himself with the current situation in the area (liaising with the local Police and Community Forums if necessary) and shall provide all security measures, including the employment of security services, as he deems necessary to comply with the requirements of this clause

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C3.2 Engineering

DRAWINGS ISSUED WITH THIS DOCUMENT

The following drawings are issued with this Document and shall be used for tendering purposes only:

LIST OF CONTRACT DRAWINGS BOUND INTO VOLUME 3: CONTRACT DOCUMENTS

Drawing No	Drawing Title
	All drawings will be provided to the appointed contractor

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C3.3 Procurement

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C3.3.1 Employment of a Community Liaison Officer (CLO)

A suitable CLO will be sourced from a Project Steering Committee.

C3.3.2 Labour Intensive Construction (LIC) Work

C3.3.2.1 General

Contractors are encouraged to promote LIC methods where and when possible by utilising temporary local labour from the surrounding local communities.

The chief aim of utilising LIC construction methods on this project is to afford an opportunity to the greatest possible number of members of the local community (and possibly surrounding communities if the circumstances warrant it and approval is granted by the Employer) to obtain temporary employment and where applicable to obtain certified and accredited in-service training, to increase their level of experience and enhance their ability to secure future employment.

There are specific requirements regarding labour intensive construction (LIC) and the use of affirmative business enterprises (ABE's) and historically disadvantaged individuals (HDI's) and with regard to training.

Contractors are encouraged to maximise labour based construction activities(*) and the Works and activities shall be so programmed and executed that those operations and activities that can reasonably be done by means of hand labour are so performed.

(*) Although the Contract will be one which requires predominately mechanised constructional plant and equipment, there are certain operations which lend themselves to labour intensive construction methods and such operations are identified in Clause C3.3.2.4 below.

C3.3.2.2 The Community

The Community in terms of Subclauses 1.1(cc) and 23.4) of the Special Conditions of Contract shall for the purpose of this Contract be held to include all the residents of MKHANZINI TO NINIVA. Administrative are residing within a ten kilometre radius of the site.

C3.3.2.3 Recruitment of Local Labour

Upon receipt of the Letter of Tender Acceptance the Contractor shall expeditiously proceed to arrange for the recruitment of local labour.

Most of the labour employed on the Contract shall, insofar as such labour is available, be recruited from the local Community stated above, unless it shall be agreed between the Employer, the Municipality and the Contractor that labour residing in neighbouring communities may be recruited and employed.

C3.3.2.4 LIC Activities

Contractors are encouraged to carry out the following activities with local labour using LIC methods after suitable training:

- (i) Excavation of shallow trenches up to 1,2 m depth for stormwater pipes.
- (ii) Backfilling and compaction of all the above mentioned trenches.
- (iii) Batching, mixing and transport on site of all concrete required to be incorporated into permanent works.
- (iv) Construction of stormwater infrastructure.

In addition to the above the Contractor may wish to consider the use of trained local labour and LIC methods for the following activities as well:

- (i) Manufacture on site of precast concrete elements such as inlet cover slabs.
- (ii) Other activities that by their nature are usually done by labour intensive construction methods.

The Contractor is encouraged to add activities to the above list but he shall ensure that the specified standards of construction will be achieved.

Although it is the intention that the above activities be carried out by labour intensive construction methods the Contractor may propose to the Municipality alternative ways in which the work is to be executed. The Municipality's approval of these alternative methods will not be unreasonably withheld from the Contractor.

C3.3.3 Employment of Local Labour

C3.3.3.1 Amount of Labour Offered

The Contractor shall submit detailed daily labour records to the Municipality indicating respectively the numbers of permanent and temporary local employees employed on the Works and the activities on which they were engaged.

C3.3.3.2 Payment and Productivity

In order that the project is economically viable and the employment of labour is not merely a "hand-out" to the local community, it is important that payment of the labour force is linked to productivity. Increased productivity can be achieved by utilising the "Task Work" principle (see Clause C3.3.5), in terms of which the Contractor will be required to reward the labour force on the basis of Tasks completed, subject to the minimum rate of payment per day in terms of Clause C3.3.4

Payment to the local labour force shall be made on a fortnightly basis in respect of Tasks completed during the period.

C3.3.4 Conditions of Temporary Employment

The Conditions of Temporary Employment stated below and the Task Work principles given in Clause C3.3.5 have been based on the Framework Agreement between the Congress of South African Trade Unions (COSATU) and the National Committee for Labour Intensive Construction (NCLIC).

The tendered rates and prices will be held to have been based on the following conditions:

SCHEDULED CONDITIONS FOR TEMPORARY EMPLOYMENT	
Rate of payment for Task Work related activities	Minimum Daily Wage: Skilled = R300 p/d Un-skilled = 190 p/d
Minimum rate of payment for labour (participating in activities where no production rate is specified)	Minimum Daily Wage: Skilled = R300 p/d Un-skilled = 190p/d
Normal working hours per day	8 hours
Transport to site	Nil
Payment for all special non-working days (except Sundays and non-working Saturdays) – Relevant clause of General Conditions of Contract 2010: • Where the worker does not work • Where the worker does work	Minimum Daily Wage: Skilled = R300 p/d Un-skilled = 190 p/d 2 x Task-rate or 2 x statutory minimum daily wage where no productivity is specified
Payment during accredited training	50% of min daily wage
Notice of termination of temporary employment	7 days

Severance pay	Nil
Workmen's Compensation Act (WCA) benefits	Applicable
Unemployment Insurance Fund	Applicable

Any changes to the above scheduled employment conditions after the closing of the Tender which affects the Cost of the Works will be dealt with in accordance with Clause 46.4 of the General Conditions of the Contract. **The said employment conditions are not negotiable between the Contractor and any party whatsoever and shall only be amended on written order by the Municipality.**

The rate of payment to local labour will be based on the accepted contractual productivity levels. The Municipality Representative will monitor productivity to ensure that this principle is carried out. For labour intensive construction (LIC) activities where no production rate is applicable, the minimum rate of payment per working day specified above shall apply.

The following conditions of work shall complement the conditions of employment described above:

- (i) Protective clothing shall be supplied to an employee in accordance with the requirement of the Occupational Health and Safety Act.
- (ii) Persons under the age of sixteen years shall not be permitted to work on labour intensive projects.
- (iii) The Contractor shall give to an employee, at the earliest possible opportunity, an induction to and training in terms of the Occupational Health and Safety Act.
- (iv) The Contractor shall give to an employee, at the earliest possible opportunity, notice of the termination of the project and/or the requirements of that employee's participation in the project; provided that such notice shall not be less than 7 days. Payment may be made in lieu of such notice.
- (v) The employee shall, upon termination of his services, be entitled to a certificate of service showing the full names of the employer and the employee, the type of work done by the employee, the date of commencement, a record of training received and the date of termination of the contract and the rate of payment on the date of termination.
- (vi) An employee shall not be required or permitted to work for more than five hours continuously without a meal interval of not less than half an hour during which interval such employee shall not be required or permitted to perform any work.
- (vii) All labour employed on the Site shall be covered by the Workmen's Compensation Act: refer Clause 38.(7) of the Special Conditions of Contract.

C3.3.5 Task Work Related Activities

A Task shall be determined on the basis of what an average person from the local community could complete in a day. A Task shall be defined on the said basis with regard to the prevailing physical conditions e.g. soil density and other regulatory conditions as specified in Clause C3.3.4.

A task is a quantified activity or operation to be performed by a person/labourer in one ordinary working day. The quantification of tasks shall be based on individual employees or a group of employees.

The activities and production rate ranges given in the schedule below have (where indicated) previously been agreed to and sanctioned by the South African Federation of Civil Engineering Contractors (SAFCEC): Western Cape Branch to be realistic and must be used as a guideline by the Tenderer/Contractor in the preparation of his tender in as far as LIC construction methods are concerned.

SCHEDULE OF DAILY TASK PRODUCTION RATE PARAMETERS				
ACTIVITY		PRODUCTION RATE (quantity per task per day)		
No	Description	Unit	From:	To:
1.	Excavation:			
1.1	- Soft (sandy) material: 0 to 1,0 m deep	m ³	2	5,5
1.2	- Ditto: 0 to 1,5 m deep	m ³	1,1	4
1.3	- Clayey material: 0 to 1,0 m deep	m ³	1	3
1.4	- Ditto: 0 to 1,5 m deep	m ³	0.7	2,8
2	Backfilling in:			
2.1	- Soft (sandy) material: 0 to 1,5 m deep	m ³	2	5
3.	Trim and compact roadbed	m ²	38	75
4.	Place and compact sidewalk material (calcrete or ferricrete): 100 mm thick	m ²	25	50
5.	Place and compact basecourse or subbase (excluding mixing): 150 mm thick	m ²	15	30
6.	Manufacture (pre-casting):			
6.1	- Kerbs (0,3 to 1,0 m length)	No	15	25
6.2	- Bricks	No	80	200
6.3	- Blocks	No	60	150
7.	Brickwork to manholes and similar (220 mm thick)	m ³	1,5	3,7
8.	Laying blockwork to toilets	m ³	2,0	5,0
9.	Mixing concrete	m ³	0,7	3
10.	Place and spread sand asphalt	t	2,5	5,2

FOLLOWING HAVE NOT YET BEEN SANCTIONED BY SAFCEC				
11.	Backfilling in:			
11.1	- Soft (sandy) material: 1,5 to 2,5 m deep	m ³	1,8	4,5
11.2	- Clayey material: 0 to 1,5 m deep	m ³	1,2	3,5
12	Wheelbarrow haul	m ³ .m	270	700

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C3.4 Construction

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C3.4 Construction

C3.4.1 Applicable Standardised Specifications

The latest COLTO Standard Specifications for Road and Bridge Works for State Road Authorities.

For the purpose of this Contract the COLTO Standard Specifications for Road and Bridge Works for State Road Authorities shall form part of the Contract Document (although not issued or bound in with the Tender Document):

The project specifications form an integral part of the contract documents and supplement the standard specifications.

In the event of any discrepancy with a part or parts of the standard specifications, the schedule of quantities or the drawings, the projects specifications shall take precedence.

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

C3.4.2 Drawings

The Contractor will be supplied with three copies of each of the drawings as per item 1.3.5 ref PSA nominated by the client of the provisional sums. These prints will be issued free of charge and the Contractor shall make any additional prints he may require at his own cost.

Any information in the possession of the Contractor, which is necessary for the Resident Municipality for completing his as-built drawings, shall be supplied to the Resident Municipality before a certificate of completion will be issued.

Only figured dimensions shall be used and drawings shall not be scaled unless so instructed by the Municipality. The Municipality will supply any figured dimensions, which may have been omitted from the drawings.

The Contractor shall also check levels and all clearances given on the drawings and shall inform the Municipality of any discrepancies before he commences any work.

C3.4.3 Applicable Particular Specification

The following Particular Specification is bound into the document (or information is given as to where they are available) and shall apply:

a) Health and Safety Requirements

A pre-construction health & safety specification has been compiled as required by the Health & Safety Act 85/1993 and the now promulgated Construction Regulations (July 2003).

The specification is incorporated in this document in Section 3.6: Annexes.

C3.4.4 Site Facilities Available

a) Location of Camp Site

The location of the Contractor's camp including the material storage areas will be on the site of the Works and will be subject to the Municipality's approval.

b) Power Supply and other services

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

c) Housing for Contractor's employees

Other than the security personnel employed in terms of the Contract no housing on site shall be allowed. The Contractor is in all respects responsible for the housing and transportation of his employees, and for the arrangement thereof and no extension of time due to any delays resulting from this will be granted.

d) Ablution Facilities

The Contractor shall make his own arrangements for site ablution facilities at a rate of one toilet per ten workmen and shall furthermore be responsible for all costs involved with the removal of night soil.

C3.4.5 Site Facilities Required (Municipality)

a) Facilities for the Municipality

No housing is required for the Municipality. Facilities required for use by the Municipality's site staff are itemised in the Bill of Quantities in terms of GCC /Colto.

b) Telephone

No telephone to be provided for use by Municipality's personnel.

c) Site instruction book

A triplicate book shall be supplied by the Contractor to be used for site instructions and shall be available on site at all times.

C3.4.6 Contractor Site Facilities

a) Camp Site

The contractor shall make all arrangements of whatsoever nature, for the establishment of his construction camps, offices, stores and workshops on the site. He shall conclude all negotiations with landowners or local authorities with regard to acquisition of land for such camps etc. for the duration of the contract period and hereby indemnifies the Employer from any action that might arise as a result of his negotiations.

b) Sanitary Arrangements

The Contractor shall exercise strict control over sanitary arrangements to avoid nuisance and complaints from the public. The Contractor shall make his own arrangements with the responsible local authority regarding the disposal of refuse, and must allow for all costs in connection therewith including arrangements for sewage connection in his tendered rates.

c) Water Supply

The Contractor shall make all his own arrangements for the supply of potable water.

The Contractor shall at his own expense provide, lay, install, connect up and maintain in good condition from the point of supply, all piping, fittings, cables conductors and other equipment used by him in connection with the contract works. All such installations shall comply with the relevant regulations and shall be maintained to the approval of the Local Authority and the Resident Municipality.

d) Removal of Contractor's Temporary Services

The Contractor shall be responsible for recording on a plan of the works, the position of any pipes, cables, etc., he may lay for the purpose of this contract and shall be responsible for the removal thereof when the works are complete.

C3.4.7 Existing Services

The positions of the known existing services are shown on the drawings. The Contractor shall note that although the drawings have been prepared using available information they show only the approximate positions of existing services.

The information is supplied in good faith but shall be used as a guide only and does not relieve the Contractor of his responsibility to exercise due caution when working in areas where existing services can reasonably be expected, nor his obligation to liaise with the authorities in this regard and the obtaining of the necessary work permits and wayleaves (as applicable).

The Contractor shall be responsible to locate and safeguard any existing service he may encounter during construction. The Contractor shall be responsible for any damage to such existing services and works in the execution of this contract and shall reimburse the Employer, authority or the owner concerned for any repairs required following damages due to the Contractor's negligence.

The Contractor shall be responsible for immediately notifying the Municipality and the authorities concerned regarding any damage caused to public services and existing works.

Any alternations to public services shall be carried out by the Authority concerned unless the Contractor is instructed otherwise.

C3.4.8 Minimal disturbance to environment

The site and surroundings are to be kept clean from building rubble, waste etc. throughout the duration of the Contract. Roads used for transporting material shall be kept clean and dirt free on a daily basis. No separate payment will be made for this and it will be deemed to be included in the rates tendered for the relevant items.

Stacking of cut-down trees and vegetation on-site is not allowed as this is a possible fire-hazard. Under no circumstances will the burning of rubble, trees or bush be allowed on site.

C3.4.9 Site maintenance

During the progress of the work as well as upon its completion, the site of the works shall be kept and left in a clean and orderly condition. The Contractor shall at all times store materials and equipment for which he is responsible in an orderly manner and shall keep the site free from debris and obstruction.

C3.4.10 Spoil Material

No indiscriminate spoiling of material on site or elsewhere will be allowed. All surplus or unsuitable material shall be spoiled at a site to be provided by the Contractor and approved by the Municipality. Such site shall meet with the approval of the local authority within whose area it falls and the spoiling shall comply with all the statutory and municipal regulations.

C3.4.11 Testing and quality control

The Contractor shall engage the services of an approved and independent testing laboratory for the testing of materials and the quality testing of layerworks to ensure that his work conforms to the specifications. Additional testing may be done as per item 1.3.1 PSA 2 by the Engineer /client.

No separate payment will be made for contracting the services of an approved laboratory and the costs for complying with this requirement will be deemed to be included in the Contractor's tendered rates for the various items of work requiring testing in accordance with the specifications.

The results of all tests performed during the course of the Contract will be made available to the Municipality as soon as these become available.

C3.4.12 Samples

The Contractor shall at his own cost supply all samples that may be required. Material or work not conforming to the approved samples shall be rejected. The Municipality reserves the right to submit samples to any tests to ensure that the material represented by the sample conforms to the requirements of the specifications.

C3.4.13 Proprietary Materials

Where proprietary materials are specified it is to indicate the quality or type of materials or articles required, and where the terms "or other approved" or "or approved equivalent" or "similar approved" are used in connection with proprietary materials or articles, it is to be understood that the approval shall be at the sole discretion of the Municipality.

C3.4.14 Manufacturer's Instructions

The recommendations of the manufacturers of patented materials must be strictly adhered to regarding the use, mixing, application, fastening, etc. thereof except when otherwise instructed in writing by the Municipality.

C3.4.15 Setting Out of Work

Reference and level beacons will be shown to the Contractor by the Municipality at the commencement of the Contract and the Contractor will be responsible for transferring the datum to the Site of Works.

The Contractor shall check the condition and accuracy of all reference and level beacons and satisfy himself that they have not been disturbed and are true with regard to position and level. A beacon that has been disturbed shall not be used until its true position and level have been re-established and the new values have been certified by the Municipality. The Contractor shall thereafter be held entirely responsible for the protection of all reference and level beacons.

The Client shall employ a capable surveyor to set out the Works to the required lines and levels as per item 1.3.5 in relation to C3.4.2) .

The Municipality shall be informed immediately should any discrepancy be discovered between the levels or dimensions obtained by the Contractor and those shown on the drawings.

Where a beacon is likely to be disturbed during construction operations, the Contractor shall establish suitable reference beacons at locations where they will not be disturbed during construction. No beacons shall be covered over, disturbed or destroyed before accurate reference beacons have been established and details of the positions and levels of such beacons have been submitted to the Municipality. The Contractor's reference beacons shall be of at least the same accuracy and sturdiness of construction as the existing beacons.

The Contractor shall submit the method of setting out he proposes to employ to the Municipality. Accurate control of line and level shall be provided by the Contractor at all stages of construction.

Work set out by the Contractor may be checked by the Municipality and any errors found shall be rectified by the Contractor at his own expense. The Contractor shall supply any instrument, equipment, material and labour required by the Municipality for this survey work. Any assistance, including checking given to the Contractor by the Municipality or any setting out done by the Municipality for Contractor shall not be held as relieving the Contractor of his responsibility for the accurate construction of the Works.

The Contractor's survey instruments and survey equipment shall be suitable for the accurate setting out of the Works and shall be subject to the approval of the Municipality. They shall furthermore be checked and correctly adjusted by the authorized agents before the commencement of the contract and subsequently when required by the Municipality and when otherwise necessary.

Survey work shall not be measured and paid for directly and compensation for the work involved in setting out shall be deemed to be covered by the rates tendered and paid for the various items of work included under the contract.

C3.4.16 Notices, Signs, Barricades and Advertisements

The Contractor shall erect the necessary signs, notices and barricades for the duration of the contract in order to safeguard both the Works and the public.

Notices, signs and barricades as well as advertisements may be used only upon approval by the Municipality and the Contractor shall be responsible for their supply, erection, maintenance and ultimate removal and shall make provision for this in his tendered rates.

The Municipality shall have the right to have any sign, notice or advertisement moved to another position or to have it removed from the site of the works should it in any way prove to be unsatisfactory, inconvenient or dangerous to the general public.

The standard name board is specified, the cost of which shall be included in the rates tendered under Section 1300 of the Bill of Quantities.

C3.4.17 Construction in Limited Areas

It may be necessary for the Contractor to work within confined areas. Except at structures, no additional payment will be made as described for "restricted areas" in section 6100 of the standard specifications. The method of construction in these restricted areas will depend largely on the Contractor's plant. However, the Contractor must note that measurement and payment will be according to the specified cross-sections and dimensions irrespective of the method used to achieve these cross-sections and dimensions and that the rates and prices tendered shall be deemed to include full compensation for any difficulty encountered while working in limited areas and narrow widths and that no extra payment will be made, nor will any claim for payment due to these difficulties be considered.

C3.4.18 Length of Trenches

Where no limitations are imposed by construction stages and unless otherwise permitted in writing by the Municipality, not more than 50 m of trench in any one place shall be opened in advance of pipe laying operations.

No trench may be left open outside of working hours unless suitably protected and safeguarded and so approved by the Municipality.

C3.4.19 Transport of Material

All costs of transporting material, including overhaul, shall be included in the applicable tendered rates. All references in the specifications to transport, overhaul and haul distances shall be deleted irrespective of whether or not the deletion is included in these project specifications.

C3.4.20 Additional Requirements for Construction Activities

(a) Traffic accommodation

The travelling public shall have the right of way on public roads, and the Contractor shall apply suitable approved methods for so controlling the movement of his equipment and vehicles that they will not constitute a hazard on the road.

Failure to maintain road signs, warning signs or flicker lights, etc. in a good condition shall constitute ample reason for the Municipality to withhold any payment due to the Contractor until the road signs, etc. have been repaired or maintained to his satisfaction.

Accommodation of public traffic on the works or any delays caused thereby will not be regarded as a special circumstance for the extension of time.

In all dealings with the public the Contractor shall bear in mind the public's right to enjoy the use of the road, and the Employer's desire to interfere as little as possible with this right. At all points of contact with the public, the Contractor shall deal with deliberate courtesy and understanding in any discussions or disputes.

The Contractor may not commence constructional activities before the Municipality has been consulted and, if required adequate provision has been made for accommodating traffic in

accordance with the requirements of this document and the CSRA-CUTA Road Signs Note No. 13.

(b) Traffic Control at Roadworks

Road construction and maintenance operations on roadways which are open to traffic are often temporary and therefore more dangerous than a permanent hazard as they are not even expected by the driver who is familiar with the route. The fundamental principles are emphasised so that the responsible person may be able to adapt these to his particular situation.

(c) Methods of Control

Where a portion of the width of the roadway is closed and traffic is to proceed or pass through a work area, two methods of traffic control are available:-

- i) Flagmen, and
- ii) STOP/GO signs

The choice of the particular method to be employed will depend on the speed, the volume of traffic, the length and the visibility of the portion of roadway through which traffic is required to proceed. Set out below is a guide given details of each method.

i) FLAGMEN

The use of flagmen is an easy and flexible method of controlling traffic. The method should be used where traffic volumes are less than about 200 vehicles per hour and the flagmen at the beginning and end of the work area are clearly visible to each other. The length of the work section should be no more than about 100 m and the method can be used for two-way or one-way passing of traffic.

Where the obstruction is only intermittent this method may be used in conjunction with appropriate signs for higher traffic volumes than stated above.

The standard size of flags should be 450 mm square. Flags should be made of durable bright red cloth fastened to a staff about 1 m long. The free edge of the flag should be weighted to ensure a vertical position during windy weather. A diagonal stiffener may also be used for the same purpose.

The efficiency of flagging traffic control is often dependent on the intelligence of the flagmen. The careful selection and training of flagmen before making them responsible for the flow of traffic is essential. Flagmen should have good eyesight and hearing, be mentally alert, courteous and pleasant-natured.

Distinctive clothing should be given to flagmen on duty so that the public will recognise them and respect indications given by them. A bright-coloured helmet, preferably red, together with a yellow safety jacket should be issued to them.

Flagmen stations should be located far enough from the roadworks so that drivers will have sufficient distance to slow down their vehicles before entering the project but not so far away that the drivers tend to increase the speed of their vehicles before passing the roadworks. Normally the flagmen should stand either on the shoulder adjacent to the lane of traffic he is controlling or in the barricaded lane. Under no circumstances should he stand in the traffic lane. In rural areas he should be clearly visible to the traffic he is controlling from a distance of at least 150 m. For this reason he should stand alone never permitting a group of workmen to congregate around him.

ii) STOP AND GO PORTABLE SIGNS

Where traffic volumes exceed 200 vehicles per hour and one-way traffic is essential for safe passing over the work section, portable STOP and GO signs R1.5A and R1.5B should be used. The signs should only be controlled by a responsible person who should at least have the qualities referred to for flagmen. The sign should be positioned so that it is readily visible to the approaching driver. The men controlling the signs should be visible to each other for the purpose of co-ordinating vehicle group flow.

C3.4.21 Variations and Additions to COLTO

The following pages contain the variations and additions to the COLTO Standardized Specifications that will be valid for this Contract.

In certain clauses the standard specifications allow a choice to be specified in the project specifications between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract. Details of such alternatives or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains some 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 number of the relevant clause or payment item in the standard specifications. The number of a new clause or a new payment item, which does not form part of a clause or a payment item in the standard specifications and is included here, is also prefixed by B followed by a new number. The new numbers follow on the last clause or item number used in the relevant section of the standard specifications.

1. SECTION 1200: GENERAL REQUIREMENTS AND PROVISIONS

B1202: SERVICES

Substitute "The contractor will be introduced to known services" in the fourth paragraph with "The contractor shall be liable for all costs and subsequent costs arising from the damage cause by him to known services."

Add the following:

"The contractor shall give the Municipality at least one week's notice before the exposing of any service may be commenced with. Notwithstanding the above, the contractor may not commence with the exposing of any service before the approval of the Municipality has been given to him".

B1204: PROGRAMME OF WORK

Insert the following at the end of the first paragraph:

Once approved by the Municipality in writing, this programme shall be known as the Contract Programme. The Contractor shall take such steps as are necessary at all times to ensure that the work is carried out and controlled in such a way that the contract is completed within the time stated in the Tender and/or as extended by the Municipality in writing."

The programme shall be updated monthly in accordance with the progress made by the Contractor. The critical path must be clearly indicated.

It is in the Contractor's interest to give as much information as possible about times allowed for construction as well as resource or other limitations on programme times, since his programme will form the basis for any contractual negotiations concerning extensions of time once the contract has commenced.

Failure to comply with these requirements entitles the Municipality to use a programme based on his own assumptions to evaluate claims for extension of time for completion of the works, or for additional compensation.

Add the following to the end of this subclause:

"Should the Municipality require a revision to the Contract Programme for whatever reason, two paper prints of the Contract Programme, or revision thereof, shall accompany each approval request.

The Contractor shall not be entitled to any payment of cost incurred with respect to revisions or amendments of his Contract Programme."

Add the following additional subclause:

c) Reporting

The Contractor shall submit to the Municipality at least three days before each Monthly Site Meeting, a

Monthly Progress Report which shall include the following:

- (i) A summary of progress on site over the month immediately preceding the Monthly Site Meeting. This shall be in the form of a detailed narrative supplementing the Contract Programme.
- (ii) Highlight activities running late, indicating what steps have been or will be taken (e.g.) reprogramming, additional plant and/or labour resources, etc) to ensure that the specified date of completion is not overrun.
- 0
- (iii) Status report for all plant employed on site.
- (iv) Status report of all labour resources employed on site.
- (v) Status report of all material on site.
- (vi) Status report in relation to COVID 19 compliances

B1205: WORKMANSHIP AND QUALITY CONTROL

Add the following to the third paragraph:

“The cost of quality control tests done by the Municipality during the course of the contract will be for the employer’s account. The Municipality however reserves the right to let the contractor pay for failed tests.”

B1206: THE SETTING-OUT OF WORK AND PROTECTION OF BEACONS

Substitute the first sentence of the second paragraph with the following:

“The contractor shall, within a period of fourteen (14) days or such longer period as may be permitted by the Municipality, after receipt of the full particulars, check all beacons, reference marks, etc. and any discrepancy shall immediately be reported in writing to the Municipality.”

B1207: NOTICES, SIGNS AND ADVERTISEMENTS

Add the following to the second paragraph:

The Contractor must allow for the provision of 1 (one) of the standard Project Board as shown on the drawings. These boards shall be erected at a position on site indicated by the Municipality.

B1209: PAYMENT

(g) Trade Names

Add the following additional subclause (g):

“Where materials are specified under trade names, tenders must be based on those specified materials. Alternative materials may be submitted as alternative tenders and the Municipality may, after receipt of tenders, approve the use of equivalent materials”.

B1210: CERTIFICATE OF COMPLETION OF THE WORKS

The Works shall be completed within a period of 6 (Six) months including the Contractor's holidays in December/January as well as any special non-working hours/days specified, after receipt in writing of the order issued in terms of relevant clause of the General Conditions of Contract.

The maintenance period of six (6) months required for this contract will be calculated from the date of completion of all the works to the satisfaction of the Municipality in terms of relevant clause of the General Conditions of Contract 2010 Second Edition.

B1214: CONTRACTOR’S ACTIVITIES IN RESPECT OF PROPERTY OUTSIDE THE ROAD RESERVE AND OF SERVICES MOVED, DAMAGED OR ALTERED

Add the following to subclause (d):

“The Contractor shall hand these written statements, obtained from all landowners and authorities concerned, to the Municipality who will require all these written statements before the Final Certificate will be issued. This will normally include clearance and reinstating of borrow pits and quarries, diversions, haul roads, fencing, etc. Failing to obtain these written statements from all landowners and authorities concerned, the period of maintenance will be extended including all conditions related to such an extension, until such time that all these statements are obtained.

The obtaining of any such written statements will not relieve the Contractor of the execution of any of his obligations to the satisfaction of the landowner or authority concerned, and to the approval of the Municipality.”

B1224 : THE HANDING-OVER OF THE ROAD RESERVE

The road reserve for over these sections to be reconstructed will be handed over to the Contractor by the local authority at the commencement of the contract. The Contractor shall then be responsible for maintaining the full length of the roads under this contract from the date of handover until the end of the maintenance period.

B1225: HAUL ROADS

Add the following:

“Where public roads are used for haulage of the material, the contractor shall be responsible for all maintenance on the roads and also for reinstating the roads at the end of his usage to a condition at least comparable with that

before work commenced. The contractor shall establish and agree in writing the requirements of the relevant local authorities for both maintenance and reinstatement of the roads. He shall not use such roads until the Municipality is satisfied that these agreements are in place.

Particular care shall be taken where haul-roads traverse private farmland and pass close to farm dwellings. Haul roads in general, but particularly in the areas mentioned above, shall be kept continuously damp in order to limit the generation of dust.

The construction (where required), upgrading, maintenance, watering and rehabilitation of haul roads will not be measured separately and will be deemed to be included in the various rates tendered for obtaining material from the borrow pits and/or from commercial sources. At the end of the contract, all existing private roads shall be left in at least the same state as they were at the beginning of the contract.”

B1226: MEASUREMENT OF DEPTH OF TRENCHES AND FOUNDATION EXCAVATIONS

Substitute the last two sentences with the following:

“Where trenches are excavated in accordance with the fill method in the completed or partly completed road prism, the depth of excavation shall be measured and paid for in accordance with the minimum cover as specified on the drawings or as instructed by the Municipality, whichever may be applicable.”

B1230: ENVIRONMENTAL IMPACT CONTROL

Add the following additional clause after clause 1229.

“B1230: Environmental Impact Control

In addition to aspects of design which are intended to avoid or reduce environmental impact, and also in addition to normal good construction practices expected of the Contractor, the following shall be observed and unless otherwise specified, no separate payment will be made for observing these requirements as it is deemed to be included in the amount tendered for item 13.01 (a), (b) and (c) but any avoidable non-compliance with these requirements which could have been avoided in the opinion of the Municipality may be considered sufficient grounds for withholding payment in part of all the amounts to be paid for the above item 13.01”.

a) Restriction of working areas

Working areas are defined as those areas reasonably required by the Contractor to construct the contract as agreed with the Municipality. These shall generally be restricted to within the road reserve but where this is not possible they shall be kept to a minimum in order to minimise damage to areas outside the road reserve. Where designated working areas require rehabilitation this shall be paid for.

Before commencing any other work, the Contractor shall, in order to prevent unauthorised movement of persons or vehicles outside designated working areas and access road servitudes, erect and maintain temporary fences along the boundaries of the working areas, access roads, spoil and stockpile areas etc. as agreed with the Municipality and landowners.

Movement of vehicles and personnel outside the designated working areas will not be permitted without the written authorisation of the Municipality.
Discipline on site and in the camp shall be to such a degree as to indemnify the Employer from all complaints.

(b) Protection of fauna and flora

No trees or shrubs shall be removed from the road reserve unless so instructed by the Municipality in the interest of the road and road safety.

No vegetation inside the road reserve, natural or planted, shall be disturbed unless directly required to execute the work.

b) Dust Control

The Contractor shall take appropriate measures to minimise the generation of dust as a result of the works, operations and activities to the satisfaction of the Municipality. Such measures shall include regular and effective treatment of gravel haul and access roads and working areas. No additional payment will be made for such measures and the Contractor shall allow for them in his tendered rates.

c) Refuse

The Contractor shall be responsible for the establishment of a refuse control system that is acceptable to the Municipality.

The Contractor shall ensure that all construction debris (e.g. cement bags, timber, wire, nails, etc) waste and surplus food, food packaging, litter and organic waste are not deposited by his employees anywhere on, or off, the site except in refuse bins for removal on a regular basis by the Contractor. Refuse bins shall be litter-proof of a design approved by the Municipality, e.g. 210 litre oil drum with suitable lid all painted bright yellow. Refuse collected must be disposed of only at a site(s) approved by the Municipality and Local Authority. The Contractor shall provide labourers to clean up the Contractor's camp and working area at least once a week.

d) ITtoilets

The Contractor shall provide suitable sanitary arrangements at his camps, offices, workshops and construction sites for his staff. A minimum of one toilet shall be provided per 15 persons at each working area. If outside toilets are provided, they shall be of a neat construction and shall be provided with doors and locks and shall be secured to prevent them blowing over. Sanitary arrangements shall be to the satisfaction of the Municipality and the local authorities.

The Contractor shall be responsible for providing all sanitary services for himself, the Municipality's supervisory staff and subcontractors. The Contractor shall keep the toilets in a clean, neat and hygienic condition.

2. SECTION 1300: CONTRACTOR'S ESTABLISHMENT ON SITE AND GENERAL OBLIGATIONS

B1303: PAYMENT

Item	Unit
B13.01 : The contractor's general obligations	lump sum or month

- e) Add the following paragraphs after the paragraph numbered (iii):
 - (iv) "Provision of a suitable vehicle for inspection of the works during site meetings to be held approximately once a month. The vehicle shall be in a neat, clean and serviceable condition".
- f) In paragraph (2) substitute

“excluding contingencies and price adjustments in terms of clause 49 of the general conditions of contract” with “excluding any payment made under payment item B13.01, contingencies and price adjustments in terms of relevant clause of the general conditions of contract.”

B13.02: Employment of Community Liaison Officer (CLO).....Prov Sum

The unit of measurement for the employment of CLO shall be the months worked on the project by CLO at a rate agreed by both the Client and the Contractor.

The tendered rate shall include full compensation of the Contractor's finance charges and profits.

B13.03: Compilation of Health and Safety Plan.....Sum

The unit of measurement for the compilation of Health and Safety plan in accordance with applicable legislations shall be sum of cost incurred by the Contractor,s % mark up in preparation of such document and maintainance of it thereafter.

The tendered rate shall include full compensation for all work necessary for the preparation of such document and maintainance thereafter. This document and appointments in accordance with applicable legislation should be approved by the Municipality before any payment under this Item can be effected.

B13.04: Additional Survey Required by the Municipality.....km

The unit of measurement shall be the kilometres of road surveyed.

The tendered rate shall include all the expenses incurred for supply of site survey plans showing all ma-made features and/or land marks along the newly constructed road by nominated subcontractor by engineer or client.

B13.05: Additional blading required by the Municipalitykm

The unit of measurement shall be the kilometres of road bladed.

The tendered rate shall include full compensation for reshaping of the road surface, side drains and mitre drains after six (6) months of the completion date of the road construction and/or end of defects and liability period.

B13.06 : NameboardNumber (No.)

The tendered rate shall include full compensation for all work necessary for the supply, installation and maintainance of the standard name board of the South African Association of Employer.

B13.07: FacilitationSum

The unit of measurement for the compilation of Facilitation in accordance with applicable legislations shall be sum of cost incurred by the Contractor,s % mark up in preparation of such document and facilitation of it will be responsibility of the nominated sub-contractor by Engineer/client

3. SECTION 1400: HOUSING, OFFICES AND LABORATORIES FOR THE MUNICIPALITYS AND SITE
PERSONNEL

B1402: OFFICES AND LABORATORIES

g) General

Delete “and where required” in the sixth line of the seventh paragraph.

h) Offices

Substitute the first sentence of the first paragraph with the following:
“The type of office shall be as follows:

- i) Resident Municipality's office: The office shall serve as both the Municipality's office and the conference room and shall have a minimum floor area of 30 m2.

g) Ablution units
Substitute "with the details shown on the drawings" in the first paragraph with "with the requirements of the authorities concerned".

4. SECTION 1500 : ACCOMMODATION OF TRAFFIC

B1503: TEMPORARY TRAFFIC – CONTROL FACILITIES

Add the following after the first sentence of the third paragraph:

"Traffic cones and delineators shall be placed at maximum intervals of 10 m on tapers and 20 m straights unless otherwise authorised by the Municipality."

j) Traffic-control devices

Add the following:

"Flagmen shall be provided at all entrance and exist points to the working areas adjacent to areas where work is in progress under or next to traffic".

(b) Road signs and barricades

Add the following:

"Temporary warning and regulatory signs, delineators and barricades shall be of the new black, yellow and red type, in accordance with the figures and plans included in Roads Signs Note 13 – Roadworks.

No work may proceed on any section where accommodation of traffic is required until such time as the relevant requirements with regard to signposting are met and written approval from the Municipality is obtained.

k) IChannelization devices and barricades

Add the following:

Channelization shall be indicated by the use of delineators, cones, or steel drums as detailed in Road Signs Note 13 – Roadworks".

Add the following additional subclauses:

"(g) Cleaning of traffic cones and road signs

Cones shall be manufactured and positioned in accordance with the details specified on the drawings.

All traffic cones and road signs shall be kept clean and visible at all times. All bituminous or other foreign material shall be removed by the contractor, or new traffic cones and road signs shall be provided at the cost of the contractor, as directed and to the satisfaction of the Municipality.

B1517: MEASUREMENT AND PAYMENT

B15.03 Temporary traffic-control facilities

Substitute "R-series" with "TR-series" in 15.03l.

Substitute "W-series" with "TW-series" in 15.03(f).

Substitute "Danger plates and delineators" with "Danger plates and delineators (indicate size) including sandbags" in 15.03(h).

The unit of measurement shall be number of each sign provided and completely erected".

Substitute "which have become unserviceable" in the last paragraph with "which have become unserviceable or have been removed by other parties.

5. SECTION 1600 : OVERHAUL

B1602: DEFINITIONS

- l) Overhaul material

Add the following:

“Material from commercial sources or from sources of which the locating there-of is the Contractor’s responsibility shall not be classified as overhaul material.”

- (b) Overhaul

Add the following:

“An unlimited overhaul shall be applicable to all material from commercial sources or to material from sources of which the locating there-of is the Contractor’s responsibility”.

6. SECTION 1700 : CLEARING AND GRUBBING

B1703: EXECUTION OF THE WORK

- m) Reclearing of vegetation

Add the following:

“The contractor shall program his work in such a manner that reclearing will not be necessary”.

B1704: MEASUREMENT AND PAYMENT

Item Unit

B17.03: Reclearing of surfaces (on the written instruction of the Municipality only hectare (ha)

Substitute the clause with the following:

“No payment will be made for the reclearing of surfaces and the cost of such reclearing shall be at the contractor’s expense”.

7. SECTION 2200 : PREFABRICATED CULVERTS

B2204: CONSTRUCTION METHODS

Add the following:

“Prefabricated culverts shall be installed by the “trench method” unless otherwise instructed by the Municipality”.

B2205: EXCAVATION FOR CONSTRUCTION BY TRENCH METHOD

- n) Depth of excavation

Add the following to the second paragraph:

“The positions and levels of the culverts as shown on the drawings may be changed by the Municipality to suit conditions on site and the Contractor shall not start with any excavation before approval has been obtained from the Municipality.

- o) Width of excavation

Substitute the first paragraph with the following:

“The widths of excavations for pipe culverts shall be equal to the external diameter of the pipe barrel plus twice the side allowance determined from the following table:

External diameter of pipes (mm)	Side allowance on
---------------------------------	-------------------

Over	Up to and including	each side (mm)
0 700	700 1000	300 400

The side allowance for box culverts shall be 500 mm on each side, irrespective of the size of the box culvert.

Where two or more culverts (pipe or box) are to be placed in one trench, the excavation width shall be the sum of the external diameters of the pipes, or widths in the case of box culverts plus the side allowance for each outer culvert plus, between each pair of adjacent culverts, the dimension as shown on the drawings.

Add the following:

“A maximum width of 150 mm, over and above the specified width of excavation, shall be measured and paid for in the case of excavations made in hard or boulder material where a certain amount of overbreak is inevitable.”

B2218: MEASUREMENT AND PAYMENT

Item Unit
B22.01: Excavation cubic metre (m3)

Substitute “the disposal of excavated material unsuitable for backfilling” in the fifth paragraph with “the disposal of surplus material and/or material unsuitable for backfilling”.

B22.07: Cast in-situ concrete and formwork

Add the following:

“Apron slabs and cut-off walls shall be measured and paid for under 22.07I”.

Item Unit

B22.29: Construct in/outlet structure headwall and wingwalls to dimensions on standard detail with approved cement-mortared stone complete No

The rate shall be per number of in/outlet structures and will distinguish between structures built on one pipe or two pipes. The construction of stone headwalls and wingwalls will be restricted to 600 mm dia pipes only. Apron slabs and cut-off walls will be measured under items B22.07 and B22.10.

Suitable stone (hard field or quarry stone not susceptible to disintegration or weathering on exposure to atmosphere or water) will be used after the Municipality has approved the said stone.

Rounded boulders may not be used. Stone must be clean and wetted before set in a 6:1 sand : cement mortar.

8. SECTION 3100 : BORROW MATERIALS

B3104 (g): HAUL ROADS

Add the following:

No payment shall be made for the provision and maintenance of haul roads and all such costs shall be deemed to be covered by the rates tendered, except for the provision of fences if requested, which work shall be carried out, measured and paid for in accordance with the provisions of section 5500.

B3108: MEASUREMENT AND PAYMENT

Item Unit

B31.01: Excess overburden cubic metre (m3)

Add the following

“Payment will be made in two instalments, viz. 50% of the tendered rate after stockpiling the excess overburden and the remaining 50% after the material has been replaced and levelled off to the Municipality’s satisfaction.

9. SECTION 3300 : MASS EARTHWORKS

B3303 (a): CLASSES OF EXCAVATION

Add the following:

“The excavation of material from cut or borrow for fill (including excavations in existing roads where specified or agreed) shall be classified as either soft excavation or hard excavation.

All intermediate excavation shall be classified as soft excavation and the rate for soft excavation shall include the cost for intermediate excavation.”

B3305 (a): REMOVING UNSUITABLE MATERIAL

Substitute “or should the thickness of the layer to be removed be less than 200 mm” in the third paragraph with “or should the thickness of the layer to be removed after completion of the excavations in accordance with the original instructions be less than 200 mm”.

B3305I: PREPARING AND COMPACTING THE ROADBED

Add the following:

“The compaction requirements for roadbed shall, unless otherwise required by the Municipality, be in accordance with the compaction requirements for fill as specified in subsubclauses 3302(b)(iii)”.

B3312: MEASUREMENT AND PAYMENT

Item Unit
B33.03Extra over item 33.1 for excavating and breaking down material in cubic metre (m3)

Replace “items (a), (b) and (c)” in the first sentence of the second paragraph with “item (c)”.

Add the following sentence:

“The measurement for items (a) and (b) shall be the cubic metre of compacted layer, and the quantity shall be calculated from the authorised dimensions of the completed layer.”

10. SECTION 3400 : PAVEMENT LAYERS OF GRAVEL MATERIAL

SECTION 3402: MATERIALS

The following specification for gravel wearing course material shall apply:

Table B3402/4 : Gravel Wearing Course Material

Maximum size:	37.5 mm
Oversize index (10)a:	#5 per cent
Shrinkage product (Sp)b	100-240
Grading coefficient (Gc)c	16 – 34
CBR	15 min at 95 percent Mod AASHTO compaction and OMCD

a	lo	=	Oversize index (per cent retained on 37.5 mm sieve)
b	Sp	=	Linear shrinkage x per cent passing 0.425 mm sieve
c	Gc	=	(Per cent passing 26.5 mm – percent passing 2.0 mm) x per cent passing 4.75 mm/100
d		=	tested immediately after compaction

Only Class E gravel will be acceptable.

B3407: MEASUREMENT AND PAYMENT

Item Unit

B34.01: Pavement layers constructed from gravel taken from cut or borrow, including free haul up to 2.0 km

Change the heading of sub item 34.01(a) to "Gravel selected layer from cut or borrow compacted to:"

Add the following sub item:

- i) Gravel selected layer from crushed material compacted to:
i) 93% of modified AASHTO density (specify compacted layer thickness)cubic metre (m3)

Change the heading of sub item 34.01(h) to "Gravel wearing course from cut or borrow compacted to:"

Add the following sub item:

- j) Gravel wearing course from crushed material compacted to:
i) 95% of modified AASHTO density (specify compacted layer thickness)cubic metre (m3)

In second paragraph change: Materials' transportation distance from 1,0km to 2,0km.

B34.02: Extra over item 34.01 for excavation of material in cubic metre (m3)

Add the following phrase after the word "of" in the first line of the first paragraph "compacted pavement layer, and the quantity shall be calculated from the authorized dimensions of the completed layer".

NB. There will be no payment made under this item, therefore allowance should be made in Item B34.01 above.

11. SECTION 5600 : ROAD SIGNS

B5602: MATERIALS

- p) Structural steel

Substitute "Where specified, all structural steel" in the first paragraph with "All structural steel".

- q) IChromadek steel plate

Substitute "1,40mm" in the first paragraph with "1,20mm".

B5609: MEASUREMENT AND PAYMENT

Item Unit

**B56.05: Excavation and backfilling for road sign supports (not applicable to kilometre posts)
..... Cubic metre (m3)**

Substitute "not in concrete" in the first paragraph with "not in concrete or a soil/cement mixture".

12. SECTION 5900 : FINISHING THE ROAD AND ROAD RESERVE AND TREATING OLD ROADS

B5904: MEASUREMENT AND PAYMENT

Item Unit

B59.01 : Finishing the road and road reserve kilometre (km)

Add the following:

"Payment shall distinguish between road reserves where the new road is adjacent to the old road with both roads within the new road reserve and road reserves with only the new road within the new road reserve."

13. SECTION 8100 : TESTING MATERIAL AND WORKMANSHIP

B8117: MEASUREMENT AND PAYMENT

Item Unit

**B81.04: Testing material by the Municipality Provisional :
Sum**

The provisional sum provided shall cover the cost of additional and duplicate testing done by the Municipality.

PORT ST JOHNS LOCAL MUNICIPALITY

CONTRACT NO.:PSJLM – MIG-2020/21-59

CONSTRUCTION OF BUKHWEZENI ACCESS ROAD

C3.5 Management

Contents		Pages
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C3.5.1 Construction Programme & Methods

a) Time for Completion and Programme

The Works shall be completed within 24 (TWENTY FOUR) weeks, which period includes the normal days of inclement weather (as specified in Contract Data of this document), but is exclusive of the year end break, and special non-working days falling outside thereof.

The Contractor will be required to develop and maintain for the full duration of the contract, a Works Programme, the purpose of which it will be to ensure that the work is carried out and controlled in such a way that the Contract is completed within the time stated in the tender or in the time extended by the Municipality in writing.

The Contractor shall take all aspects regarding the conditions on site, access, transportation, and restricted working space, the availability of material, machines and labour into account during the tender stage and in compiling of a Construction Programme.

b) Construction Programme

The Contractor must submit his Construction Programme within the time stated in the Appendix to the Tender. The programme is subject to the Municipality's approval and remains so for the duration of the Contract.

This programme shall be in the form of a Gantt bar chart or other time/activity form acceptable to the Municipality. The unit of measurement in respect of the time periods of activities will be weeks. The programme shall reflect at least the following information:

- (i) A description of each of the major activities to be carried out during the Contract and the sequence in which they will be done.
- (ii) The programmed time for executing each activity.
- (iii) The dependencies which exist between the various activities and whether these are time-related or resources-limited or both.
- (iv) The critical path of activities on which final completion of the Works is dependent.
- (v) The amount of slack time for non-critical activities.

The following is a list of the main activities that the Contractor is required to indicate on his programme which shall not be considered as being comprehensive but rather as the minimum information required by the Municipality. Sub-items shall be indicated as necessary to demonstrate the proper order of the Works:

- Establishment on site
- Site Clearance
- Roadbed Preparation
- Construction of side drains
- Concrete Stormwater pipes
- hauling of gravel material
- Wearing course processing
- Headwalls
- Stone pitching and gabions
- Tiding up on completion
- Erection of road signs
- Handover

The following details shall also accompany the programme:

- r) Proposed number of working hours per day, working days per week, "pay weekends" (if any), and any proposed holiday or other shut down periods.
- (ii) Schedule of proposed labour resources (giving a breakdown of Municipalitys/technicians, foremen, supervisions, artisans, skilled and unskilled labour) for each major activity.
- s) Schedule of proposed plant resources (giving a breakdown of description and number of units) for each major activity.

If during the course of the Contract the progress of work falls behind on the programme, or if the sequence of operations is altered, or if the programme is deviated from in any other way, the

Contractor shall within one week of being notified by the Municipality submit a revised programme.

If the programme has to be revised by reason of the Contractor falling behind his programme, he shall produce a revised programme showing how he intends to regain lost time in order to ensure completion of the Works within the Time for Completion as defined in the General Conditions of Contract, taking extension of time granted into account. Any proposal to increase the tempo of work must be accompanied by positive steps to increase production by either providing more labour and plant on site, or by using the available resources in a more efficient manner.

Failure on the part of the Contractor to submit or to work according to the programme or revised programme shall be sufficient reason for the Municipality to take steps as provided in relevant clause of the General Conditions of Contract.

The approval by the Municipality of any programme shall have no contractual significance other than that the Municipality will be satisfied if the work is carried out according to such programme and that the Contractor undertakes to carry out the work in accordance with the programme. It shall not limit the right of the Municipality to instruct the Contractor to vary the programme should circumstances make this necessary.

It is in the Contractor's interest to give as much information as possible about times allowed for construction as well as resource or other limitations on programme times, since this programme will form the basis for any contractual negotiations about extensions of time once the contract is commenced. Failure to comply with any of these requirements will entitle the Municipality to use a programme based on his own assumptions to evaluate claims for extension of time for the completion of the work and/or for additional compensation.

Once approved by the Municipality in writing, this programme shall be known as the Contract

Programme and shall be revised only as described below. Minor revisions to the Contract Programme may be introduced from time to time by mutual agreement between the Contractor and the Municipality. Should the Municipality require a major revision to the Contract Programme for whatever reason, the Contractor shall be notified in writing and such revision shall be submitted for approval to the Municipality within two weeks of receipt of such notification.

If a revised programme is issued, the effect on the initial critical path must be clearly indicated by the Municipality as must the steps required to be taken to ensure the completion of the contract within the stated Time for Completion.

The Contractor shall submit to the Municipality, at least three working days before each monthly site meeting, one paper print of the Contract Programme with detailed programmes (as described below) duly marked up to reflect the actual progress up to that date.

c) Reporting

The Contractor shall submit to the Municipality at least three days before each monthly site meeting a monthly progress report which shall include the following:

- t) A summary of progress on site over the month immediately preceding the monthly site meeting. This shall be in the form of a detailed narrative to the Contract Programme.
- u) Highlight activities running late, indicating what steps have (or will) be taken (eg reprogramming, additional plant and/or labour resources, etc) to ensure that the specified date of completion is not overrun.
- v) Status report of all plant utilised on site.
 - (iv) Status report of all labour resources employed on site.
 - (v) Status report of all material on site.

No separate payment will be made for observing these requirements as it is deemed to be included in the amounts tendered for Preliminary and General items.

d) Methods

Construction methods must be of such a nature that no person, property or improvements in the vicinity of the works is endangered. The Employer accepts no responsibility for any work executed without written permission outside the site of Works.

C3.5.2 Features Requiring Special Attention

w) Dealing with Water

The Contractor is responsible for the control of storm-water from adjoining areas, the site underground water seepage. No additional payment will be made in this regard and the costs involved in complying with this Clause will be deemed to be included in the various tendered rates.

x) Survey Beacons

Benchmarks with levels and coordinates will be placed on site at commencement of the Works and formally handed over to the Contractor.

y) Record Drawings

As the Works proceed the Contractor must keep detailed records of all changes to the plans. The actual position of all new and existing services must be indicated on the set of drawings supplied free of charge for this purpose. No separate payment will be made for this and it will be deemed to be included in the rates tendered for the relevant items.

Any information in the possession of the Contractor which is necessary for the Municipality's Representative to complete his "as-built" drawings must be submitted to the Municipality before a Certificate of Completion will be issued.

Only figured dimensions shall be used and drawings shall not be scaled unless so instructed by the Municipality. The Municipality will supply any figured dimensions which may have been omitted from the drawings.

z) Safety

Since the construction occurs in a built-up area the Contractor must take the safety of the residents and their properties into account during the planning and execution of the Works. All open trenches, services, materials and machines must be protected and clearly marked.

C3.5.3 Workmanship and Quality Control

The onus to produce work which conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings rests with the Contractor and the Contractor shall, at his own expense, institute a quality-control system and provide experienced Municipalitys, Foremen, Surveyors, Materials Technicians, other Technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the works at all times.

The costs of all supervision and process control, including testing thus carried out by the Contractor shall be deemed to be included in the rates tendered for the related items of work.

The Contractor's attention is drawn to the provisions of the various Standardised Specifications regarding the minimum frequency of testing that will be required for process control. The Contractor shall at his own discretion, increase this frequency where necessary to ensure adequate control.

On completion of every part of the work and submission thereof to the Municipality for examination, the Contractor shall furnish the Municipality with the results of all relevant tests, measurements and levels to indicate compliance with the specifications.

C3.5.4 Liaison with Local Authorities (if applicable)

The Contractor will have to liaise with Local Authorities regarding the following matters:

aa) Dealing with traffic.

(ii) Locating existing underground services (including application for all necessary work permits and Way leaves).

(iii) Protection of existing services during construction.

All the relevant authorities were notified of above operations. It is then the Contractor's onus to immediately contact all these authorities and to accommodate their involvement in his Programme of Work. The Contractor should also warn the authorities at least 48 hours before the actual work commences. Compensation for delays, losses or accidents will not be considered should the Contractor at any time have failed to keep the Local Authorities informed.

The Municipality or Employer must immediately be notified should the Contractor experience any problem regarding work which involves a Local Authority.

PORT ST JOHNS LOCAL MUNICIPALITY

CONTRACT NO. : PSJLM – MIG-2020/21-59

CONSTRUCTION OF BUKHWEZENI ACCESS ROAD

C3.6 Annexes

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HEALTH AND SAFETY REQUIREMENTS

1. INTRODUCTION AND BACKGROUND

1.1 Background to the Health and Safety Specification (also termed This Specification)

The Construction Regulations (July 2003) place the onus on the Client to prepare a pre-construction health & safety specification, highlighting all risks not successfully eliminated during design.

1.2 Purpose of the Health and Safety Specification

To assist in achieving compliance with the Occupational Health & Safety Act 85/1993 and the now promulgated Construction Regulations (July 2003) in order to prevent or as far as possible, reduce incidents and injuries.

This specification shall act as the basis for the drafting of the Principal Contractor's and Contractors' construction phase health & safety plans.

The Health & Safety Specification sets out the requirements to be followed by the Principal Contractor and other Contractors so that the health & safety of all persons (including the public) potentially at risk may receive the same priority as other facets of the project e.g. cost, programme, environment, etc.

1.3 Implementation of the Health and Safety Specification

This Health & Safety Specification forms an integral part of the contract, and the Principal Contractor is required to use it when drawing up his project-specific construction phase health & safety plan. The Principal Contractor must forward a copy of this specification to all Contractors at their bidding stage so that they can in turn prepare health & safety plans relating to their operations.

2. HEALTH AND SAFETY SPECIFICATION

2.1 Scope

This Specification covers the requirements for eliminating and mitigating incidents and injuries on Contract No : PSJLM-MIG-2020/21-49 for the CONSTRUCTION OF MKHANZINI TO NINIVAACCESS ROAD : PORT ST JOHNS LOCAL MUNICIPALITY

The scope also addresses legal compliance, hazard identification and risk assessment, risk control, and promoting a health and safety culture amongst those working on the project. The Health & Safety Specification also makes provision for the protection of those persons other than employees.

2.2 Interpretations

Application

This specification is a compliance document drawn up in terms of the Occupational Health and Safety Act No 85 of 1993 (OHSA) and is therefore binding. It must be read in conjunction with all other relevant legislation as noted previously.

Definitions

The definitions as listed in the Occupational Health & Safety Act 85/1993 and Construction Regulations (July 2003) shall apply.

2.3 Minimum Administrative Requirements

Notification of Intention to Commence Construction Work

The Contractor shall notify the Provincial Director of the Department of Labour in writing before construction work commences. A copy of this notification must be held in the Contractor's health & safety file on site.

Assignment of the Contractor's Responsible Persons to Supervise Health and Safety on Site

The Contractor shall make supervisory appointments as well as other relevant appointments in writing (as stipulated by the OHSA and Construction Regulations 2003), prior to commencement of work.

Competence of the Contractor's Appointed Competent Persons

The Contractor's competent persons for the various risk management portfolios must fulfil the criteria as stipulated under the definition of "Competent" in accordance with the Construction Regulations (July 2003).

Compensation for Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

The Contractor shall have in his possession a letter of good standing with his Compensation assessor as proof of registration. **Contractors shall hold proof of workman's compensation assurance Registration in the form of a letter of good standing and forward a copy to the Municipality.**

Occupational Health and Safety Policy

The Contractor shall submit a Health and Safety Policy signed by his Chief Executive Officer. The Policy should outline the Employer's objectives as well as how they will be achieved and implemented by the Municipality.

Health and Safety Organogram

The Contractor shall prepare an organogram, outlining the site management health & safety structure including the relevant appointments/competent persons. In cases where appointments have not been made, the organogram shall reflect the intended positions. The organogram must be updated when there are any changes in the Site Management Structure.

Preliminary Hazard Identification and Risk Assessment and Progress Hazard Identification and Risk Assessment

The Contractor shall cause a hazard identification to be performed by a competent person before commencement of construction work. The assessed risks shall form part of the construction phase health and safety plan submitted for approval by the Client. The risk assessment must include:

- a) A list of hazards identified as well as potentially hazardous tasks;
- b) A documented risk assessment based on the list of hazards and tasks;
- c) A set of safe work procedures (method statements) to eliminate, reduce and/or control the risks assessed;
 - bb) A monitoring and review procedure of the risk assessments as the risks change.

The Contractor shall inform, instruct and train his workers regarding any hazards, risks and related safe work procedures before any work commences and thereafter at regular intervals as the risks change and as new risks develop. This training should be carried out in the form of toolbox health & safety talks. Contractors must conduct their own toolbox talks and submit proof of these talks to the Contractor at least weekly.

The Contractor shall be responsible for ensuring that all persons who could be negatively affected by his operations are informed and trained according to the hazards and risks and are conversant with the safe work procedures, control measures and other related rules (toolbox talk strategy to be implemented). The Contractor must conduct risk assessments specific to his operations and forward a copy to the Municipality. The Contractor when required must report on the status of these risk assessments.

Health and Safety Representative(s)

The Contractor shall ensure that Health and Safety Representative(s) are appointed under consultation and trained to carry out their functions. The appointments must be in writing.

The Health and Safety Representatives shall carry out regular inspections, keep records and report all findings to the Responsible Person forthwith and at health & safety meetings. Health & Safety representatives are required as soon as an Employer has 20 or more employees on site (one for the first 20 employees, another for the next 30 and one more for every 50 or part thereof employees thereafter).

Health and Safety Committees

The Contractor shall ensure that project health and safety committee meetings are held monthly and minutes are kept on record. Meetings must be organised and chaired by the Contractor's Responsible

Person (Section 16(2) person or CR 6(1) person), in accordance with the OHS Act 85/1993. Minutes of their meetings shall be kept on record and shall always be accessible to the Municipality or any other authorised representative.

Health and Safety Training

Induction

The Contractor shall ensure that all site personnel and undergo a site-specific health & safety induction training session before they start work. A record of attendance shall be kept in the health & safety file. A suitable venue must be available to house this training.

Awareness

The Contractor shall ensure that, on site, periodic toolbox health & safety talks take place at least once per week. These talks should deal with risks relevant to the construction work at hand. A record of attendance shall be kept in the health & safety file. All Contractors have to comply with this minimum requirement and submit proof to the Municipality.

Competence

All competent persons must have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control or carry out. This will have to be assessed on a regular basis e.g. training, evaluation, periodic audits by the Client, progress meetings, etc. The Contractor is responsible to ensure that competent persons are appointed to carry out construction work.

General Record Keeping

The Contractor shall keep and maintain Health and Safety records to demonstrate compliance with this Specification, with the OHS Act 85/1993, and with the Construction Regulations (July 2003). The Contractor shall ensure that all records of incidents/accidents, emergency procedures training, inspections, audits, etc. are kept in a health & safety file held in the site office (the file must include the Contractor's health & safety plan).

Health & Safety Audits, Monitoring and Reporting

The Client shall conduct monthly health & safety audits of the work operations including a full audit of physical site activities as well as an audit of the administration of health & safety. The Contractor is obligated to conduct similar audits at least monthly on all Contractors appointed by it and keep audit reports in his health & safety file. Contractors have to audit their sub-contractors and keep records of these audits in their health & safety files, made available on request.

Emergency Procedures

The Contractor must prepare a detailed Emergency Procedure for approval by the Client prior to commencement on site. The procedure shall detail the response plan including the following key elements:

- _ List of key competent personnel;
- _ Details of emergency services;
- _ Actions or steps to be taken in the event of the specific types of emergencies; and
- _ Information on any hazardous material/situations.

Emergency procedure(s) shall include, but shall not be limited to: fire, chemical spills; injury to employees; damage to material/equipment/plant; use of hazardous substances; bomb threats; major incidents/accidents; etc. The Contractor shall advise the Client in writing forthwith, of any emergencies, together with a record of action taken. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc.) must be maintained and available to site personnel.

All media and other interest parties must be directed to the Client.

First Aid Boxes and First Aid Equipment

The Contractor shall appoint first Aider(s) in writing. The appointed First Aider(s) must be certificated.

Copies of valid certificates are to be kept on site. The Contractor must supply at least one fully stocked first aid box. All Contractors with more than 5 employees shall supply their own first aid box. Contractors with more than 10 employees shall have their own trained, certified first aider on site at all times.

Accident/Incident Reporting and Investigation

Injuries are to be categorised into first aid; medical; disabling; and fatal. The Contractor must stipulate in his health & safety plan how it will handle each of these categories. When reporting injuries to the Client, these categories shall be used. The Contractor must investigate all injuries, with a report being forwarded to the Client forthwith. All Contractors have to report on the 4 categories of injuries at least monthly.

Contractors must investigate injuries and accidents involving their employees and forward a copy of the investigation report to the Municipality forthwith. The Contractor must report all injuries to the Client in the form of a detailed injury report at least monthly including man-hours worked for the month as well as the cumulative total.

Hazards and Potentially Hazardous Situations

The Contractor shall immediately notify the Client, in writing, of any hazardous or potentially hazardous situations that may arise during the performance of construction activities.

Personal Protective Equipment (PPE) and Clothing

The Contractor shall ensure that all site workers are issued and wear the correct and approved personal protection equipment (PPE). The Contractor shall make provision and keep adequate quantities of SANS approved PPE on site at all times according to the risk assessments. The Contractor shall clearly outline procedures to be taken when PPE or clothing is:

- _ Lost or stolen;
- _ Worn out or damage.

The above procedure applies to Contractors and their Sub-contractors, as they are all Employers in their own right and must therefore carry their own PPE.

Every Contractor is responsible for supplying the necessary PPE to his own employees. Labour Only Contractors appointed by the Contractor become the responsibility of the Contractor.

Occupational Health and Safety (OHS) Signage

The Contractor must provide adequate on-site OHS signage, including but not limited to: "No Unauthorised Entry", "Report To Site Office", "Site Office", "Beware Of Overhead Work", "Hard Hat Area". Signage must be posted up at all entrances to site as well as on site in strategic locations e.g. access routes, stairways, entrances to structures and buildings, scaffolding, and other potential risk areas/operations.

Health & safety signage must be well maintained including weekly inspections, cleaning, replacement and repair.

Permits

Permits may include (but not limited to) the following:

- Public walkways, roadways.
- The securing of any permits in terms of the above will be the responsibility of the Contractor.

Contractors and Sub-contractors

The Contractor shall ensure that all Contractors appointed by it comply with this Specification, the OHS Act 85/1993, Construction Regulations (July 2003), and all other relevant legislation that may relate to the activities directly or indirectly. The Contractor, when appointing other Contractors as "Sub-contractors", shall mutatis mutandis ensure compliance as if it was the Contractor.

Public and Site Visitor Health & Safety

The Contractor shall ensure that every person working on or visiting the site, as well as the public in general, shall be made aware of the dangers likely to arise from site activities, including the precautions to be taken to avoid or minimise those dangers. Appropriate health and safety notices and signs shall be posted up, but shall not be the only health & safety measures taken.

Both the Client and the Contractor have a duty in terms of the OHS Act 85/1993 to do all that is reasonably practicable to prevent members of the public and site visitors from being affected by the construction activities.

The extent of the site must be suitably displayed at all times with a limited number of access points which must be controlled to ensure safe access and egress. The access points must have adequate notices displayed (see items 2.3.18).

Site visitors must be briefed on the hazards and risks they may be exposed to and what measures are in place or should be taken to control these hazards and risks. As per the Construction Regulations, a record of these "inductions" must be kept on site (attendance register)

Night Work (Before and After Hours)

The Contractor must ensure that adequate lighting is provided to allow for work to be carried out safely.

Transport of Workers

The Contractor shall not:

- Transport persons together with goods or tools unless there is an appropriate area or section to store the tools or equipment.
- Transport persons in a non-enclosed vehicle, e.g. truck; there must be a proper canopy (properly covering the back and top) with suitable sitting area. Workers shall not be permitted to stand or sit at the edge of the transporting vehicle.
- Transport workers in LDV's (bakkies) unless they are closed/covered and have the correct number of seats for the passengers.

Construction Health & Safety Officer

A part time construction health & safety officer (in terms of Construction Regulation 6.6) will be required. This should include at least one audit per month of the Contractor's activities. Apart from these audits, the Contractor must audit his health & safety plans, health & safety files and physical site conditions at least monthly, keeping the audit records in his health & safety file on site.

Penalties

Penalties may be imposed for ongoing non-compliance with the provisions of the Client's Health & Safety Specification and the Contractor's health & safety plan. The penalty procedure shall consist of a written warning with a compliance time frame. Failure to comply within the time frame stipulated will result in a R1 000 penalties per non-compliance item per day that the non-compliance persists.

2.4 Physical Requirements

The Contractor shall make provision in his tender for safeguarding of any excavations/trenches as per this specification. Excavations and trenches deeper than 0.5m must either be shored or battered back to a safe angle unless a competent person deems the excavation or trench to be safe (permission must be given in writing). Where any uncertainty exists, the decision of a professional Municipality or professional technologist competent in excavation work will be decisive.

The Contractor shall make sure that:

- a) The excavations are inspected before every shift and a record of these inspections is kept;
- b) Safe work procedures have been communicated to the workers.
- c) The safe work procedures are enforced and maintained by the Contractor's Responsible Persons at all times;
- cc) Safe access is provided;
- e) No load, material, plant or equipment is placed or moved near the edge of any excavation or trench;
- f) The requirements as per Section 11 of the Construction Regulations are adhered to.

2.5 Plant and Machinery

Construction Plant

"Construction Plant" includes all types of plant including but not limited to, cranes, piling rigs, excavators, road vehicles, and all lifting equipment. The Contractor shall ensure that all such plant complies with the requirements of the OHS Act 85/1993 and Construction Regulations (July 2003). The Contractor shall inspect and keep records of inspections and load tests of the construction plant used on site. Only authorised/competent persons may use machinery and the proper supervision must be provided. Appropriate PPE and clothing must be provided and maintained in good condition at all times.

Vessels under Pressure (VuP) and Gas Bottles

The Contractor and all relevant Contractors shall comply with the Vessels under Pressure Regulations, including:

- _ Providing competency and awareness training to the operators;
- _ Providing PPE or clothing;
- _ Inspect equipment regularly and keep records of inspections;
- _ Providing appropriate fire fighting equipment (Fire Extinguishers) on hand;
- _ Oxygen and acetylene bottles must be secured in an upright position and must not show signs of corrosion or damage.

Fire Extinguishers and Fire Equipment

The Contractor 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 up as required. A minimum of four 9kg dry chemical powder fire extinguishers must be available in and around the site office establishment and stores. Wherever hot work is taking place, additional fire extinguishers must be on hand. Contractors are responsible for ensuring compliance with hot work procedures and must be in possession of method statements detailing the safe working procedures.

Hired Plant and Machinery

The Contractor shall ensure that any hired plant and machinery used on site is safe for use and complies with the minimum legislated requirements. The necessary requirements as stipulated by the OHS Act 85/1993 and Construction Regulations (July 2003) shall apply. The Contractor shall ensure that operators hired with machinery are competent and that certificates are kept on site in the health & safety file. Any load test requirements and inspections in terms of legislation must be complied with and copies of load test certificates and inspections must be kept in the health & safety file.

Scaffolding/Working in elevated positions

Working at heights includes any work that takes place in an elevated position. The Contractor must submit a risk-specific fall protection plan in accordance with the Construction Regulations (July 2003) before this work is undertaken. All scaffolding must comply with the requirements of SANS 085-2000.

Scaffolding must be declared safe for use by a competent scaffold inspector who must complete the scaffold register. Inspections must then be carried out weekly, after bad weather, after any alterations, after an incident, and before dismantling. The Contractor must keep all scaffold inspection registers on site.

Working in elevated positions requires the preparation of a fall protection plan. The plan must include a risk assessment and method statements/safe work procedures. All persons working in elevated positions must

be evaluated for physical and psychological fitness. All persons working in elevated positions must be trained and records of this training must be kept on site. All opening, edges, and the like must be adequately guarded.

Work from elevated positions may only be conducted as if it were being conducted from a safe ladder or safe scaffold.

Where fall prevention or fall arrest devices are being used, the correct devices must be used for the purpose and they must be properly maintained. Workers must be trained into the use and maintenance of the fall prevention and arrest equipment/devices.

All scaffolding platforms above 1.5m from the ground must be complete with guard rails and toe boards and must be fully boarded as per the requirements of general purpose scaffold platforms (5-board platforms). Mobile scaffolds may not exceed 3 x their minimum base width in height and must be adequately boarded as per their loading requirement (no less than 3-board wide). Mobile scaffolds and static frame towers must be erected as per the manufactures requirements (copies of these erection specifications/data sheets must be available on site).

Lifting Machines and Tackle

The Contractor shall ensure that lifting machinery and tackle is inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations (Section 20). There must be competent lifting machinery and tackle inspector who must inspect the equipment daily or before use, taking into account that:

- _ All lifting machinery and tackle has a safe working load clearly indicated;
- _ Regular inspection and servicing is carried out;
- _ Records are kept of inspections and of service certificates;
- _ There is proper supervision in terms of guiding the loads that includes a trained banksman;
- _ To direct lifting operations and check lifting tackle;
- _ Tower crane bases have been approved by an Municipality;
- _ Load test certificates are kept in the health & safety file;
- _ The operators are competent as well as physically and psychologically fit to work and in possession of a medical certificate of fitness to be available on site.

Ladders and Ladder Work

The Contractor shall ensure that all ladders are inspected monthly, are in good safe working order, are the correct height for the task, extend at least 1m above the landing, fastened and secured, and at a safe angle. Stepladders must be safe for use, must be the correct height for the task and the top two rungs may not be used. Records of inspections must be kept in a register on site. Contractors using their own ladders must ensure the same.

General Machinery

The Contractor must ensure compliance with the Driven Machinery Regulations, which includes inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE and relevant clothing, and training those who use machinery.

Electrical Installations and Portable Electrical Tools

The Client must ensure that the Contractor is made aware of the positions of all electrical power lines. The Contractor must comply with the Electrical Installation Regulations, the Electrical Machinery Regulations and the Construction Regulations (CR 22).

The Contractor shall carry a copy of the Certificate of Compliance for his electrical power supply. All temporary electrical installations must be inspected at least weekly. Portable electrical tools and equipment must be visually inspected daily with inspection records kept monthly. Records of these inspections must be kept on site.

2.6 Occupational Health

Occupational Health

Exposure of workers to occupational health hazards and risks is very common in any work environment, especially in construction. Occupational exposure is a major problem and all Contractors must ensure that proper health and hygiene measures are put in place to prevent exposure these hazards. Prevent inhalation, ingestion, absorption and noise induction.

Welfare Facilities

The Contractor must supply sufficient toilets (1 toilet per 20 workers), changing facilities, hand washing facilities, soap, toilet paper, and hand drying material must be provide. Waste bins must be strategically place and emptied regularly. Safe, clean storage areas must be provided for workers to store personal belonging and personal protective equipment. Workers should not be exposed to hazardous materials/substances while eating and must be provided with adequate, sheltered eating areas.

Alcohol and other Drugs

No alcohol and other drugs will be allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any person on prescription drugs must inform his/her superior, who shall in turn report this to the Contractor forthwith. Any person suffering from any illness/condition that may have a negative effect on his/her safety performance must report this to his/her superior, who shall in turn report this to the Contractor forthwith. Any person suspected of being under the influence of alcohol or other drugs must be sent home immediately, to report back the next day for a preliminary inquiry. A full disciplinary procedure must be followed by the Superior concerned and a copy of the disciplinary action must be forwarded to the Contractor for his records.

ANNEXURE A

HEALTH AND SAFETY SPECIFICATION (HSS)

The Contractor must submit compliance with Annexure A within **one working week (5 working days)** of receiving the Order to Commence

HSS ITEM NO.	REQUIREMENTS	OHS REQUIREMENTS	SUBMISSION DATE
2.3.1	Health and Safety Plan	Constructions Regs	Within two weeks
2.3.2	Notification of intention	Complete Schedule 1 (Construction Regs)	Before commencement on site
2.3.3	Assignment of Responsible Persons to Supervise Construction Work	OHS Act (Section 16.2) & Construction Reg 6	Before commencement on site
2.3.4	Competence of Responsible Persons	OHS Act (Section 16.2) & Construction Reg 6	Together with Health and Safety Plan
2.3.5	Compensation of Occupational Injuries and Diseases – proof of registration	COIDA	Together with Health and Safety Plan
2.3.6	Occupational Health and Safety Policy	OHS Act	Together with Health and Safety Plan
2.3.7	Health and Safety Organogram	Client Requirement	Together with Health and Safety Plan
2.3.8	Initial Hazard Identification and Risk Assessment based on the Client's assessment	Construction Regs	Together with Health & Safety Plan

ANNEXURE B

ASSIGNMENT OF CONTRACTOR'S RESPONSIBLE PERSONS

The Contractor shall make the following appointments: (further appointments could become necessary as the project progresses).

ITEM	APPOINTMENT	OHSa REFERENCE	REQUIREMENT
B1	CEO Assignee	Section 16(2)	A competent person to assist with the onsite H & S overall responsibility – Contractor's Responsible Person
B2	Construction Work Supervisor	CR 6.1	A competent person to supervise and be responsible of Health & Safety related issues on site. The person is appointed to assist the CEO with his/her overall duties.
B3	Subordinate Construction Work Supervisors	CR 6.2	A competent person to assist with daily supervision of construction / building work. The person assists the Construction Work Supervisor.
B4	Health & Safety Representative(s)	Section 17	A competent person(s) to inspect H & S in reference to plant, machinery and Health & Safety persons in the workplace.
B5	Incident Investigator A	GAR 8	A competent person to investigate incidents / accidents on site and could be: - The employer - H & S Representative - Designated person - Member of the H & S - Committee
B6	Risk assessment co-ordinator	CR 7	A competent person to co-ordinate all risk assessments on behalf of the Contractor.
B7	Fall protection plan co-ordinator	CR 8	A competent person to prepare and amend the fall protection plan.
B8	First Aiders	GSR 3	A qualified person to address all on site first aid cases.
B9	Excavation Inspector	CR 11	A competent person to inspect excavation work and ensure that approved safe working procedures are followed at all times.
B10	Ladder Inspector	GSR 13A	A competent person to inspect ladders daily and ensure they are safe for use, keeping monthly record
B11	Temporary electrical installations inspector	CR 22	A competent person to control all temporary electrical installations.
B12	Construction Safety Officer	CR6	A competent person to fulfil the functions as set out in 2.3.24 of the HSS.

ANNEXURE C

GENERAL COMPLIANCE REQUIREMENTS

The Contractor shall comply with but not be limited to the following requirements. Report in writing on these to the Client at progress meetings or at least monthly which ever is sooner.

ITEM	WHAT	WHEN	OUTPUT	ACCEPTED BY CLIENT AND DATE
C1	Construction-phase Health & Safety Plan	Monthly review	Contractor to report on status of health & safety plans – monthly	
C2	Health & Safety File	Open file when construction begins and maintain throughout	Have file on hand at meetings. Contractors to report on their file at monthly health & safety meetings	
C3	OHS Act and Relevant Regulations	Monthly review	To be kept in the health & safety file on site	
C4	Induction Training	Every worker before he/she starts before	Attendance registers to be kept.	
C5	Awareness Training (Toolbox talks)	At least weekly	Attendance registers to be kept.	
C6	Health & Safety Meetings	Monthly	Meeting minutes to be kept.	
C7	Health & Safety Rooms	Monthly	Report covering: • Incidents/accidents and investigations • Non conformances by employees & Contractors • Internal & External H & S audit reports	
C8	Emergency procedures	Monthly evaluation of procedure	Table procedure in writing as well as telephone numbers	
C9	Risk assessments	Updated and signed off at least monthly	Documented risk assessments	
C10	Safe work procedures	Drawn up before workers are exposed to new risks	Documented set of safe work procedures (method statements) reviewed and signed off	
C11	General Inspections	Daily and weekly	Report OHS Act compliance: - Excavations - Portable electrical tools - Temporary electrical installations - Materials hoist	
C12	General Inspections	Monthly	Ladders	
C13	General Inspections	3-monthly	- Lifting tackle - Oxy-acetylene cutting & welding sets - Fall prevention and arrest Equipment	
C14	Covid19 inspections	Daily and weekly	Report OHS Act compliance: - Screening and recording of workers and visitors temperatures on daily basis - Mask and sanitising of Equipment and Transportations	