

LEPELLE NORTHERN WATER



TENDER NO: LNW 04\21\22

PROJECT NAME: BABANANA WATER PROJECT RS 135 -

**Phase 1C: Construction Of Pipeline 1 and 6 at Mawa
Village & Surrounding Areas**

BOOK 2 of 2: SCOPE OF WORK

A CIDB GRADING: 8 CE OR HIGHER

CLOSING DATE: 06 OCTOBER 2021 @ 11:00 AM

ISSUED BY:

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NAME OF TENDERER: _____

TOTAL AMOUNT: _____ (incl. VAT)

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Tender No: LNW 04/21/22

BABANANA WATER PROJECT RS 135 -

**Phase 1C: Construction Of Pipeline 1 And 6 At Mawa Village
& Surrounding Areas**



PART C3

SCOPE OF WORK

C3.1 DESCRIPTION OF WORKS

The project entails the following: supply, delivery, installation and commissioning of pipes, valves and ancillary works that are SANS approved as per table below (Table 1).

Table 1: Overall Specification for Line 1 and Line 6

Description	Number/Length
Scour Valves	18
Air release Valve	34
355 mm OD u/mPVC Class 25	4500m
355 mm uPVC PN16	733
355 mm OD u/mPVC Class 20	1760m
75 mm OD uPVC Class 16	3480m
Chambers	52
160mm dia uPVC Pressure Pipe Class 16	747
250mm dia uPVC Pressure Pipe Class 9	747

The scope includes but is not limited to the following items:

Note: It remains the contractor's responsibility to ensure that the newly installed pipes and valves specifications indicated in the specification provided, under scope of work and tables below, particularly the valve flanges and face to face dimensions are being verified/approved and of the correct sizes prior to supply and delivery to site.

a) 75 NB, PN 25 AIR VALVE TEE – STANDARD SG HYDRANT TEE- Drawing C1201-1000, Air valve chamber single pipe

ID	Item	Specification
1	Type	Air Valve Tee
2	Body	Ductile Iron
3	Pressure rating	PN25
4	Nominal Size	75 NB
5	Valve Flange Table	2500/3
6	Hydrant TEE PCD	175 mm



7	Drilling	8
8	Flanges	To SANS 1123
9	Corrosion Protection	Fusion Bonded Epoxy, to 250 microns
10	Quantities	1 (one)

b) 25 NB SPECIAL REDUCER – Drawing C1201-1000, Air valve chamber single pipe

ID	Item	Specification
1	Type	80MMM NB Blank Flange with 25mm NB STUB, 125mm Long.
2	Body	Mild Steel
3	Stub	3x5mm Mild Steel gusset plates
4	Pressure rating	PN25
5	Nominal Size	25 NB
6	Valve Flange Table	2500/3
7	Thread end	To resemble the specification for the ball valve
8	Corrosion Protection	Fusion Bonded Epoxy, to 250 microns
9	Quantities	1 (One)

c) 25 NB BALL VALVE – SCREWED END-Drawing C1201-1000, Air valve chamber single pipe

ID	Item	Specification
1	Type	Threaded Ball Valve
2	Body	Stainless Steel
3	Pressure rating	PN25
4	Nominal Size	25 NB
5	Quantities	1(One)

d) 25mm NB AIR RELEASE AND VACUUM BRAKE VALVE– STANDARD SCREWED-Drawing C1201-1000, Air valve chamber single pipe

ID	Item	Specification
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1	Type	Double Orifice with Anti-Shock Orifice Mechanism
2	Pressure rating	PN 25
3	End connection	Screwed BSP/NPT Male
4	Nominal size	DN 25
5	Corrosion Protection	Fusion Bonded Epoxy, to 250 microns
6	Quantities	1(One)

e) **50 NB BALL VALVE – FLANGED-Drawing C1201-1001, Scour valve chamber gravity pipe**

ID	Item	Specification
1	Type	Flanged Ball Valve
2	Body	Stainless Steel
3	Pressure rating	PN25
4	Nominal Size	50 NB
5	Quantities	2(Two)

f) **50 NB WEDGE GATE VALVE – FLANGED-Drawing C1201-1002, Air valve chamber single pipe**

ID	Item	Specification
1	Type	Wedge Gate Valve
2	Body	Stainless Steel
3	Valve Flange Table	2500/3
4	Flanges	To SANS 1123
5	Pressure rating	PN25
6	Nominal Size	50 NB
7	Quantities	8(eight)

g) **50mm NB AIR RELEASE AND VACUUM BRAKE VALVE– FLANGED-Drawing C1201-1002, Air valve chamber two pipes**

ID	Item	Specification
1	Type	Double Orifice with Anti-Shock Orifice Mechanism Flanged
2	Pressure rating	PN 40
3	End connection	Flange with Screwed Studs
4	Nominal size	DN 50

5	Corrosion Protection	Fusion Bonded Epoxy, to 250 microns
6	Quantities	8(eight)

h) 50 NB BALL VALVE – FLANGED-Drawing C1201-1003, Air valve chamber two pipes

ID	Item	Specification
1	Type	Ball Valve Flanged
2	Body	Stainless Steel
3	Valve Flange Table	2500/3
4	Flanges	To SANS 1123
5	Pressure rating	PN25
6	Nominal Size	50 NB
7	Quantities	5(Five)

i) 50 NB BALL VALVE – FLANGED-Drawing C1201-1003, Air valve chamber two pipes

ID	Item	Specification
1	Type	Ball Valve Flanged
2	Body	Stainless Steel
3	Valve Flange Table	4000/3
4	Flanges	To SANS 1123
5	Pressure rating	PN25
6	Nominal Size	50 NB
7	Quantities	1(One)

j) 50mm NB AIR RELEASE AND VACUUM BRAKE VALVE– FLANGED-Drawing C1201-1003, Air valve chamber two pipes

ID	Item	Specification
1	Type	Double Orifice with Anti-Shock Orifice Mechanism Flanged
2	Pressure rating	PN 25
3	End connection	Flange with Screwed Studs
4	Nominal size	DN 50
5	Corrosion Protection	Fusion Bonded Epoxy, to 250 microns



6 Quantities

5 (five)

k) 50mm NB AIR RELEASE AND VACUUM BRAKE VALVE– FLANGED– FLANGED-Drawing C1201-1003, Air valve chamber two pipes

ID	Item	Specification
1	Type	Double Orifice with Anti-Shock Orifice Mechanism Flanged
2	Pressure rating	PN 40
3	End connection	Flange with Screwed Studs
4	Nominal size	DN 50
5	Corrosion Protection	Fusion Bonded Epoxy, to 250 microns
6	Quantities	1 (one)

l) 25 NB BALL VALVE – FLANGED– FLANGED– FLANGED-Drawing C1201-1003, Air valve chamber two pipes

ID	Item	Specification
1	Type	Ball Valve Flanged
2	Body	Stainless Steel
3	Valve Flange Table	2500/3
4	Flanges	To SANS 1123
5	Pressure rating	PN25
6	Nominal Size	50 NB
7	Quantities	6(Six)

m) 25mm NB AIR RELEASE AND VACUUM BRAKE VALVE– FLANGED-Drawing C1201-1003, Air valve chamber two pipes

ID	Item	Specification
1	Type	Double Orifice with Anti-Shock Orifice Mechanism Flanged
2	Pressure rating	PN 25
3	End connection	Flange with Screwed Studs

4	Nominal size	DN 25
5	Corrosion Protection	Fusion Bonded Epoxy, to 250 microns
6	Quantities	6 (six)

n) 100 NB WEDGE GATE VALVE – FLANGED-Drawing C1201-1005, Small Scour Valve chamber

ID	Item	Specification
1	Type	Wedge Gate Valve
2	Body	Stainless Steel
3	Valve Flange Table	2500/3
4	Flanges	To SANS 1123
5	Pressure rating	PN25
6	Nominal Size	100 NB
7	Quantities	2(two)

o) 50 NB BALL VALVE – FLANGED-Drawing C1201-1005, Small Scour Valve chamber

ID	Item	Specification
1	Type	Ball Valve Flanged
2	Body	Stainless Steel
3	Valve Flange Table	2500/3
4	Flanges	To SANS 1123
5	Pressure rating	PN25
6	Nominal Size	50 NB
7	Quantities	1(One)

p) 100 NB WEDGE GATE VALVE – FLANGED-Drawing C1201-1007, Sleeve Scour Valve chamber

ID	Item	Specification
1	Type	Wedge Gate Valve
2	Body	Stainless Steel
3	Valve Flange Table	2500/3
4	Flanges	To SANS 1123
5	Pressure rating	PN25



6	Nominal Size	100 NB
7	Quantities	1(one)

q) **50 NB BALL VALVE – FLANGED-Drawing C1201-1007, Sleeve Scour Valve chamber**

ID	Item	Specification
1	Type	Ball Valve Flanged
2	Body	Stainless Steel
3	Valve Flange Table	2500/3
4	Flanges	To SANS 1123
5	Pressure rating	PN25
6	Nominal Size	50 NB
7	Quantities	1(One)

r) **100 NB WEDGE GATE VALVE – FLANGED-Drawing C1201-1008, Sleeve Scour Valve chamber**

ID	Item	Specification
1	Type	Wedge Gate Valve
2	Body	Stainless Steel
3	Valve Flange Table	4000/3
4	Flanges	To SANS 1123
5	Pressure rating	PN40
6	Nominal Size	100 NB
7	Quantities	2(Two)

s) **100 NB WEDGE GATE VALVE – FLANGED-Drawing C1201-1009, Scour Valve chamber single**

ID	Item	Specification
1	Type	Wedge Gate Valve
2	Body	Stainless Steel
3	Valve Flange Table	4000/3
4	Flanges	To SANS 1123
5	Pressure rating	PN40
6	Nominal Size	100 NB
7	Quantities	4(Four)

t) 25 NB BALL VALVE – Screwed-Drawing C1201-1010, Air Valve chamber two pipes

ID	Item	Specification
1	Type	Ball Valve Screwed
2	Body	Stainless Steel
3	Valve Flange Table	2500/3
4	Flanges	To SANS 1123
5	Pressure rating	PN25
6	Nominal Size	25 NB
7	Quantities	2(Two)

u) 25mm NB AIR RELEASE AND VACUUM BRAKE VALVE– screwed-Drawing C1201-1010, Air Valve chamber two pipes

ID	Item	Specification
1	Type	Double Orifice with Anti-Shock Orifice Mechanism screwed
2	Pressure rating	PN 25
3	End connection	Flange with Screwed Studs
4	Nominal size	DN 25
5	Corrosion Protection	Fusion Bonded Epoxy, to 250 microns
6	Quantities	2 (Two)

v) 100 NB WEDGE GATE VALVE – FLANGED screwed-Drawing C1201-1012, Scour Valve chamber two pipes

ID	Item	Specification
1	Type	Wedge Gate Valve
2	Body	Stainless Steel
3	Valve Flange Table	1000/3
4	Flanges	To SANS 1123
5	Pressure rating	PN10
6	Nominal Size	100 NB
7	Quantities	2(Two)

w) **50 NB BALL VALVE – FLANGED-Drawing C1201-1012, Scour Valve chamber two pipes**

ID	Item	Specification
1	Type	Ball Valve Flanged
2	Body	Stainless Steel
3	Valve Flange Table	2500/3
4	Flanges	To SANS 1123
5	Pressure rating	PN25
6	Nominal Size	25 NB
7	Quantities	4(Four)

Note :

- ✓ Bidders who feel they are not able to meet the minimum requirements for this specifications or the terms of reference of this bid (Books 1 and 2) may refrain from submitting the tender offer.
- ✓ Clarity seeking questions are more than welcome.

C3.1.1 SCOPE

CONSTRUCTION OF WATER SUPPLY PIPELINES

The project entails the following:

WATER PRESSURE PIPES INFRASTRUCTURE

1. Construction of water distribution pipelines ranging from 75mm, 160mm, 200mm and 355mm diameter pressure distribution pipelines;
2. Supply, delivery and installation of all valves.
3. Supply, delivery and installation of new pipe fittings.
4. Construction of new chambers.
5. Testing and commissioning of pressure pipes, valves, flow meters and fittings.
6. Maintenance of the works during the defect's liability period.

NB: The following deliverables will also need to be provided as per the terms of reference on the contract.

- a) Submission of contractual documents;
- b) Obtaining of construction permit;

- c) Establishment of camps on site;
- d) Site clearance;
- e) Procurement of pipes, valves and fittings;
- f) Provision of workshop drawings for approval;
- g) Seeking approval by LNW and Engineer to proceed;
- h) Supply and delivery of new pipes and fittings;
- i) Excavation of pipe trenches;
- j) Placing of pipe bedding;
- k) Installation of pipes, valves, fittings and flowmeter;
- l) Construction of concrete chambers;
- m) Installation of cathodic protection;
- n) Refurbish existing concrete reservoirs;
- o) Hydrostatic testing of reservoirs and supply pipelines;
- p) Inspection by Engineer and LNW for quality; and
- q) Testing and commissioning of pressure pipes, valves, flow meters and fittings.
- r) Maintenance of the works during the defect's liability period.

Notes:

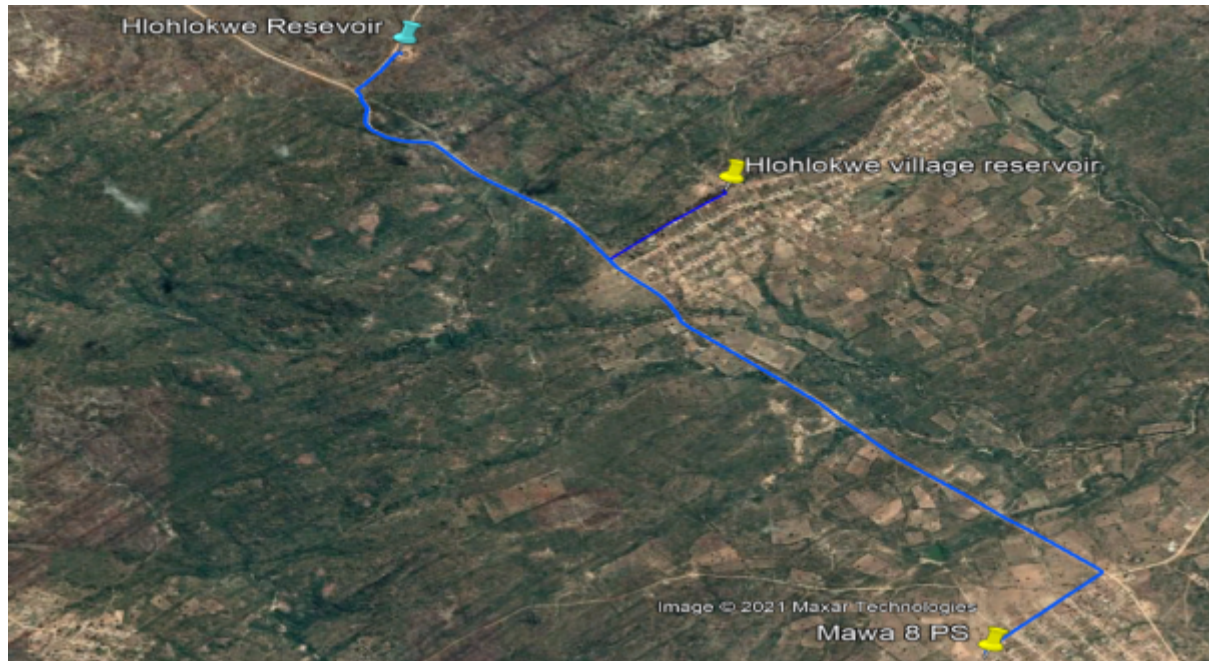
- ***The project should be completed within Twelve (12) months from date of appointment.***
- ***The project is required to implemented as per latest version of general conditions of contract (GCC 2015 3rd edition) and construction regulation 2014.***

C3.1.2 LOCATION OF WORKS

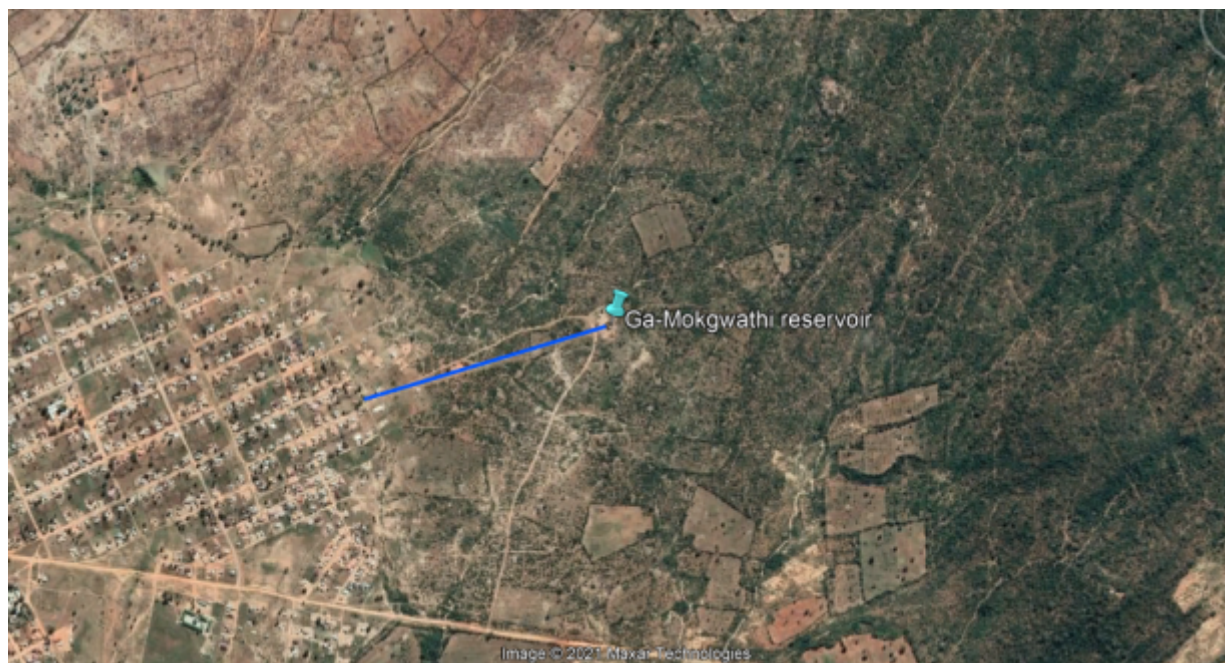
The plants, with their coordinates, are:

RESERVOIR/PS	Latitude	Longitude	Approximate length
Mawa 8 PS	-23.584142°	30.512622°	7000 m
Hlohlokwe	-23.541062°	30.481398°	3480 m
Gamokgwathi	-23.576788°	30.599892°	747 m

**Line 1 from Mawa 8 PS to Hlohlokwe Reservoir: -23.584142°; 30.512622°&
-23.541062°; 30.481398°**



Liine 6 to Gamokgwathi reservoir: -23.576788°; 30.599892°



C3.1.3 NATURE OF WORKS

The description of the project contained in this section is merely an outline of the contract works and shall not limit the work to be carried out by the Contractor under this contract. Approximate quantities of each type of work to be carried out in accordance with the contract documents are listed in the Bill of Quantities bound in this volume.

The nature of work to be carried out under this contract includes *inter alia* the following:

- a) Submission of contractual documents;
- b) Obtaining of construction permit;
- c) Establishment of camps on site;
- d) Site clearance;
- e) Procurement of pipes, valves and fittings;
- f) Provision of workshop drawings for approval;
- g) Seeking approval by LNW and Engineer to proceed;
- h) Supply and delivery of new pipes and fittings;
- i) Excavation of pipe trenches;
- j) Placing of pipe bedding;
- k) Installation of pipes, valves, fittings and flowmeter;
- l) Construction of concrete chambers;
- m) Installation of cathodic protection;
- n) Refurbish existing concrete reservoirs;
- o) Hydrostatic testing of reservoirs and supply pipelines;
- p) Inspection by Engineer and LNW for quality; and
- q) Testing and commissioning of newly built infrastructure.

C3.1.4 SPECIALIST SUBCONTRACTORS

In line with GCC 2015 Clause 4.4.3, the main contractor would be required to source three (3) quotations from competent specialists' suppliers and service providers. Each quotation would be based on a schedule of quantities and terms of reference to be supplied by the Employer. The appointment of the selected subcontractor would be subject to the approval of the Employer.

LNW shall appoint the 3rd party inspection specialists through the provisional sums provided.

C3.1.5 PROJECT MEETINGS

The contractor shall be required to attend meetings relating to the Works and the site.

C3.1.6 DRAWINGS

The reduced drawings contained in C4 that form part of the tender document shall be used for tender purposes only and for information only.

Drawings are not to be scaled. Only figured dimensions shall be used and drawings shall not be scaled unless so instructed by the employer. If a dimension is not shown, it will be the responsibility of the contractor to find the correct dimension from the employer

Certain dimensions are marked thus “*” and are to be confirmed on site by the contractor.

And again, the closing length is to be determined on site to fit.

The contractor will be provided with three free sets of paper prints of the drawings and two free copies of the contract document.

In addition, a further set of paper prints of the drawings will be issued to the contractor which shall be kept on site and upon which the contractor shall record all data necessary for the compilation of "as-built" drawings. At the completion of the Works, these drawings shall be returned to the employer.

The contractor shall submit workshop/construction drawings for comments and approval by the employer before commencement of works

C3.1.7 AS BUILT DRAWINGS

The Contractor is required to supply to the Engineer for the records of the Employer the following:

- “As Built” plans showing the work designed by him in terms of the Contract as well as any additional information the Engineer or Employer may wish to have shown thereon. One paper print of each such plan as well AUTOCAD compatible digital file shall be submitted for the Engineer’s approval within three months of the issue of a Certificate of Completion.
- Furthermore, at the extra set of paper prints issued to the contractor the contractor must pass all changes and with the conclusion of the works.

Any information in the possession of the contractor, which the Engineer requires to complete the as-built drawings, shall be supplied to the resident engineer before a certificate of completion will be issued.

No additional payment will be made, and the cost related thereto shall be deemed to be included in the tendered rates for the related items.

C3.1.8 CUSTODY OF DRAWINGS AND SPECIFICATIONS

The Drawings and Specifications shall remain the sole property of the Employer and the Contractor shall be required to sign for receipt thereof. The copyright of all documents shall vest in the Employer and the Drawings and Specifications may not be reproduced, in part or in whole, without the written authority of the Engineer

C3.1.9 COPYRIGHT

The copyright in all documents, drawings and records related to the purpose and scope of the Works or related in any other manner to the Works, shall vest in the Employer and the Contractor shall not furnish any information in connection with the Works to anybody without the approval of the Employer.

C3.1.10 POWER, WATER SUPPLY AND OTHER SERVICES

The contractor shall make 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 providing these services will be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.

There is power available on site and for light duty at different buildings. The contractor must supply all temporary major connections at the works and connect directly to the plants where he will install an electrical meter. The use of electricity will be monitored and charged for at the Eskom current charge out rates by the owner for payment by the contractor. The client cannot guarantee supply of power and is noted that outage can be common in these areas. The contractor must make his own arrangements for emergency power supply to his camp and especially at critical machinery and plant of his operation. No extension of time for outage will be entertained. It is to be noted that a certified electrician must correctly install all site electrical extensions.

The employer will make metered potable water available at a standard charge of R7.00 per m³ for the normal execution of the works and the needs of the labour force on site. The Contractor shall make his own arrangements with the employer for a suitable connection point for a water supply for contractors' camp and construction purposes. Such installation inclusive of any water pipes and dispense taps will be for the contractor account. The contractor shall install at his expense a water meter to monitor the consumption of water and will be liable for any punitive payments required in regard to excessive use of water.

The following are noted:

- The abstraction and purification works have water available for use by the contractor, but the contractor's attention is drawn to the fact that water will not be available at certain periods during the refurbishment stage which he will be carrying out as well during the often occurring on site outage. The cost of the line to the main contractor camp will have to be borne by the general P&G rates offered. The connection point would be in the vicinity of the main water tower. The client cannot guarantee either the water supply or the water quality. Especially the water for drinking purposes.
- The Contractor shall comply with any measures regarding restrictions on the use of water laid down by the Employer from which water is directly or indirectly obtained.

C3.1.11 CONTRACTOR'S CAMP SITE AND SECURITY

The contractor shall make his own arrangements regarding the establishment of a camp site and housing for his construction personnel and all regulations stipulated by the local authority shall be adhered to.

It is anticipated that the contractor's choice of a camp site will be influenced by the availability of telephone and electrical connections as well as the supply of potable water. Provision is made in these specifications for the erection of a security fence around the site offices. The contractor shall be responsible for the security of his personnel and constructional plant on and around the site of the works and for the security of his camp, and the employer will consider no claims in this regard.

C3.1.12 ACCOMMODATION OF TRAFFIC

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

The contractor shall submit proposals in connection with directional signs to the engineer for approval.

C3.1.13 PROGRAMME REQUIREMENTS FOR CONSTRUCTION ACTIVITIES

The contractor shall programme his activities to be suitable in terms of his resources to complete the contract inside the stipulated time period.

C3.1.14 CONSTRUCTION IN CONFINED AREAS

It may be necessary for the contractor to work in confined areas. The method of construction in these confined areas depends on the contractor's construction plant. However, the contractor must note that measurement and payment will be in accordance with the specified cross-sections and dimensions, irrespective of the method used to achieve these cross-sections and dimensions, and that the rates and amounts tendered will be deemed to include full compensation for any special equipment or construction methods or for any difficulty encountered in working in confined areas and narrow widths, and at or around obstructions, and that no extra payment will be made nor will any claim for payment be considered on account of these difficulties.

C3.1.15 BARRICADING OF EXCAVATIONS

All excavations near pedestrian and vehicular traffic are to be barricaded to the satisfaction of the Engineer. Barricading shall consist of a minimum of two strands of parallel and horizontal wire of at least 2mm gauge, the topmost strand being fixed at least 1m above ground level. These wires shall be fixed to the approved fence posts, which shall be securely fixed in a vertical position.

The visibility of these barricades shall be enhanced by the attachment of high visibility construction tape to the posts and wire strands and by the placing of reflective signing to the Engineer's satisfaction. All costs arising from these requirements are to be included in the tendered rates for excavation.

C3.1.16 ENGINEERING

a) DESIGN

- The service provider/contractor responsible for the design of the permanent Works as reflected in these Contract Documents unless otherwise stated.
- The **Contractor** is responsible for the design of the temporary Works and their compatibility with the permanent Works.

- The **Contractor** shall supply all details necessary to assist the engineer in the compilation of the as-built drawings.
- The **Contractor** is responsible for all drawings in the entire project.

b) CONTRACTOR'S DESIGN

Where contractor is to supply the design of designated parts of the permanent Works or temporary Works, he shall supply full working drawings supported by a professional engineer's design certificate.

c) DESIGN PROCEDURE

All designs and modifications thereto shall be communicated in writing and the contractor and engineer shall maintain master lists to record and track all transactions.

C3.1.17 EQUIVALENCY OF STANDARDS AND CODES

Wherever reference is made in the Contract to specific standards and codes to be met by the goods and materials to be furnished, and work performed or tested, the provisions of the latest current edition or revision of the relevant standards and codes in effect shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national, or relate to a country or region, other authoritative standards which ensure an equal or higher quality than the standards and codes specified will be accepted subject to the Engineer's prior review and written approval. Differences between the standards specified and the proposed alternative standards must be fully described in writing by the Contractor and submitted to the Engineer at least 7 days prior to the date when the Contractor desires the Engineer's approval. In the event the Engineer determines that such proposed deviations do not ensure equal or higher quality, the Contractor shall comply with the standards specified in the documents.

C3.1.18 TEMPORARY ACCOMMODATION

The contractor shall make his own arrangements for accommodation of his workmen and staff. He shall liaise with the relevant authorities and comply with any regulations required. No accommodation will be allowed inside the security area of the purification works.

The contractor's site camp and site accommodation of personnel will be subject to the requirements of the Construction Safety Act of 2003, the requirements of the Employment Act and the Environmental Impact Report.

C3.1.19 HEALTH AND SANITATION

Provide health and sanitation in accordance to the latest safety act regulations. In a similar manner change rooms, shower facilities, site personnel eating facilities with gender separation where required are to be supplied. The contractor shall be responsible for the safe and environmentally acceptable disposal of all rubbish and rubble from the site, accumulated during the construction period. All facilities must comply with the OHS act.

The hygiene measures with regards to the works durations as well the number of personnel to be deployed on site must be seen very seriously by the contractor. Chemical toilets will only be allowed on a temporary basis for use at the furthestmost areas of the works, at the work face.

These shall be provided on the following basis:

One per 20 labourers of the Contractor's staff with separate facilities for male and female staff.

The Contractor shall make arrangements for the proper maintenance of these facilities.

Reference is made to the Health and safety act and specific requirements for sanitation. The Health and safety requirements are to be the prevailing standards requirements.

The main camp of the contractor will be expected to have container type ablution facilities with combined shower and hand wash facilities. Each chemical facility must be equipped with a hand cleaning facility with soap and paper towel dispenser. All effluent to be collected in containers for disposal of and evacuated timeously off site. Upon appointment and within two weeks a detailed plan must be put in place and submitted for the Engineer approval.

C3.1.20 NOTICE OF COVERING OF WORKS

The Contractor shall give due notice to the Engineer, whenever any work is intended to be covered over with earth or otherwise, in order that the Engineer may examine the work to determine that it is in accordance with the Specification and that its correct dimensions may be ascertained before the work is covered, and in default of such notice being received the work shall be uncovered at the Contractor's expense whenever instructions are given by the Engineer to do so.

C3.1.21 INSPECTION AND REJECTION OF FAULTY WORK

The Engineer or his representative (Resident Engineer) appointed by the Engineer shall have the full power to inspect the work during every stage of its construction, and for that purpose shall have free access to the works at all times. Should any work appear to the Engineer or his representative not be executed in accordance with the Specifications, the same may be immediately rejected, and the Contractor shall forthwith carry out the making good, breaking down and rebuilding where applicable of rejected work at his own expense.

The Engineer or his representative (Resident Engineer) appointed by the Engineer shall not be used as the CONTRACTORS SITE AGENT. The contractor is deemed to have carried out all PROCESS CONTROL before asking for the work to be inspected.

The inspection of all concrete work will be on all stages of the construction and no works will be released for the new stage unless is done so in writing by the Engineer the foundation level, the placing and fixing of steel and the final end product. Settings out and quality of shutters are the responsibility of the contractor and can only be accessed once the end product is built.

All inspection call outs (successful or not) will be recorded and must be reported at the site meetings.

Both parties must agree all defect lists with a completion date entered into the list for each defect.

All site communications are to be confirmed in writing.

C3.1.22 SETTING OUT OF THE WORKS

The Contractor shall set out the works using the various Setting Out Drawings. He will establish a system of setting out and reference pegs encased in concrete, which will be checked by the Surveyor of the Engineer and then maintained and protected for the duration of the contract by the contractor. Should any benchmark be disturbed it will be re-established and verified by the Engineer at the cost of the contractor.

The contractor shall set out the Works relative to the afore-mentioned system of reference pegs in accordance with the positioning and dimensions on the drawings.

C3.1.23 DISINFECTIONS OF THE WORKS

The Contractor shall be responsible for all disinfection of the structures he has worked on.

C3.1.24 FINISHING & TIDYING

Progressive and systematic finishing and tidying will form an essential part of this contract. Under no circumstances would spoil, rubble, materials, equipment or unfinished operations be allowed to accumulate unnecessarily. In the event of this occurring the Engineer will have the right to withhold payment for as long as necessary in respect of the relevant works in the area(s) concerned.

C3.1.25 DOCUMENTATION

At the conclusion of the commissioning independently from stage and before the takeover by the client, The Contractor shall provide, three sets of documents comprising the following.

- Temporary Operation manuals
- Maintenance manuals

At the conclusion of the works. The Contractor shall provide, three sets of documents comprising the following.

- As-Built drawings of the Contractor designs.
- Simple line diagrams of the security fence to be used for the operations and maintenance (OM) manuals. (Reference no will be the same as per the Engineer drawings). That reference no is to be used at the OM.
- List of specialist tools required.
- List of recommended lubricants.
- Name of the firm, address, contact details i.e. tell, fax, e-mail cell no, web site local and international and contact person.
- South African agent for imported material.
- Technical data. Specifications. Technical brochures. Check lists and manuals for local operators.
- Any manufacturer's data which covers more than one type of installations must be clearly marked to show which data is applicable to the model installed.
- Maintenance instructions. With time related information. i.e. Daily, weekly etc service needed.
- Applicable settings.
- List of available spare parts.
- List of action in case part is not functioning properly.
- Original of certificate of approval, testing, commissioned works.
- Each set of documents must be bound in clearly labelled ring binders.
- Drawings will be folded, placed in plastic wallets and positioned into the binder.



- All contractors drawing must be submitted in Auto CAD format. No hand drawn drawing will be accepted.
- One copy must be submitted to the Engineer for approval prior to the issue of the final sets.

C3.1.26 CONTRACTOR'S CODE OF CONDUCT

Workmen Instant Dismissal

Workmen may be instantly dismissed for the following:

Theft.

Violence with co-workers or supervising staff

Committing a criminal offence and is sentenced to prison without the option of a fine.

Misconduct

Any employee who, within a period of 6 months, receives two written warnings and for the third time is guilty of misconduct as listed below may be dismissed without further notice.

- Insubordination and constant refusal to follow instructions
- Absenteeism for 3 or more days without a valid medical certificate
- Repeatedly coming to work late
- Disruptive behaviour conducive to delays in the work program
- Intimidation of other workers
- Dangerous behaviour
- Use of alcohol or drugs during working hours
- Non-performance
- Abuse or waste of company property
- Continuous absenteeism

C3.1.227 FEATURES REQUIRING SPECIAL ATTENTION

a) EXISTING SERVICES

The Contractor shall be deemed to have made allowance in his tender for the need to protect the existing services from damage and to hand over the completed works with the existing services intact and undamaged.

Notwithstanding the information given herein, the Contractor shall retain full responsibility for establishing the exact positions of the various existing services, which may not be shown on the construction drawings, in advance of the main construction work.

The use of specialised equipment for location of power cables and other services is allowed into the relevant Bill of quantities

All the works areas with known services are to be preceded with thorough investigation with hand excavations and exposure of the services.

b) SURVEY BEACONS

The Contractor's attention is drawn to SABS 1200 A, Clause 5.1.2 - Preservation and Replacement of Beacons and Pegs subject to the Land Survey Act - and to the liabilities of the Employer and the Contractor in this regard.

The Contractor shall locate and mark all existing pegs.

The Contractor shall be held responsible for the maintenance of all the cadastral and benchmark pegs on the site that are recorded as existing at the commencement of construction, and for the placement of any pegs that are found to be missing or disturbed upon the completion of the contract. A Completion Certificate shall only be issued after the Contractor has handed back all the pegs and has submitted a certificate from a registered Land Surveyor to the Engineer stating that all relevant pegs are in their correct positions.

Notwithstanding Clause 8.8.5 of SABS 1200 A, the Contractor shall tender sums for searching for and protecting all pegs. Where pegs have been moved, disturbed or covered on the specific instruction of the Engineer, such pegs shall be reinstated by a registered Land Surveyor and shall be paid for by number reinstated on instruction of the Engineer.

C3.1.28 DAMAGE TO SERVICES AND EXISTING WORKS

a) RESPONSIBILITY OF CONTRACTOR

The Contractor shall be responsible for any damage to existing services and existing works in the execution of this contract and shall reimburse the Owner concerned for any repairs required or compensation for damages awarded. The Contractor's attention is drawn to Clause 3.1.30 and SABS 1200 A, Clause 5.4.

b) NOTIFICATION

The Contractor will be responsible for immediately notifying the Authorities concerned the Employer and the Engineer regarding any damage caused to public services and existing works.

The Engineer's Representative must be notified without delay.

C3.1.29 WORK ON PUBLIC AND PRIVATE PROPERTY

The Contractor shall exercise the greatest care to avoid unnecessary damage to trees, gardens, fences, walls and structures on public and private property, and also strictly supervise the behaviour of his workmen.

On completion of the work over or in the vicinity of Local or Tribal Authority or private property, the Contractor shall ensure that anything that may have been disturbed or damaged has been compensated for or reinstated to a condition equal to that which it was before construction commenced and also to the satisfaction of the owner concerned. The materials resulting from any demolition of existing structures shall be the property of the owner.

C3.1.30 REGULATIONS

The Contractor shall in all respects conform to the requirements contained in regulations by higher authorities. Such regulations shall include *inter alia*:

- 1.) ***National Building Regulations. SABS 400**
- 2.) Code of Practice for the Wiring of Premises, SABS 0142-1981 as amended.
- 3.) The Mines and Works Regulations, Government Notice Number R1609 of 1962-09-28, as amended.
- 4.) ***The Occupational, Health and Safety Act 85/93, as amended.**
- 5.) The local Municipal Byelaws and Regulations as well as the regulations of the local Supply Authority.
- 6.) The local Fire Regulations.
- 7.) The regulations of Telkom.

- 8.) The regulations of the local Gas Board where applicable.
- 9.) The standard regulations of any Government Department or public service company where applicable.
- 10.) The Regulations of Lepelle Northern Water attached at volume no 1.
- 11.) The Regulations of Eskom
- 12.) ***The NHBRC National home builders: Home building manual part 1&2,& part 3 two volumes**
- 13.) ***SABS 1200 and the application SABS 0120.**
- 14.) The construction Regulations of the Construction Industry Development Board (CIDB)

The regulations marked “*” are to be kept on site.

The Contractor shall pay and indemnify the Employer against any fees or charges by law and shall keep the Employer and the Engineer indemnified against all penalties and liabilities of any kind for breach by the Contractor or any of the conditions due by law, except insofar as amended or specifically allowed by the Engineer.

C3.1.31 LABOUR BASED CONSTRUCTION

Employment of local labour

The contractor shall limit the utilisation of permanently employed personnel for the execution of the Works to key personnel, such as contracts manager, site agent, foreman, supervisors, plant operators, material technicians, surveyors, trainers, buyers, storemen and the like should such expertise not be available within the community. Not less than 70% of the labour employed on site shall be drawn from the community closest to the contract Works.

The contractor, in conjunction and in co-ordination with the local community/Local Authority, will establish a Community Liaison Officer (CLO) within the local community and the Contractor shall apply to the CLO for details of local labourers who are available and shall give preference to the employment of these labourers identified through the CLO.

The employment of labour from outside the local area will only be allowed in the event of:

- The unavailability within the local community of sufficient numbers of local labourers to execute the work,
- The unavailability of required skills within the local community necessary for the execution of specific tasks
- Where the completion period does not permit the creation of the necessary skills through training.

In these cases, the contractor shall prove to the satisfaction of the Employer that he has exercised his best endeavours and taken all reasonable actions to recruit local labour.

The Contractor shall maintain accurate and comprehensive daily records of all labour engaged on the contract and shall submit to the Employer at two weekly intervals detailed labour returns substantiating the actual numbers of labours employed, the amounts actually paid in respect thereof, and details of the various activities undertaken by the labourers.

The Contractor shall employ a Community Liaison Officer (CLO), through the Labour Committee (LC) representing the local community. The CLO and LC shall be the facilitators for all negotiations between the Contractor and the Labourers. An Agreement



signed by the LC on behalf of the Labourers shall be given to and accepted by the Contractor and applied without revisions. The Contractor may price to recover his Payment for the CLO in the P & G and where he enters no price; it shall be assumed that the cost of the CLO is included in the other rates.

C3.1.32 ENVIRONMENT AND SAFETY

The Environmental Management Plan (EMP) for the site of the Works has been commissioned by the Client and will be issued to the Successful Contractor.

The Contractor shall comply with all the requirements laid down in the EMP. The Contractor shall take time to acquaint his employees with the provisions, regulations, duties, obligations and prohibitions, and shall accept sole liability for due compliance with the duties, obligations and prohibitions and absolve the Employer from being obliged to comply with the aforesaid duties, obligations and prohibitions.

In case of failure on the part of the Contractor to comply with the requirements of the EMP, the Employer shall be entitled to employ and pay other persons to carry out any remedial work to rectify any consequence resulting from the non-compliance by the Contractor and all cost consequent or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer. If it is not practical to rectify any consequence resulting from the non-compliance of the Contractor with the EMP the Employer will be entitled to impose a penalty on the Contractor which penalty shall be in relation to the expense which the Contractor would have incurred to comply.

The Contractor shall indemnify the Employer and the Engineer against responsibility for damage to the environment on the site of the Works.

C3.1.33 BLASTING INDEMNITY

The Contractor may require blasting the rock from time to time during the implementation of his construction works. The use of a certified Blasting Contractor as sub-contractor is paramount to the safety of the surrounding public, person and property. When blasting in the close proximity of fixed structures, the Contractor shall take full responsibility for any costs related to damage thereof. It is in this context that it is recommended for the Contractor to fully photograph and record structural damage, prior to blasting. The Contractor shall complete the "Blasting Indemnity Form C1.3" included in Part C1 of the Contract, before the commencement of the Works.

The Contractor is responsible for compliance with all requirements of the authorities concerned with respect to the safety of the Works labourers and the public. Any negligence or noncompliance on the side of the Contractor shall be sufficient cause for the Employer's Agent to suspend the Works and the Contractor shall have no claim for additional compensation against the Employer in such an event.

C3.1.34 RECORDING OF WEATHER

The Engineer shall adjudge the extent of the delays that are attributable to "abnormal climatic conditions", however, in order to assist him in this regard, the Contractor must erect a rain gauge at the site office to record rainfall figures. The reading of the rain gauge shall be made at 08h00 and 16h00 of each working day of the contract. The records shall be submitted weekly to the Employer's Agent (the Engineer); together with a statement

recording the Contractor's opinion of the effect on his programme of any weather condition that he may consider to be abnormal.

C3.1.35 INCLEMENT WEATHER

No extension of time for completion will be granted on account of normal inclement weather but extension of time shall be determined for abnormal rainfall or wet conditions. The extension request must be in accordance with the formula given below, separately for each calendar month or part thereof. It shall be calculated for the period from the Commencement Date to the Due Completion Date or the date of issue of the Certificate of Practical Completion, whichever is earlier, and excluding the Contractor's year-end recess.

$$V = (N_w - N_n) + (R_w - R_n) / X$$

The symbols shall have the following meanings:

V = Extension of time in calendar days in respect of the calendar month under consideration.

N_w = Actual number of days during the relevant calendar month on which Y mm or more of rainfall has been recorded.

N_n = Average number of days in the relevant calendar month on which Y mm or more of rainfall has been recorded, as derived from the rainfall records provided in the Project Specification.

R_w = Actual rainfall in mm for the calendar month under consideration.

R_n = Average rainfall in mm for the relevant calendar month, as derived from the rainfall records provided in the Project Specifications.

If V is negative and its absolute value exceeds N_n, then V shall be taken as equal to minus N_n.

For this Contract, X and Y shall have the following values:

X = 20 mm/d Y = 10 mm

Extensions of time for part of a month shall be calculated using pro rata values of N_n and R_n.

The total extension of time shall be the algebraic sum of the monthly totals for the period under consideration, but if the grand total is negative the time for completion shall not be reduced due to abnormal rainfall.

The factor (N_w - N_n) shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Y mm.

The factor (R_w - R_n)/X shall be considered to represent a fair allowance for variations from the average in the number of days during which rainfall does not exceed Y mm but wet conditions prevented or disrupted work.



The formula does not take account of flood damage, which could cause further or concurrent delays, which shall be treated separately as far as extension of time is concerned.

The figures for N_n and R_n given below are the most suitable figures available and shall be used unless other are agreed at the commencement of the Contract.

Source of information: South African Weather Service.

C3.2 STANDARD SPECIFICATIONS

The following SANS specifications shall apply for the construction of the Works:

SANS 1 200 A	:	Preliminary and General
SANS 1 200 AB	:	Engineer's office
SANS 1 200 C	:	Site Clearance
SANS 1 200D	:	Earthworks
SANS 1 200DB	:	Earthworks (Pipe Trench)
SANS 1 200DK	:	Gabions and Pitching
SANS 1 200LB	:	Bedding (Pipes)
SANS 1 200L	:	Medium Pressure Pipelines
SANS 1 200 GA	:	Concrete (Small Works)
SANS 1 200 GE	:	Precast Concrete (Structural)
SANS 1 200 H	:	Structural Steelwork
SANS 1 200 HA	:	Structural Steelwork (Sundry items)
SANS 966 Part 1	:	Pressure Pipe Systems (PVC-U)
SANS 966 Part 2	:	Pressure Pipe Systems (MPVC)

Wherever any reference is made to the South African Bureau of Standards (SABS) in either the Bill of Quantities or the document, this reference shall be deemed to read "SANS standard"

The following SANS specifications are also applicable to this contract:

SANS 1921 (2004):	Construction and Management Requirements for Works Contracts
Part 1:	General Engineering and Construction Works
Part 2:	Accommodation of Traffic on Public Roads Occupied by the Contractor
Part 3:	Structural Steelwork
Part 6:	HIV/AIDS Awareness
SANS 10396: 2003:	Preferential Construction Procurement Policies using Targeted Procurement Procedures
SANS 1914-1 to 6 (2002):	Targeted Construction Procurement

SANS 1921-1 (2004): Construction and Management Requirements for Works Contracts
Part 1: General Engineering and Construction Works and where accommodation of traffic is involved

The Tenderer is expected to be in possession of a copy of the Standard Specifications. The successful Tenderer will be required to provide a full set of the applicable standard specifications at the commencement of the Contract which is to be kept available on site at all times.

Copies of the "Standardised Specification for Civil Engineering Construction" SANS 1200 are available from the:

South African Bureau of Standards
Private Bag X191
Pretoria, 0001

C3.3 AMENDMENTS TO THE STANDARD SPECIFICATIONS

The following variations to standardized specifications and additional clauses are applicable to this Contract:

PSA	General
PSAB	Engineer's Office
PSC	Site Clearance
PSD	Earthworks
PSDB	Earthworks (Trenches)
PSGA	Concrete (Small Works)
PSHA	Structural steel (Sundry Items)

STATUS

Should any requirement of the project specification conflict with any requirements of the standardised specification listed, the requirements of the project specification shall prevail.

PSA **GENERAL**

PSA 1 **SCOPE**

REPLACE THE CONTENTS OF SUB-CLAUSE 1.1, INCLUDING THE NOTES, WITH THE FOLLOWING:

"1.1 This specification covers requirements, principles and responsibilities of a general nature which are generally applicable to civil engineering construction and building works contracts, as well as the requirements for the Contractor's establishment on the Site."

PSA 2 **INTERPRETATIONS**

PSA 2.3 **DEFINITIONS**

IN THE OPENING PHRASE BETWEEN THE WORDS "specification" AND "the following", INSERT THE WORDS "the definitions given in the Conditions of Contract and".

(a) General

ADD THE FOLLOWING DEFINITIONS:

" 'General Conditions' and 'Conditions of Contract': The General Conditions of Contract specified for use with this Contract, together with the Special Conditions of Contract as applicable.

'Specified': As specified in the Standardized Specifications, the Drawings or the Project Specifications. 'Specifications' shall have the corresponding meaning."

(b) Measurement and payment

REPLACE THE DEFINITIONS FOR "Fixed charge", "Time-related charge" AND "Value-related charge" WITH THE FOLLOWING:

" 'Fixed charge': A charge that is not subject to adjustment on account of variations in the value of the Contract Price or the time allowed in the Contract for the completion of the work.

'Time-related charge': A charge, the amount of which varies in accordance with the Time for Completion of the Works, adjusted in accordance with the provisions of the Contract.

'Value-related charge': A charge, the amount of which varies pro rata with the final value of the measured work executed and valued in accordance with the provisions of the Contract.' "

PSA 2.4 **ABBREVIATIONS**

(a) Abbreviations relating to standard documents

ADD THE FOLLOWING ABBREVIATION:

"CKS: SANS Co-ordinating Specification."

PSA 3 MATERIALS

PSA 3.1 QUALITY

ADD THE FOLLOWING AT THE END OF SUB-CLAUSE 3.1:

PSA 3.1 QUALITY

ADD TO THE FOLLOWING:

"No used or recycled material may be used in the Works unless expressly authorised by the Engineer.

All materials to be provided under this Contract shall bear the mark of the South African Bureau of Standards wherever such materials are the subject of an SABS standard.

Materials bearing the SABS or BS mark will not be subjected to tests to determine whether they comply with the relevant specifications. The Engineer may in his discretion require any material not bearing such mark to be tested in accordance with the relevant specifications; should he do so the Contractor shall arrange for such tests to be carried out at the Contractor's cost by the South African Bureau of Standards or other approved body. Should the tests prove that any material complies with the Specifications the Contractor will be reimbursed the value of the testing body's account for carrying out the tests required by the Engineer."

ADD THE FOLLOWING SUB-CLAUSES TO CLAUSE 3:

"PSA 3.3 ORDERING OF MATERIALS

The quantities set out in the schedule of quantities have been carefully determined from calculations based on data available at the time and should therefore be considered to be approximate quantities only. Before ordering materials of any kind the contractor shall check with the Engineer whether or not the scope of the work for which the materials are required is likely to change substantially. No liability or responsibility whatsoever shall be attached to the employer for materials ordered by the contractor except when ordered in accordance with written confirmation issued by the Engineer.

PSA 3.4 DELAY DUE TO SUPPLY OF MATERIALS

The Contractor shall ensure that the work is not delayed, due to the lack of materials on the site of the works, by placing orders with suppliers for the materials required under this contract timeously.

The Contractor shall, by producing copies of written orders or written enquiries for supplies, prove to the satisfaction of the Engineer that any delay occasioned by non-availability of materials has been caused by the inability of suppliers to supply and not by his own lack of timely ordering or lack of exhaustive enquiry for supplies, before any extensions of the contract time will be allowed due to such delays."

PSA 4 PLANT

PSA 4.1 SILENCING OF PLANT

REPLACE THE CONTENTS OF SUB-CLAUSE 4.1 WITH THE FOLLOWING:

"The Contractor's attention is drawn to the applicable regulations pertaining to noise and hearing conservation, framed under the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) as amended.

The Contractor shall at all times and at his own cost, be responsible for implementing all necessary steps to ensure full compliance with such regulations, including but not restricted to the provision and use of suitable and effective silencing devices for pneumatic tools and other plant which would otherwise cause a noise level in excess of that specified in the said regulations.

Where appropriate, the Contractor shall further, by means of temporary barriers, effectively isolate the source of such noise in order to comply with the said regulations."

PSA 4.2 CONTRACTOR'S OFFICES, STORES AND SERVICES

ADD THE FOLLOWING PARAGRAPH BEFORE THE EXISTING FIRST PARAGRAPH IN SUB-CLAUSE 4.2:

"Neither housing nor shelters are available for the Contractor's employees on site. The Contractor shall make his own arrangement to house his employees and transport them to the site.

The Contractor's buildings, sheds and other facilities erected or utilised on the Site for the purposes of the Contract shall be fenced off and shall contain all offices, stores, workshops, testing laboratories, toilet facilities, etc. as may be required by the Contractor. The facilities shall always be kept in a neat and orderly condition.

No personnel may reside on the Site. Only night-watchmen may be on the Site after hours."

DELETE "and first-aid services" IN THE SECOND PARAGRAPH OF SUB-CLAUSE 4.2 AND ADD THE FOLLOWING:

"The Contractor shall provide on the Site and in close proximity to the actual locations where the work is being executed, one toilet per 10 workmen, which toilets shall be effectively screened from public view and their use enforced. Such toilets shall be relocated from time to time as the location of the work being executed changes, so as to ensure that easy access to the toilets is maintained.

The Contractor shall, where applicable, make all necessary arrangements and pay for the removal of night soil."

ADD THE FOLLOWING NEW SUB-CLAUSE 4.3:

"PSA 4.3 SUITABILITY OF CONSTRUCTION PLANT

If the Engineer considers that any constructional plant in use is in any way inefficient or is inadequate in capacity to complete the Works properly or on time, he shall have the right to call upon the Contractor to provide such additional plant or equipment as may be required to meet the needs of the Works."

PSA 5 CONSTRUCTION

PSA 5.1 SURVEY

PSA 5.1.2 Preservation and Replacement of Beacons and Pegs subject to the Land Survey Act

DELETE THE WORDS "in the vicinity of boundaries" IN THE SECOND SENTENCE OF SUB-CLAUSE 5.1.2 AND REPLACE THE WORDS "under the direction of" IN THE SAME SENTENCE WITH "in consultation and liaison with".

ADD THE FOLLOWING AFTER THE SECOND SENTENCE OF SUB-CLAUSE 5.1.2:

"The Contractor and the Engineer shall record on the said list, their concurrence or disagreement (as the case may be) regarding the completeness and accuracy of the details recorded therein."

REPLACE THE THIRD SENTENCE OF SUB-CLAUSE 5.1.2 WITH THE FOLLOWING:

"At the completion of the Contract, the Contractor shall expose all pegs that were listed at the commencement of the construction as being in order and the Contractor shall arrange with a registered Land Surveyor for the checking of the positions of all such pegs and the replacement of those that the Land Surveyor's check reveals have become disturbed or damaged. The Contractor shall, as a precedent to the issue of the Certificate of Completion, provide to the Engineer, a certificate from the registered land surveyor, certifying that all the pegs listed at the commencement of construction in accordance with the provisions of this clause, have been checked and that those found to have been disturbed, damaged or destroyed have been replaced in their correct positions, all in accordance with the provisions of the said Act.

The costs of all checking, replacement and certification as aforesaid shall be entirely for the Contractor's account. This, with the provision always that the Contractor shall not be held liable for the cost of replacement of pegs which:

- (a) cannot reasonably be re-established in their original positions by reason of the finished dimensions of the permanent works, and
- (b) the Contractor can prove beyond reasonable doubt to the satisfaction of the Engineer, were disturbed, damaged or destroyed by others beyond his control."

PSA 5.3 PROTECTION OF EXISTING STRUCTURES

REPLACE "Machinery and Occupational Safety Act, 1983 (Act No 6 of 1983)" WITH "Occupational Health and Safety Act, 1993 (Act No 85 of 1993), as amended," AND INSERT THE FOLLOWING AFTER "(Act No. 27 of 1956)": "as amended".

PSA 5.4 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES

REPLACE THE HEADING AND THE CONTENTS OF SUB-CLAUSE 5.4 WITH THE FOLLOWING:

"PSA 5.4 LOCATION AND PROTECTION OF EXISTING SERVICES"

PSA 5.4.1 Location of existing services

Before commencing with any work in an area, the Contractor shall ascertain the presence and actual position of all services which can reasonably be expected by an experienced and competent contractor to be present on, under, over or within the Site.

Without in any way limiting his liability in terms of the Conditions of Contract in relation to damage to property and interference with services, the Contractor shall, in collaboration with the Engineer, obtain the most up-to-date plans as are available, showing the positions of services existing in the area where he intends to work. Neither the Employer nor the Engineer offers any warranty as to the accuracy or completeness of such plans and because services can often not be reliably located from plans, the Contractor shall ascertain the actual location of services depicted on such plans by means of careful inspection of the Site.

Thereafter, the Contractor shall, by the use of appropriate methodologies, carefully expose the services at such positions as are agreed to by the Engineer, for the purposes of verifying the exact location and position of the services. Where the exposure of existing services involves excavation to expose underground services, the further requirements of sub-clauses 4.4 and 5.1.2.2 of SANS 1200 D (as amended) shall apply.

The aforesaid procedure shall also be followed in respect of services not shown on the plans but which may reasonably be anticipated by an experienced Contractor to be present or potentially present on the site.

All services, the positions of which have been determined as aforesaid at the critical points, shall henceforth be designated as 'known services' and their positions shall be indicated by the Contractor on a separate set of drawings, a copy of which shall be furnished to the Engineer without delay.

As soon as any service which has not been identified and located as described above is encountered on, under, over or within the site, it shall henceforth be deemed to be a known service and the aforesaid provisions pertaining to locating, verifying and recording its position on the balance of the site shall apply. The Contractor shall notify the Engineer immediately when any such service is encountered or discovered on the Site.

Whilst he is in possession of the Site, the Contractor shall be liable for all loss of or damage as may occur to

- (a) known services, anywhere along the entire lengths of their routes, as may reasonably be deduced from the actual locations at which their positions were verified as aforesaid, due cognizance being taken of such deviations in line and level which may reasonably be anticipated, and
- (b) any other service which ought reasonably to have been a known service in accordance with the provisions of this clause,

The Contractor shall also be liable for consequential damage in regard to (a) and (b), whether caused directly by the Contractor's operations or by the lack of proper protection.

No separate payment will be made to the Contractor in respect of his costs of providing, holding available on the Site and utilising the said detecting and testing equipment, nor for any costs incurred in preparing and submitting to the Engineer the Drawings as aforesaid.

These costs shall be deemed included in the Contractor's other tendered rates and prices included in the Contract.

Payment to the Contractor in respect of exposing services at the positions agreed by the Engineer and as described above will be made under the payment items (if any) as may be provided for in the respective sections of the specifications pertaining to the type of work involved.

PSA 5.4.2 Protection during construction

The Contractor shall take all reasonable precautions and arrange its operations in such a manner as to prevent damage occurring to all known services during the period which the Contractor has occupation and/or possession of the Site.

Services left exposed shall be suitably protected from damage and in such a manner as will eliminate any danger arising therefrom to the public and/or workmen, all in accordance with the requirements of the prevailing legislation and related regulations.

Unless otherwise instructed by the Engineer, no services shall be left exposed after its exact position has been determined and all excavations carried out for the purpose of exposing underground services shall be promptly backfilled and compacted. In pipes, the requirements of sub-clause 4.1 of SANS 1200 DB should be observed.

PSA 5.4.3 Alterations and repairs to existing services

Unless the contrary is clearly specified in the Contract or ordered by the Engineer, the Contractor shall not carry out alterations to existing services. When any such alterations become necessary, the Contractor shall promptly inform the Engineer, who will either make arrangements for such work to be executed by the owner of the service or instruct the Contractor to make such arrangements himself.

Should damage occur to any existing services, the Contractor shall immediately inform the Engineer, or when this is not possible, the relevant authority, and obtain instructions as to who should carry out repairs. In urgent cases, the Contractor shall take appropriate steps to minimise damage to and interruption of the service. No repairs of telecommunication cables or electric power lines and cables shall be attempted by the Contractor.

PSA 5.7 SAFETY

REPLACE THE CONTENTS OF SUB-CLAUSE 5.7 WITH THE FOLLOWING:

"Pursuant to the provisions of the Conditions of Contract, and without in any way limiting the Contractor's obligations thereunder, the Contractor shall at his own expense (except only where specific provision (if any) is made in the Contract for the reimbursement to the Contractor in respect of particular items), provide the following:

- (a) Provide to its Employees on the site of the works, all safety materials, clothing and equipment necessary to ensure full compliance with the provisions of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993) as amended (hereinafter referred to as the Act) at all times, and shall institute appropriate and effective measures to ensure the proper usage of such safety materials, clothing and equipment at all times;

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- (b) Provide, install and maintain all barricades, safety signage and other measures to ensure the safety of workmen and all persons in, on and around the site, as well as the general public;
- (c) Implement on the site of the works, such procedures and systems and keep all records as may be required to ensure compliance with the requirements of the Act at all times;
- (d) Implement all necessary measures so as to ensure compliance with the Act by all subcontractors engaged by the Contractor and their employees engaged on the works.
- (e) Full compliance with all other requirements pertaining to safety as may be specified in the Contract.

The Employer and the Engineer shall be entitled, although not obliged, to make such inspections on the site as they shall deem appropriate, for the purpose of verifying the Contractor's compliance with the requirements of the Act. For this purpose, the Contractor shall grant full access to the site of all parts of the site and shall co-operate fully in such inspections and shall make available for inspection all such documents and records as the Employer's and/or Engineer's representative may reasonably require.

Where any such investigations reveal, or where it comes to the Engineer's attention that the Contractor is in any way in breach of the requirements of the Act or is failing to comply with the provisions of this clause, the Engineer shall, in accordance with the provisions of Clause 39 of the Conditions of Contract, be entitled to suspend progress on the works or any part thereof until such time as the Contractor has demonstrated to the satisfaction of the Engineer, that such breach has been rectified.

The Contractor shall have no grounds for a claim against the Employer for extension of time and/or additional costs if the progress on the works or any part thereof is suspended by the Engineer in terms of this clause, and the Contractor shall remain fully liable in respect of the payment of penalties for late completion in accordance with the provisions of Clause 43(1) of the Conditions of Contract should the Contractor fail to complete the Works on or before the specified due completion date in consequence of the suspension.

Persistent and repeated breach by the Contractor of the requirements of the Act and/or this clause shall constitute grounds for the Engineer to act in terms of Sub-clause 55(1)(5) of the Conditions of Contract and for the Employer to cancel the Contract in accordance with the further provisions of the said Clause 55 (GCC 2004)."

ADD THE FOLLOWING SUB-CLAUSES TO CLAUSE 5:

"PSA 5.9 SITE MEETINGS

The Contractor or his authorised agent will be required to attend regular site meetings, which shall normally be held once a month on dates and at times determined by the Engineer, but in any case, whenever reasonably required by the Engineer. Unless otherwise indicated in the Contract or instructed by the Engineer, such meetings shall be held at the Contractor's offices on the site. At such monthly meetings, matters such as general progress on the works, quality of work, problems, claims, payments, and safety shall be discussed, but not matters concerning the day-to-day running of the Contract.

The Contractor shall provide a suitable venue for holding these meetings. The venue shall be furnished with a conference table and chairs that can seat at least 12 people.

The room shall be well ventilated and provided with adequate air conditioning. At least two 220 -240V power points shall be provided.”

“PSA 5.10 TRAFFIC ACCOMMODATION

(a) Scope

It is a condition of this contract that traffic is accommodated taking into account the provisions of the latest edition of the South African Road Traffic Signs Manual (SARTSM). The latest version for use in the accommodation of traffic is volume 2, chapter 13 of the June 1999 edition. Copies of this publication are available from Government Printers – Arma Steyn – Tel: (012) 334 4500, e-mail: asteyn@print.pwv.gov.za.

(b) Safety

The Contractor shall be responsible for maintaining the existing road surface both within the works area and the advance warning and termination areas in a safe and trafficable condition for the duration of the contract.

The Contractor may not commence constructional activities before adequate provision has been made to accommodate traffic in accordance with the requirements of the drawings, specifications and the South African Road Traffic Signs Manual.

The Contractor shall supply, erect, operate and maintain all the road signs and other equipment shown on the drawings or in the specifications or as directed by the Engineer, necessary to safely carry out his traffic control responsibilities. He shall also carry out these responsibilities. He shall also carry out these responsibilities in consultation with the various Provincial Traffic Control Centres along the route and to the satisfaction of the Engineer.

(c) Use of the road by the public

The Contractor shall plan and conduct his activities so as to bring about the least possible disruption to the traffic on the roads on which he works. No detours for construction traffic and for the public are envisaged. Where there is no working space off the road, construction vehicles may be parked on the shoulder in which case flagmen and traffic cones shall be employed. All temporary lane closures and halting of traffic will require the prior approval of the Engineer and shall be pre-arranged with the appropriate traffic.

(d) Temporary traffic-control facilities

The Contractor shall provide, erect and maintain the necessary traffic-control devices, road signs, canalization devices, barricades, warning devices and road markings (hereinafter referred to as traffic-control devices) in accordance with these special provisions and as shown on the drawings and in the SARTSM and remove them when no longer required. It shall be incumbent upon the Contractor to see to it that the abovementioned traffic-control devices are present where required at all times and are functioning properly.

“The type of construction, spacing and placing of traffic-control devices shall be in accordance with the SARTSM. The recommended arrangements of the traffic control

devices illustrated and/or drawings issued by the Engineer shall not be departed from without prior approval of the Engineer. The arrangements expected to be most commonly used in the contract are given on the tender drawings.

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

All traffic control facilities supply on the contract shall be new. Used traffic control facilities, bases, stands and poles which are in an “as new” conditions and approved by the Engineer may be used on site.

(e) Road signs and barricades

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

All temporary road signs required to remain in position for some time shall be pole mounted as shown on the drawings. All temporary road signs required to be moved more often shall be mounted on portable supports for the easy moving of signs to temporary positions. The only permitted method of ballasting the sign supports shall consist of durable sandbags filled with sand of adequate mass to prevent signs from being blown over by wind. The cost of the sandbags shall be included in the tendered rates for the various types of temporary road signs.

The covering of permanent road signs, if applicable, shall be by utilising a hessian bag that shall be pulled over the sign in the form of a hood and fastened to the signposts.

Plastic bags or other materials and fastened by means of adhesive tape shall not be permitted. The cost of covering of permanent road signs shall be included in the tendered rates of items PSA 8.3.19.06

The thickness and density of the hessian shall prevent the visibility of the road signs during day as well as nighttime.”

(f) Canalization devices and barricades

The use of drums as canalization devices shall not be permitted. Drums may however be used to set up barriers.

Delineators shall comply with the requirements of SANS 1555;

- (i) comply with the manufacturing and reflective requirements of the SARTSM for TW 401 and TW 402 signs and the blades shall be reversible with dimensions as indicated on the drawings.;
- (ii) have smooth and round edges and be mounted on a post and base. All components shall be of durable plastic material;
- (iii) have the lower edge of the reflective part of the delineator mounted not lower than 250mm above the road surface;
- (iv) be capable of withstanding the movement of passing vehicles and gusting winds up to 60km/h in typical working conditions without falling over. To achieve this, the base shall be at least 0,18m² and ballasted by sandbags with sand;

- (v) together with its mounting be designed such that it will collapse in a safe manner under traffic impact;

- (vi) minimum size 1 000mm x 250mm.

Traffic cones manufactured in a fluorescent red-orange or red plastic material may be used only at short term lane deviations during daylight. Cones shall not be used on there own, but shall be interspersed with delineators at a ration not exceeding 3:1. Cones used on all deviations shall be 750mm high. Lane closures which continue into the night time shall be demarcated by delineators only.

(g) Warning devices

All construction vehicles and plant used on the works shall be equipped with rotating amber flashing lights and warning boards as specified. All vehicles and plant before being allowed onto the site shall obtain a clearance permit from the Engineer.

(h) Vehicle mounted flashing lights

Rotating lights shall have an amber lens of minimum height of 200mm and shall be mounted in such a way as to be highly visible from all directions. The lights on construction vehicles shall not be switched on while vehicles are being operated on unrestricted section of a public road, but shall be switched on while construction vehicles are operating within the accommodation of traffic area, as the vehicles decelerate to enter a construction area, and as the vehicles accelerate to the general continuously while the plant is working alongside sections of road open to public traffic.

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

The Contractor shall mount and maintain lights together with temporary mounting brackets, to the approval of the Engineer. Vehicles and plant that do not comply with these requirements shall be removed from the site".

(h) Other traffic control measures ordered by the Engineer

The Engineer may instruct the Contractor to provide any other road sign, reflective tape, etc. Not measured in standard pay items. Such road signs shall conform to the requirements of the SARTSM, or specification provided by the Engineer. Similarly, in order to ensure that the travelling public is kept fully informed and warned on matters relating to the accommodation to traffic, construction sign posting and the effect of the construction on the free flow of traffic through the site, the Engineer may arrange for advertising in the press and/or for other forms of publicity."

PSA 6 TOLERANCES

ADD THE FOLLOWING SUB-CLAUSE TO CLAUSE 6:

"PSA 6.4 USE OF TOLERANCES

No guarantee is given that the full specified tolerances will be available independently of each other, and the Contractor is cautioned that the liberal or full use of any one or more of the tolerances may deprive him of the full or any use of tolerances relating to other aspects of the work.

Except where the contrary is specified, or when clearly not applicable, all quantities for measurement and payment shall be determined from the 'authorised' dimensions. These are specified dimensions or those shown on the Drawings or, if changed, as finally prescribed by the Engineer, without any allowance for the specified tolerances. Except if otherwise specified, all measurements for determining quantities for payment will be based on the 'authorised' dimensions.

If the work is constructed in accordance with the 'authorised' dimensions plus or minus the tolerances allowed, the calculation of quantities will be based on the 'authorised' dimensions, regardless of the actual dimensions to which the work has been constructed.

When the work is not constructed in accordance with the 'authorised' dimensions plus or minus the tolerances allowed, the Engineer may nevertheless, at his sole discretion, accept the work for payment. In such cases no payment shall be made for quantities of work or material in excess of those calculated for the 'authorised' dimensions, and where the actual dimensions are less than the 'authorised' dimensions minus the tolerance allowed, quantities for payment shall be calculated based on the actual dimensions as constructed."

PSA 7 TESTING

PSA 7.1 PRINCIPLES

PSA 7.1.1 Checking

REPLACE THE LAST SENTENCE WITH THE FOLLOWING:

"The Contractor shall obtain the services of an independent testing laboratory at his own expense (refer to Clause 8 in Portion 1 of the Project Specifications) to carry out the checks prescribed in the various standardized specifications."

PSA 7.1.2 Standard of finished work not to specification

REPLACE THE WORDS "Where the Engineer's checks reveal ..." WITH "Where the checks by the approved laboratory reveal ..."

PSA 7.2 APPROVED LABORATORIES

REPLACE THE CONTENTS OF SUB-CLAUSE 7.2 WITH THE FOLLOWING:

"Unless otherwise specified in the relevant specification or elsewhere in the Project Specification, the following shall be deemed to be approved laboratories in which design work, or testing required in terms of a specification for the purposes of acceptance by the Engineer of the quality of materials used and/or workmanship achieved, may be carried out:

- (a) Any testing laboratory certified by the South African National Accreditation Systems (SANAS) in respect of the nature and type of testing to be undertaken for the purposes of the Contract;
- (b) Any testing laboratory owned, managed or operated by the Employer or the Engineer;
- (c) Any testing laboratory established and operated on the Site by or on behalf of the Employer or the Engineer.
- (d) Any other laboratory that the Engineer approves in his absolute discretion.

PSA 8 MEASUREMENT AND PAYMENT

PSA 8.1 MEASUREMENT

PSA 8.1.1 Method of measurement, all sections of the Schedule

DELETE THE WORDS "and South West Africa".

PSA 8.1.2 Preliminary and General item or section

PSA 8.1.2.1 Contents

REPLACE THE LAST SENTENCE OF SUB-CLAUSE 8.1.2.1(b) WITH THE FOLLOWING:

"Separate items will be scheduled to cover the fixed, value-related and time-related components of the Contractor's preliminary and general costs."

PSA 8.1.2.2 Tendered sums

REPLACE THE CONTENTS OF THIS SUB-CLAUSE WITH THE FOLLOWING:

"Except only where specific provision is made in the Specifications and/or the Schedule of Quantities for separate compensation for any of these items, the Contractor's tendered sums under items PSA 8.3 and PSA 8.4 shall collectively cover all charges for:

- risks, costs and obligations in terms of the Conditions of Contract and of this standardized specification;
- head-office and site overheads and supervision;
- profit and financing costs;
- expenses of a general nature not specifically related to any item or items of the permanent or temporary work;
- providing such facilities on site as may be required by the Contractor for the proper performance of the Contract and for its personnel, including, but without limitation, providing offices, storage facilities, workshops, ablutions, services such as water, electricity, sewage and rubbish disposal, access roads and all other facilities required, as well as for the maintenance and removal on completion of the works of these facilities and cleaning-up of the site of the Contractor's establishment and reinstatement to not less than its original condition, and
- providing the facilities for the Engineer and his staff as specified in the Contract and their removal from the site on completion of the Contract."

PSA 8.2 PAYMENT

PSA 8.2.1 Fixed-charge and Value-related items

REPLACE THE CONTENTS OF SUB-CLAUSE 8.2.1 WITH THE FOLLOWING:

PSA 8.2.1.1 Fixed-charge items

"Payment of fixed charges in respect of Item 8.3.1 will be made as follows:

- (a) NINETY PER CENT (90%) of the sum tendered will be paid when the contractual requirements (inclusive of cashflows, and schedule of quantities) have been provided and approved.
- (b) The remaining TEN PER CENT (10%) will be paid when the Works have been completed, the facilities have been removed and the site of the Contractor's establishment has been cleared and cleaned to the satisfaction of the Engineer.

No adjustment will be made to the sum tendered in respect of item 8.3.1 should the value of the works finally executed or the time for completion vary in any way from that specified in the tender.

PSA 8.2.1.2 Value-related items

Payment for the sum tendered under item 8.3.2 will be made in three separate instalments as follows:

- (a) The first instalment, which is 70% of the sum, will be paid when the Contractor has fulfilled all his obligations to date under this specification, the General Conditions of Contract and the Special Conditions of Contract,
- (b) The second instalment, which is 30% of the sum will be made when the value of work certified for payment, excluding materials on site and payments for preliminary and general items, is equal to not less than 15% of the total value of the work listed in the Schedule of Quantities.

PSA 8.2.2 Time-related items

REPLACE THE CONTENTS OF SUB-CLAUSE 8.2.2 WITH THE FOLLOWING:

"Subject to the provisions of sub-clauses 8.2.3 and 8.2.4, payment under item 8.4.1 (time-related item) will be made monthly in equal amounts, calculated by dividing the sum tendered for the item by the tendered Contract period in months, provided always that the total of the monthly amounts so paid for the item is not out of proportion to the value of the progress of the Works as a whole."

PSA 8.5 SUMS STATED PROVISIONALLY BY THE ENGINEER

REPLACE THE CONTENTS OF SUB-CLAUSE 8.5 WITH THE FOLLOWING:

PSA 8.5.1 Works executed by the ContractorUnit: Prov Sum

The Contractor will be reimbursed in accordance with the Provisional Sums (if any) allowed in the Schedule of Quantities, in the amounts determined in accordance with the provisions of Clause 6.6 of the General Conditions of Contract for Construction Works."

PSA 8.7 DAYWORK

REPLACE THE CONTENTS OF SUB-CLAUSE 8.7 WITH THE FOLLOWING:

"Measurement and payment shall be in accordance with the provisions of Sub-clause 6.5 of the Conditions of Contract for Construction Works.

PSA 8.9 COMPLIANCE WITH OHS ACT AND REGULATIONS

(INCLUDING THE CONSTRUCTION REGULATIONS 2003) Unit: sum

The tendered sum shall include full compensation to the Contractor for compliance with all the requirements of the OHS Act and Regulations (including the Construction Regulations 2003) at all times for the full duration of the Contract, as described in the project specifications and Employers' OHS policy. The successful tenderer shall provide the Engineer with a complete breakdown of this tendered sum.

This sum will be paid to the Contractor in equal monthly amounts subject to proper/substantial compliance.

PSA 8.10 COMPLIANCE WITH ENVIRONMENTAL MANAGEMENT PLAN.....Unit: sum

The Tenderer shall carefully read the provisions of Clause C3.1.34 "Environment and Safety" and refer to Annexure 1 included at the end of the document for the applicable Environmental Management Plan (EMP) and shall make adequate allowance in the time-related rates for compliance to the said Specification during the period of construction of the Works. The successful tenderer shall provide the Engineer with a complete breakdown of this tendered sum.

This sum will be paid to the Contractor in equal monthly amounts subject to proper/substantial compliance.

PSA 8.11 ACCOMMODATION OF TRAFFIC

Accommodating traffic and re-use of temporary traffic control facilities ...Unit: month

"The tendered rate shall include full compensation for accommodating traffic and maintaining temporary deviations, including roads used as temporary deviations during construction

The tendered rate shall also include full compensation for the re-use, moving, transporting and re-erection of temporary road signs, barricades, as well as the dismantling and storing irrespective of the number of times such traffic control facilities need to be moved during the construction period. The tendered rate shall include the temporary covering of road signs and shall include all labour cost including flagmen"

PSAB ENGINEER'S OFFICE

PSAB 3 MATERIALS

PSAB 3.1 NAMEBOARDS

REPLACE THE FIRST SENTENCE OF SUB-CLAUSE 3.1 WITH THE FOLLOWING:

“The Contractor shall supply and erect at locations approved by the Engineer, 1 name-board, which, unless otherwise specified in the Contract, shall comply with the recommendations for the standard board of the South African Association of Consulting Engineers, with regards to size, painting, decorating and detail, and the requirements described hereunder.”

PSAB 4 PLANT

ADD THE FOLLOWING NEW SUB-CLAUSES TO CLAUSE 4:

PSAB 4.4 SURVEY EQUIPMENT

The Contractor shall provide on site and make available for the exclusive use of the Engineer and his staff, the survey equipment and labour listed below:

1. Automatic level (including staff and tripod stand)
2. 5m steel measuring tape
3. 30m plastic measuring tape
4. 2 survey assistants
5. 3 ranging rods
6. 4kg hammer

All survey equipment provided by the Contractor shall be in good condition, properly calibrated and fit for the purpose.

In addition to survey equipment provided by the Contractor for the exclusive use of the Engineer and his staff, the Contractor shall make available for use by the Engineer any further survey equipment when such is reasonably required by the Engineer and his staff for the purposes of the Contract.

PSAB 5.8 SURVEY EQUIPMENT

All survey equipment provided by the Contractor shall be kept fully serviceable at all times by the Contractor. The Contractor shall have any defective equipment repaired or replaced at its own cost within 12 hours after notification by the Engineer's staff.

Where required by the Engineer, the Contractor shall at its own cost, promptly arrange for the re-calibration of survey equipment provided.

PSC **SITE CLEARANCE**

PSC 3 **MATERIALS**

PSC 3.1 **DISPOSAL OF MATERIAL**

ADD THE FOLLOWING NEW PARAGRAPH AT THE END OF SUB-CLAUSE 3.1:

"The Contractor shall obtain his own dumping sites for the disposal of material and all transport costs shall be included in the rates tendered for site clearance."

PSC 5 **CONSTRUCTION**

PSC 5.1 **AREAS TO BE CLEARED AND GRUBBED**

ADD THE FOLLOWING TO SUB-CLAUSE 5.1 WHICH DEFINES THE EXACT AREAS TO BE CLEARED AND GRUBBED:

"The following areas are to be cleared and grubbed:

- i) The Contractor's site.
- ii) The fence perimeter to a distance of 1.5m on either side of the fence centre line. Care shall be taken not to damage any other existing services that may be on the route.

PSC 5.2 **CUTTING OF TREES**

PSC 5.2.3 **Preservation of trees**

PSC 5.2.3.2 **Individual trees**

REPLACE THE LAST SENTENCE OF SUB-CLAUSE 5.2.3.2 WITH THE FOLLOWING:

"An amount of not less than R500.00 (Five Hundred Rands) will be deducted from moneys due to the Contractor as a penalty for every tree that is damaged or removed unnecessarily, and as further guided by prevailing legislation."

PSC 5.5 **RECLEARING OF VEGETATION**

ADD THE FOLLOWING NEW PARAGRAPH AT THE END OF SUB-CLAUSE 5.5:

"When areas have to be re-cleared on the written instructions of the Engineer, such re-clearing shall be carried out at the Contractor's own cost and the Contractor is therefore advised not to clear the areas too soon."

PSC 5.7 **LANDSCAPE PRESERVATION AND CONSERVATION OF FLORA**

ADD THE FOLLOWING NEW PARAGRAPH AT THE END OF SUB-CLAUSE 5.7:

"A penalty of R1000-00 (One Thousand Rands) per hectare of general habitat and flora damaged by the Contractor outside the designated areas shall be levied".

PSC 8 MEASUREMENT AND PAYMENT

PSC 8.2 PAYMENT

AMEND PAYMENT ITEMS 8.2.1 AND 8.2.4 AS FOLLOWS:

PSC 8.2.1 Clear and grub Unit: m²

REPLACE THE FIRST LINE IN SUB-CLAUSE 8.2.1 WITH THE FOLLOWING:

"The area designated by the Engineer to be cleared and grubbed will be measured in square metre to the nearest square metre or, "

PSC 8.2.4 Reclear surfaces (only on instructions from the Engineer) Unit: m²

REPLACE THE FIRST LINE WITH THE FOLLOWING:

"The area designated by the Engineer to be recleared will be measured in square metre to the nearest square metre or, "

REPLACE PAYMENT ITEM 8.2.10 WITH THE FOLLOWING:

PSD EARTHWORKS

PSD 2 INTERPRETATIONS

PSD 2.1 SUPPORTING SPECIFICATIONS

REPLACE SUBCLAUSE 2.1.2 WITH THE FOLLOWING:

"PSD 2.1.2 Any of the other SABS 1200 specifications may form part of the Contract documents."

PSD 2.3 DEFINITIONS

REPLACE THE WORD AND THE DEFINITION FOR "Borrow" WITH THE FOLLOWING:

"Borrow material: Material, other than material obtained from excavations required for the works, obtained from sources such as borrow pits or the authorised widening of excavations. 'Borrow' shall have a corresponding meaning."

REPLACE THE DEFINITION FOR "Specified density" WITH THE FOLLOWING:

"Specified density: The specified dry density expressed as a percentage of modified AASHTO dry density."

REPLACE THE DEFINITION FOR "Stockpile" WITH THE FOLLOWING:

"Stockpile (verb): The process of selecting and, when necessary, loading, transporting and off-loading material in a designated area for later use for a specific purpose"

ADD THE FOLLOWING DEFINITIONS:

"Commercial source: A source of material provided by the Contractor, not the Employer, and including any borrow pit, provided by the Contractor

Fill: An embankment or terrace constructed of material obtained from excavations or borrow pits. In roads it includes the earthworks up to the underside of the selected subgrade level.

Fill (material): Material used for the construction of an embankment or terrace

Roadbed: The natural in situ material on which the fill or, in the absence of fill, the pavement layers are constructed"

PSD 3 MATERIALS

PSD 3.1 CLASSIFICATION FOR EXCAVATION PURPOSES

PSD 3.1.1 Method of classifying

ADD THE FOLLOWING:

"The classification of material other than 'soft excavation' shall be agreed upon before excavation may commence.

The Contractor shall immediately inform the Engineer if and when the nature of the material being excavated changes to such an extent that a new classification is warranted for further excavation. Failure on the part of the Contractor to advise the Engineer in good time shall entitle the Engineer to reclassify, at his discretion, such excavated material."

PSD 3.2.3 Material suitable for backfill or fill against structures

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"Material used for backfill behind structures shall generally be the material excavated, subject to the following conditions:

- (a) The material shall not contain an excessive number of stones retained on a 50 mm sieve;
- (b) The material shall not contain large clay lumps that do not break up under the action of the compaction equipment; and
- (c) The liquid limit of the material shall not exceed 40, neither shall the PI exceed 18."

PSD 3.3 SELECTION

ADD THE FOLLOWING SUBCLAUSE:

"PSD 3.3.3 Selection in borrow pits and excavations

Approval of a borrow area for a certain purpose does not necessarily mean that all the material in that area is suitable for the specified purpose. What it does mean is that the borrow area contains some suitable material. The onus shall rest on the Contractor to ensure that only material that is indeed suitable is removed and used for the specified purpose.

When the Contractor has to select excavated material for a specific purpose, the above provisions relating to borrow areas shall apply *mutatis mutandis* to excavations.

The Contractor shall not waste or contaminate material that has been selected for a specific purpose."

PSD 4 PLANT

PSD 4.4 DETECTORS

REPLACE THE CONTENTS OF SUBCLAUSE 4.4 WITH THE FOLLOWING:

"The Contractor shall, for the purposes of detecting and locating underground services in accordance with the provisions of subclause 5.4 of SABS 1200 A and subclause 5.1.2 of SABS 1200 D, at his own cost, provide and use detecting equipment which is suitable for the detection of underground cables and pipes."

PSD 5 CONSTRUCTION

PSD 5.1 PRECAUTIONS

PSD 5.1.1 Safety

PSD 5.1.1.1 Barricading and lighting

REPLACE "Machinery and Occupational Safety Act, 1983 (Act 6 of 1983)" WITH "Occupational Health and Safety Act, 1993 (Act 85 of 1993)".

PSD 5.1.1.2 Safeguarding of excavations

REPLACE "Machinery and Occupational Safety Act" WITH "Occupational Health and Safety Act, 1993 (Act 85 of 1993)".

PSDB EARTHWORKS (PIPE TRENCHES)

PSDB 2 INTERPRETATION

PSDB 2.1 SUPPORTING SPECIFICATIONS

REPLACE SUB-CLAUSE 2.1 WITH THE FOLLOWING:

"Any of the other SANS 1200 specifications may form part of the Contract documents."

PSDB 3 MATERIALS

PSDB 3.1 CLASSIFICATION OF EXCAVATION PURPOSES

PSDB 3.1.1 Method of classifying

REPLACE THE CONTENTS OF SUB-CLAUSE 3.1.1, PARAGRAPH ONE WITH THE FOLLOWING:

"The contractor shall use local labourers to excavate soft material and any other method of excavation for harder material."

PSDB 5 CONSTRUCTION

PSDB 5.1 PRECAUTIONS

PSDB 5.1.1 Safety

PSDB 5.1.1.2 Safeguarding of excavations

AMEND SUB-CLAUSE 5.1.1.2 BY ADDING THE FOLLOWING:

"(g) Any cost the Contractor may undergo in ensuring the safety of excavations or any additional excavation and backfilling he may have to undertake due to the unstable sides of excavations and trenches shall be held to his account and the various rates for excavation and trenching included in the Schedule of Quantities shall include full compensation thereof."

PSDB 5.1.1.3 Explosives

REPLACE THE CONTENTS OF SUB-CLAUSE 5.1.1.3 WITH THE FOLLOWING:

"The Contractor will generally be permitted to use explosives for breaking up hard material during excavations, for demolishing existing structures, and for other purposes where explosives are normally required, subject to the following conditions:

- (a) The Engineer may prohibit the use of explosives in cases where, in his opinion, the risk of injury to persons or damage to property or to adjoining structures is too high. Such action by the Engineer does not entitle the Contractor to additional payment for having to resort to less economical methods of construction.
- (b) The Engineer's prior written approval shall be obtained for each and every blasting operation. This approval may be withheld if the Contractor does not use explosives responsibly and carefully.
- (c) The Contractor shall comply fully with the applicable legislation and regulations.
- (d) Before blasting is undertaken, the Contractor shall satisfy the Engineer that he has established whether or not the insurers concerned require pre- and post-blasting inspections of buildings and structures within a certain radius of the proposed blasting.

Should such inspections be required, the Contractor shall, together with the Engineer and the insurer, examine and measure the buildings, houses or structures in the vicinity of the proposed blasting site and establish and record, together with the owner, lessee or occupier, the extent of any existing cracking or damage before blasting operations commence.

- (e) When there is a possibility of damage to power and telephone lines or any other services or property, the Contractor shall adapt his method of blasting and the size of the charges and shall use adequate protective measures (eg cover-blasting) to reduce the risk of damage.
- (f) All accidents, injury to persons and animals and damage to property shall be reported to the Engineer in detail and in writing as soon as is practical.
- (g) The Engineer shall be given 24 hours' notice by the Contractor before each blasting operation is carried out.
- (h) When blasting to specified profiles, the Contractor shall so arrange the holes and charges that the resulting exposed surfaces are as sound as the nature of the material permits. The Contractor shall make good, at his own expense, any additional excavation necessitated by the shattering of rock in excess of any over break allowances specified

in the Project Specifications or given on any Drawing.

Notwithstanding the Contractor's compliance with the above provisions, the Contractor shall remain liable for any injury to persons and animals and loss of or damage to property occurring as a result of blasting operations."

PSDB 5.1.4 Stormwater and Groundwater

ADD THE FOLLOWING TO SUB-CLAUSE 5.1.3:

"The Contractor shall, where applicable and at the earliest practicable opportunity, install the permanent drainage specified or shown on the drawings and shall at his own cost provide the temporary drainage required to protect the works."

PSDB 5.2 METHODS AND PROCEDURES

PSDB 5.2.2 Excavation

ADD THE FOLLOWING TO PARAGRAPH b) OF SUB-CLAUSE 5.2.2:

"When the nature of the material precludes the above procedure, additional excavations shall be carried out to provide working space for the erection of formwork. The tendered rate for Item 8.3.5 will be deemed to include the cost of a working width of 600mm, but the Contractor may excavate a greater working width at no additional cost to the Employer."

REPLACE THE FIRST SENTENCE OF PARAGRAPH e) OF SUB-CLAUSE 5.2.2 WITH THE FOLLOWING:

"Where excavations have been carried out below the authorised levels, the Contractor shall backfill such excavations to the correct level with approved gravel compacted to 93% of modified AASHTO density or to the density of the surrounding material, whichever is the higher density.

Where excavations for structures have been carried out in hard material, the Engineer may direct that over-excavation be backfilled with weak concrete if there is a danger of settlement or differential settlement of the foundations.

Where the sides of excavations against which concrete is to be cast have been over-excavated or have collapsed partially, the Contractor shall re-trim the excavations if necessary and, unless other remedial measures are agreed to by the Engineer, shall cast the concrete for the structure, including the additional concrete that may be required as a result of the over-excavation or partial collapse. The cost of the additional concrete or remedial measures shall be for the Contractor's account."

PSDB 7 TESTING

PSDB 7.2 TAKING AND TESTING OF SAMPLES

REPLACE THE CONTENTS OF SUB-CLAUSE 7.2 WITH THE FOLLOWING:

"The Contractor shall arrange with an approved independent laboratory engaged by the Contractor to carry out sufficient tests on a regular basis as agreed between him and the Engineer to determine whether the degree of compaction, and, where applicable, the quality

of materials used, comply with the Specifications and shall submit the results of these tests to the Engineer in a form approved by him.

The compaction requirements for fills shall be deemed complied with when at least 75% of the dry-density tests on any lot show values equal to or above the specified density and when no single value is more than five (5) percentage points below the specified value."

PSGA CONCRETE (SMALL WORKS)

PSGA 1 SCOPE

This specification covers the requirements for plain concrete for footings and foundations.

PSGA 3.4 AGGREGATES

THE FOLLOWING ADD THE FOLLOWING TO SUB CLAUSE 3.4:

The use of 19mm granite is recommended. Any other aggregate to be subject to approval by the Engineer.

PSGA 5 CONSTRUCTION

PSGA 5.4 CONCRETE

PSGA 5.4.1 QUALITY

PSGA 5.5.1.7 Strength Concrete

It is a requirement that the Contractor employ the services of an approved specialist to recommend design mixes compatible with the Specification.

PSGA 6 TOLERANCES

PSGA 6.1 BASIS OF MEASUREMENT

PSGA 6.1.1 General

Unless otherwise stated on the Drawings, the degree of accuracy applicable to all concrete structures shall be Degree of Accuracy II (refer to table under clause 6.2.3).

PSGA 7 TESTS

PSGA 7.1 FACILITIES AND FREQUENCY OF TESTING

PSGA 7.1.1 Facilities

ADD THE FOLLOWING TO SUB-CLAUSE 7.1.1:

"The Contractor shall provide sufficient storage capacity for the concrete cubes and shall arrange to have them tested by an approved laboratory.

The cost of all testing, including the cost of sampling, storage and transport of samples shall be included in the rates tendered for concrete work."

PSGA 7.3 ACCEPTANCE CRITERIA FOR STRENGTH CONCRETE

ADD THE FOLLOWING TO SUB-CLAUSE 7.3:

"Test results obtained from the supplier of ready-mixed concrete will not be accepted for evaluation in terms of sub-clause 7.3, but samples for testing shall be taken of such concrete at the point of placing."

PSHA STRUCTURAL STEELWORK (SUNDRY ITEMS)

PSHA5 CONSTRUCTION

PSHA 5.1.2 Shop Details

REPLACE THE FIRST SENTENCE OF SUB-CLAUSE 5.1.2 WITH:

"The Engineer's drawings issued for construction purposes are preliminary with regards to structural steel items and the Contractor shall prepare shop drawings of all structural steel items for the Engineer's approval."

ADD THE FOLLOWING SENTENCE TO THE END OF SUB-CLAUSE 5.1.2:

"No payment shall be considered for any structural steel item without shop details being provided and approved by the Engineer in writing."

PSHA 5.2 FABRICATION AND ASSEMBLY

PSHA 5.2.10 Protective Treatment

This clause shall be replaced with the requirements of Particular Specification PTV (Corrosion Protection).

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BABANANA WATER PROJECT RS 135 -

**Phase 1C: Construction Of Pipeline 1 and 6 at
Mawa Village & Surrounding Areas**

HIV/AIDS REQUIREMENTS



C3.4 HIV/AIDS REQUIREMENTS

1. **SCOPE**

This specification contains all requirements applicable to the Contractor for creating HIV/AIDS awareness amongst all of the Workers involved in this project for the duration of the construction period, through the following strategies:

- Raising awareness about HIV/AIDS through education and information on the nature of the disease, how it is transmitted, safe sexual behaviour, attitudes towards people affected and people living with HIV/AIDS, how to live a healthy lifestyle with HIV/AIDS, the importance of voluntary testing and counselling, the diagnosis and treatment of Sexually Transmitted Infections and the closest health Service Providers
- Informing Workers of their rights with regard to HIV/AIDS in the workplace
- Providing Workers with access to condoms and other awareness material that will enable them to make informed decisions about sexual practices

2. **DEFINITIONS AND ABBREVIATIONS**

2.1 **Definitions**

Service Provider: The natural or juristic person recognised and approved by the Lepelle Northern Water as a specialist in conducting HIV/AIDS awareness programmes.

Service Provider Workshop Plan: A plan outlining the content, process and schedule of the training and education workshops, presented by a Service Provider which has been approved by the Representative/Agent.

Worker: Person in the employ of the Contractor or under the direction or supervision of the Contractor or any of his Sub-contractors, who is on site for a minimum period of 30 days in all.

2.2 **Abbreviations**

HIV	:	Human Immunodeficiency Virus
AIDS	:	Acquired Immune Deficiency Syndrome
STI	:	Sexually Transmitted Infection

3. BASIC METHOD REQUIREMENT

The Contractor shall, through a Service Provider, conduct onsite workshops with the Workers.

The Service Provider shall develop and compile a Service Provider Workshop Plan to be presented at the workshops and which will be best suited for this project to achieve the specified objectives with regard to HIV/AIDS awareness.

The Service Provider Workshop Plan shall be based on the following information provided by the Contractor:

- Number of Workers and Sub-contractors on site
- When new Workers or Sub-contractors will join the construction project
- Duration of Workers and Sub-contractors on site
- How the maximum number of Workers can be targeted with workshops
- How the Contractor prefers workshops to be scheduled, e.g. three hourly sessions per Worker, or one 2.5 hour workshop per Worker
- Profile of Workers, including educational level, age and gender (if available)
- Preferred time of day or month to conduct workshops
- A Gantt chart reflecting the construction programme, for scheduling of workshops
- Suitable venues for workshops The Contractor shall submit the Service Provider Workshop Plan for approval within 21 days after the tender acceptance date. After approval by the Lepelle Northern Water Representative/Agent, the Contractor shall make available a suitable venue that will be conducive to education and training.

The Service Provider Workshop Plan shall address, but will not be limited to the following:

- 3.1 The nature of the disease;
- 3.2 How it is transmitted;
- 3.3 Safe sexual behaviour;
- 3.4 Post exposure services such as voluntary counselling and testing (VCT) and nutritional plans for people living with HIV/AIDS;
- 3.5 Attitudes towards other people with HIV/AIDS;
- 3.6 Rights of the Worker in the workplace;
- 3.7 How the Awareness Champion will be equipped prior to commencement of the HIV/AIDS awareness programme with basic HIV/AIDS information and the necessary skills to handle questions regarding the HIV/AIDS awareness programme on site sensitively and confidentially;
- 3.8 How the Service Provider will support the Awareness Champion;
- 3.9 Location and contact numbers of the closest clinics, VCT facilities, counselling services and referral systems;
- 3.10 How the workshops will be presented, including frequency and duration;
- 3.11 How the workshops will fit in with the construction programme;
- 3.12 How the Service Provider will assess the knowledge and attitude levels of attendees to structure workshops accordingly;

- 3.13 How the video will be used;
- 3.14 How the Service Provider will elicit maximum participation from the Workers;
- 3.15 A questions and answers slot (interactive session)

The Service Provider Workshop Plan shall encompass the Specific Learning Outcomes (SLO) as stipulated.

4. HIV/ AIDS AWARENESS EDUCATION AND TRAINING

4.1 Workshops

The Contractor shall ensure that all Workers attend the workshops.

The workshops shall adequately deal with all the aspects contained in the Service Provider Workshop Plan. A video of HIV/AIDS in the construction industry, which can be obtained from all Offices of the Lepelle Northern Water, is to be screened to Workers at workshops. In order to enhance the learning experience, groups of not exceeding 25 people shall attend the interactive sessions of the workshops.

4.2 Recommended practice

4.2.1 Workshop Schedule

Presenting information contained in the Service Provider Workshop Plan can be divided in as many workshop sessions as deemed practicable by the Contractor, provided that all Workers are exposed to all aspects of the workshops as outlined in the Service Provider Workshop Plan. Breaking down the content of information to be presented to Workers into more than one workshop session however, has the added advantage that messages are reinforced over time while providing opportunity between workshop sessions for Workers to reflect and test information. Workers will also have an opportunity to ask questions at a following session.

4.2.2 Service Providers

A database of recommended Service Providers is available from all Offices of the Lepelle Northern Water.

4.2.3 HIV/AIDS Specific Learning Outcomes and Assessment Criteria

Workers shall be exposed to workshops for a minimum duration of two-and-a-half hours. In order to set a minimum standard requirement, the following specific learning outcomes and assessment criteria shall be met

4.2.3.1 UNIT 1: The nature of HIV/AIDS

After studying and understanding this unit, the Worker will be able to differentiate between HIV and AIDS and comprehend whether or not it is curable. The Worker will also be able to explain how the HI virus operates once a person is infected and identify the symptoms associated with the progression of HIV/AIDS.

Assessment Criteria:

1. Define and describe HIV and AIDS
2. List and describe the progression of HIV/AIDS

4.2.3.2 UNIT 2: Transmission of the HI virus

After studying and understanding this unit, the Worker will be able to identify bodily fluids that carry the HI virus. The Worker will be able to recognise how HIV/AIDS is transmitted and how it is not transmitted.

Assessment Criteria:

1. Record in what bodily fluids the HI virus can be found
2. Describe how HIV/AIDS can be transmitted
3. Demonstrate the ability to distinguish between how HIV/AIDS transmitted and misconceptions around transmittance of HIV/AIDS

4.2.3.3 UNIT 3: HIV/AIDS preventative measures

After studying and understanding this unit, the Worker will comprehend how to act in a way that would minimise the risk of HIV/AIDS infection and to use measures to prevent the HIV virus from entering the bloodstream.

Assessment Criteria:

1. Report on how to minimise the risk of HIV/AIDS infection
2. Report on precautions that can be taken to prevent HIV/AIDS infection
3. Explain or demonstrate how to use a male and female condom.
4. List the factors that could jeopardize the safety of condoms provided against HIV/AIDS transmission

4.2.3.4 UNIT 4: Voluntary HIV/AIDS counselling and testing

After studying and understanding this unit, the Worker will be able to recognise methods of testing for HIV/AIDS infection. The Worker will be able to understand the purpose of voluntary HIV/AIDS testing and pre- and post-test counselling.

Assessment Criteria:

1. Describe methods of testing for HIV/AIDS infection
2. Report on why voluntary testing is important
3. Report on why pre- and post-test counselling is important

4.2.3.5 UNIT 5: Living with HIV/AIDS

After studying and understanding this unit, the Worker will be able to recognise the importance of caring for people living with HIV/AIDS and be able to manage HIV/AIDS.

Assessment Criteria:

1. List and describe ways to manage HIV/AIDS
2. Describe nutritional needs of people living with HIV/AIDS
3. Describe ways to embrace a healthy lifestyle as a person living with HIV/AIDS
4. Explain the need for counselling and support to people living with HIV/AIDS

4.2.3.6 UNIT 6: Treatment options for people with HIV/AIDS

After studying and understanding this unit, the Worker will be familiar with the various treatments available to HIV/AIDS infected or potentially HIV/AIDS infected people.

Assessment Criteria:

1. Discuss anti-retroviral therapy
2. List methods of treatment to prevent HIV/AIDS transmission from mother-to-child
3. Describe the need for treatment of opportunistic diseases for people living with HIV/AIDS
4. Describe post exposure prophylactics.

4.3 **Displaying of plastic laminated posters and distribution of information booklets**

The Contractor shall obtain a set of four laminated posters conveying different key messages and information booklets, which are available from Offices of the Lepelle Northern Water.

The above-mentioned posters and information booklets have been prepared to raise awareness and to share information about HIV/AIDS and STI's.

Posters or display stands shall be displayed on site as soon as possible, but not later than 14 days after the date of site handover.

Posters shall be displayed in areas highly trafficked by Workers, including toilets, rest areas, the site office and compounds.

The posters on display must always be intact, clear and readable.

Information booklets must be distributed to all Workers as soon as possible, but not later than 14 days after site handover, or as soon as the Worker joins the site.

5. **PROVIDING WORKERS WITH ACCESS TO CONDOMS**

The Contractor shall provide and maintain condom dispensers and make both male and female condoms, complying with the requirements of SABS ISO 4074, available at all times to all Workers at readily accessible points on site, for the duration of the contract. The Contractor may obtain condom dispensers from the Department of Health and condoms may be obtained from the Local Clinic or the Department of Health.

At least one male and one female condom dispenser and a sufficient supply of condoms, all to the approval of the Representative/Agent, shall be made available on site within 14 days of site hand over. Contractors should note that arrangements to obtain condoms from the Department of Health Clinics prior to site hand over may be necessary, to ensure that condoms are available within 14 days of site handover.

Condoms shall be made available in areas highly trafficked by Workers, including toilets, the site office and compounds.

6 **ENSURING ACCESS TO HIV/AIDS TESTING AND COUNSELLING FACILITIES AND TREATMENT OF SEXUALLY TRANSMITTED INFECTIONS (STI)**

The Contractor shall provide Workers with the names of the closest Service Providers that provide HIV/AIDS testing and counselling and Clinics providing Sexually Transmitted Infection (STI) diagnosis and treatment. Information on these Service Providers and Clinics must be displayed on a poster of a size not smaller than A1 in an area highly trafficked by Workers.

7. **APPOINTMENT OF AN HIV/AIDS AWARENESS CHAMPION**

Within 14 days of site handover the Contractor shall appoint an Awareness Champion from amongst the Workers, who speaks, reads and writes English, who speaks and understands all the local languages spoken by the Workers and who shall be on site during all stages of the instruction period.

The Contractor shall ensure that the Awareness Champion has been trained by the Service Provider on basic HIV/AIDS information, the support services available and the necessary skills to handle questions regarding the HIV/AIDS programme in a sensitive and confidential manner.

The Awareness Champion shall be responsible for:

- 7.1 Liaising with the Service Provider on organizing awareness workshops;
- 7.2 Filling condom dispensers and monitoring condom distribution;
- 7.3 Handing out information booklets;
- 7.4 Placing and maintaining posters

8 MONITORING

The Contractor shall grant to the Representative/Agent reasonable access to the construction site, in order to establish that the Contractor complies with his obligations regarding HIV/AIDS awareness under this contract.

The Contractor must report problems experienced in implementing the HIV/AIDS requirements to the Representative/Agent.

C3.5 OCCUPATIONAL HEALTH AND SAFETY

Bidders are to study the OHS specifications in terms of the OHS Act Construction Regulations 2014 and price accordingly. No additional allocation of funds will be added to OHS compliance in terms of Construction Regulations 2014 post appointment.

C3.5.1 OHS GENERAL

C3.5.1.1 TENDER DOCUMENT

This document is the pre-contract Health and Safety Specification which must be used by the Principal Contractor and Sub Contractors appointed by the Principal Contractor to compile Health and Safety Plans for this project and forms part of the tender documentation.

The Principal Contractor and Sub Contractors' particular attention is drawn to this specification whereby

"Upon award of the contract, the contractor is to assume and adopt the function and duties of the Principal Contractor as set out in the Construction Regulations 2014 No. 10113 promulgated 07 February 2018."

The health and safety specifications outlined herein must be taken into account and due allowance made within the pricing of appropriate items contained within the specification. Where the tenderer is of the opinion that a requirement is missing or is not adequately specified then this shall be drawn to the Client attention during the tender period. In the absence of any direction to the contrary, the tenderer shall as part of the tender submission, set out the details of such discrepancy together with the costs associated therewith, separately identified and included within the tender figure.

C3.5.1.2 PRINCIPAL CONTRACTOR

The successful tenderer will on signing of the contract for:

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Mawa Village & Surrounding Areas**

be required to fulfil the function and duties of the Principal Contractor as set out in the Construction Regulations 2014 No. 10113 promulgated 07 February 2018.

C3.5.1.3 START OF CONSTRUCTION PHASE

The construction phase shall not commence until the Principal Contractor's Health and Safety Plan was considered and approved by the Client and Design Team. The Client shall discuss and negotiate with the Principal Contractor the contents of the Health and Safety Plan submitted by the Principal Contractor before finally approving it for implementation.

The construction phase shall not commence until written permission is received from the Client. In this respect the Client may rely on the advice of the Technical Team as to the adequacy and comprehensiveness of the Plan offered by the Principal Contractor.

In preparing their detailed Health and Safety Plan based on the relevant sections of this Health and safety Specifications supplied to them by the Client, contractors must allow for the adoption of safe working procedures and co-ordinate and rationalize activities to avoid controllable hazards arising due to clashes of activities.

C3.5.1.4 SUB-CONTRACTORS, SUPPLIERS & DESIGNERS

The Principal Contractor shall ensure that all direct appointments in connection with this project include provisions for the compliance of his sub-contractors, suppliers and designers, etc, with the relevant provision of the Occupational Health and Safety Act (Act 85 of 1993) and it's Regulations, in particular the Construction Regulations 2014 No. 10113 promulgated 07 February 2018.

C3.5.1.5 LIAISON

The Principal Contractor shall together with all his appointees, liaison with the Client as required under the Regulations and agrees procedures for the transfer of relevant Information in respect of designs and in connection with the preparation of the Health and Safety File.

C3.5.1.6 ADVICE

The tenderer shall, as part of the tender submission, indicate where advice will or may be required of the Client in respect of the competence of the tenderer's designers and the adequacy of resources allocated or to be allocated by them.

C3.5.1.7 UNDERTAKING BY PRINCIPAL CONTRACTOR AND SUB-CONTRACTORS APPOINTED BY THE PRINCIPAL CONTRACTOR.

The Principal Contractor as well as Sub-Contractors appointed by him / her shall undertake in writing to ensure that the provisions of the Occupational Health and Safety Act (Act 85 of 1993) and it's Regulations, in particular the Construction Regulation of 2014 No. 10113 promulgated 07 February 2018 and any amendments or re-enactments thereto are complied with.

The attached Occupational Health and Safety provisions undertaking form for the Principal Contractor shall be completed and signed by the Project Manager of the company / firm awarded the tender.

Client's Occupational Health and Safety Agent: To be appointed

C3.5.2 INFORMATION REQUIREMENTS

The contractor must provide the following information.

C3.5.2.1 GENERAL

- The Principal Contractor / Sub-Contractor shall have an OHS Policy in accordance with the OHS(Occupational Health and Safety Act, Act 85 of 1993) and include a copy of the Policy in the Health and Safety Plan to be submitted by the Principal Contractor / Sub-Contractor.
- The Principal Contractor / Sub-Contractor shall promptly display a copy of the Company's OHS Policy on the OHS Notice Board for the duration of the contract and include it into information provided to persons at the contract OHS induction.
- The Principal Contractor shall develop a Contract specific OHS Management Commitment Statement based on the Company's OHS Policy.
- The Principal Contractor's Project Managing shall sign the Commitment statement and prominently display a copy on the OHS Notice Board for the duration of the contract. A copy of the Commitment Statement shall be

included in information provided to persons at the Contract OHS induction and a copy shall also be supplied to each sub-contractor.

C3.5.2.2 MANAGEMENT

- Details of the personnel and management systems to be put in place to prepare, manage, implement, conduct and monitor the Health and Safety Plan for the project.

Broadly speaking your:

- Organization's internal structure that establishes SHE (Safety, Health and Environmental) ROLES, RESPONSIBILITIES, ACCOUNTABILITIES, and REPORTING RELATIONSHIPS,
- SHE (Safety, Health and Environmental) PLANS, POLICIES, PROCEDURES, DIRECTIVES and STANDARDS that provide instructions as to how activities and functions are to be carried out,
- SHE (Safety, Health and Environmental) CONTROLS, INSPECTIONS, REVIEWS, etc. built into construction operations to ensure that performance is consistent with SHE (Safety, Health and Environmental) objectives and requirements,
- SHE (Safety, Health and Environmental) COMMUNICATION MECHANISMS for collecting, handling and reporting information.

In other words Management Systems that specifies WHO is going to do WHAT, WHERE, WHEN, WHY and HOW.

- Details of relevant qualifications and experience held by the persons nominated above, including recent health and safety education and training undertaken.
- Procedures for determining the competence of contractors engaged on the project, whether employed by the contractor directly or by others, to fulfil their duties under the Construction Regulations 2014 No. 10113 promulgated 07 February 2018.

C3.5.2.3 HAZARD IDENTIFICATION, RISK MANAGEMENT AND CONTROL

- The Principal Contractor / Sub-Contractor shall detail and implement procedures that will identify hazards, assess risks and determine suitable control measures as they arise throughout term of the contract. These procedures shall both comply with and be implemented and managed in accordance with the specification.
- The Principal Contractor / Sub-Contractor shall detail and implement procedures that ensure control measures are evaluated for effectiveness and modified as necessary. The evaluation procedure shall detail the responsibilities, timelines and records that will be kept as part of the process.
- Where Risk is controlled through administrative control measures, the Principal Contractor / Sub-Contractor shall ensure that the administrative measures are:
 - a) Clearly documented and those personnel responsible for implementation and management are explicitly defined;
 - b) Understood by all relevant personnel through training and assessment;

- c) Implemented as documented and promptly reviewed for effectiveness following initial implementation;
- d) Amended and authorised as required;
- e) Adequately supervised, managed and audited to ensure continuing compliance;
- f) Available at all times wherever the measures are being implemented.
- ❖ Any piece of plant or equipment not complying with the specification shall cease operation until the Principal Contractor / Sub-Contractor can demonstrate to the satisfaction of the Client / Client's Agent that the piece of non-conforming plant or equipment conforms to these requirements.

C3.5.2.4 HEALTH AND SAFETY PLAN

The Principal Contractor / Sub-Contractor shall develop a Health & Safety Plan to reflect variations in design or changes in site conditions and liaise with the Client / Client's Agent.

The Principal Contractor shall develop this Health and Safety Plan so that it:

- a) Incorporates the contractor's approach to managing the construction work to ensure the health and safety of all persons carrying out the construction work and all persons who may be affected by their work.
- b) Includes the risk assessments prepared by all Contractors under their duties set out in the Construction Regulations 2014 and any other relevant legislation (i.e. the OHS Act and Regulations, etc).
- c) Includes the arrangements for ensuring that, where appropriate or specifically requested, all Contractors / Sub-Contractors prepare suitable and sufficient method statements for their construction works which incorporate adequate measures for ensuring the health and safety of all persons who may be affected by these works.
- d) Incorporates the common arrangements for site safety, statutory notices and registers etc.
- e) Includes the site rules to be adopted for controlling the risks to health and safety during the construction phase(s) or the project.
- f) Includes reasonable arrangements for monitoring compliance with health and safety legislation and site rules.
- g) Includes reasonable measures to ensure co-operation between all Contractors and Sub-Contractors in respect of health and safety provisions and prohibitions.
- h) Includes the steps to be taken to ensure that only authorised persons are allowed into any premises or parts of the site / premises where construction work is being carried out.
- i) Includes arrangements for emergency procedures.
- j) Includes arrangements for ensuring that, so far as is reasonably practicable, every Contractor and Sub-Contractor is provided with comprehensible information about the risks to health and safety of that Contractor / Sub-Contractor, or of any employees or other persons under their control, arising out of the construction works, including the emergency procedures

- k) Includes details of the arrangements for ensuring, so far as is reasonably practicable, that the employees or other persons under the control of any Contractor / Sub-Contractor, and any visitors to the site, receive adequate information about the risks to their health and safety arising out of the construction works and, where necessary, adequate training to carry out their work in a safe and healthy manner.
- l) Includes arrangements for providing all persons at work on the site and visitors to the site with the opportunity and means of discussing and offering advice on health and safety issues relating to the construction works.
- m) Includes arrangements for the reporting of any accidents, injuries or dangerous occurrences, including conforming with the statutory requirements.
- n) Can be modified as the work proceeds to take account of any information received from Contractors / Sub-Contractors, any experience gained during the course of the project or any changes necessary as a result of unforeseen circumstances or alterations to the design.

C3.5.2.5 PROGRAMME

A time estimate required by the contractor to implement the Health & Safety Plan sufficiently for works to commence on site.

C3.5.2.6 COST

A detailed breakdown of costs allowed in the contractor's tender for preparing, managing, implementing and monitoring the Health and Safety Plan, and for complying with the requirements imposed on the Principal Contractors under the Construction Regulations of 2014 No. 10113 promulgated 07 February 2018.

C3.5.3 GENERAL SITE SAFETY

C3.5.3.1 SAFETY TRAINING & EDUCATION

The Principal Contractor shall detail the OHS competencies and training received by its contract management personnel.

The Principal Contractor's Health and Safety Plan shall have a detailed register of the skills and competencies for all personnel for the activities that the personnel will undertake under the contract. (E.g. Mobile plant operators, crane operators etc.)

The Principal Contractor shall demonstrate and maintain documentary evidence of competencies on site for the duration of the contract.

C3.5.3.2 INDUCTION TRAINING

The Principal Contractor / Sub-Contractor shall develop and detail a Site Induction Training Programme as part of the Occupational Health and Safety Plan to be submitted to the Client prior to commencement of construction that includes as a minimum:

- a) Training related to hazards likely to be encountered on Site and control measures that have been developed in response to these hazards;
- b) Roles and Responsibilities;

- c) The requirements of the Health and Safety Plan submitted and approved
- d) Address the identified issues in the Fire Safety, Emergency, Evacuation and Rescue Plan to ensure that all Site personnel are aware of procedures in the event of an incident or emergency occurring;

The Principal Contractor / Sub-Contractor shall evaluate all persons undertaking the site Induction Training through a written test to ensure that inductees have an understanding of the OHS (Occupational Health and Safety) requirements for the contract. The written tests shall be signed and dated by the person undertaking the induction training to attest to their understanding and be retained by the Principal Contractor / Sub-Contractor as a record that the training has been completed.

C3.5.3.3 INDUCTION TRAINING FOR SPECIFIED WORK

The Principal Contractor / Sub-Contractor shall conduct Site Specific Occupational Health and Safety Induction Training for all personnel, the Client and all visitors not escorted on Site by inducted persons.

The Principal Contractor / Sub-Contractor shall evaluate all persons undertaking the Site Induction Training through a written test to ensure that inductees have an understanding of the OHS (Occupational Health and Safety) requirements for the contract. The written tests shall be signed and dated by the person undertaking the induction training to attest to their understanding and be retained by the Principal Contractor / Sub-Contractor as a record that the training has been completed.

C3.5.3.4 RECORDING & REPORTING OF INJURIES

Make arrangements for all contractors to report accidents, ill health and dangerous occurrences notifiable to the Department of Labour under Section 24 of the OHS Act (Occupational Health and Safety Act, Act 85 of 1993) (Reporting to DOL (Department of Labour) Inspector regarding certain incidents).

All lost time incidents associated with the contract works or reportable as defined by **Section 24** of the OHS Act shall be immediately reported to the Client.

The Principal Contractor / Sub-Contractor shall provide a detailed report of all accidents / incidents, including events that could have become lost time incidents were it not for fortuitous circumstances to the Client within 5 days of the incident occurring. The Principal Contractor / Sub-Contractor shall provide copies of all reports and information associated with the incidents to the Client. Copies of reports must be placed on the Health and Safety File.

Where the Principal Contractor / Sub-Contractor has been:

- Served with a prohibition, contravention or improvement notice under the OHS Act; or
- Required to comply with any order issued by an inspector for the Department of Labour;
- The Principal Contractor / Sub-Contractor shall immediately supply a copy of that notice, order or notification to the Client.
- Where the Principal Contractor / Sub-Contractor have been served with a summons or is convicted of any offence in relation to occupational health and safety, the Principal Contractor / Sub Contractor shall immediately supply a copy of that summons to the Client.
- The Principal Contractor / Sub-Contractor shall detail the reporting and investigation procedures for incident investigation. The procedures shall include the investigating officer responsible and the time limits imposed for

reporting and investigating the incident and to implement corrective action in a timely manner so as to prevent a recurrence.

- The client may participate in or undertake an investigation into the incident, injury or illness at its discretion and the Principal Contractor / Sub-Contractor shall cooperate with and provide assistance to the investigation organized and undertaken by the Client.

C3.5.3.5 FIRST AID

- o Establish and implement a first-aid programme to provide emergency treatment to victims of accidents, chemical substances or excessive exposure to toxic substances.

The programme shall include:

- proper first aid facilities administered by qualified personnel,
 - first-aid boxes,
 - first-aid room, where there are 500 or more workers on site,
 - training and re-training of first-aiders,
 - first-aid treatment procedures,
 - standard procedures,
 - special procedures, e.g. for poisoning,
 - maintenance of first-aid facilities
- o All first-aid provisions shall comply with the OHS Act (Act 85 of 1993)

C3.5.3.6 FIRE PROTECTION AND PREVENTION

- Appropriate measures must be taken to avoid the risk of fire.
- Sufficient and suitable storage must be provided for flammable liquids, solids and gases.
- Smoking must be prohibited and notices in this regard must be prominently displayed in all places containing readily combustible or flammable materials;
- Combustible materials must not accumulate on the construction site.
- Welding, flame cutting and other hot work may only be done after the appropriate precautions have been taken to reduce the risk of fire.
- Suitable and sufficient fire-extinguishing equipment must be placed at strategic locations and such equipment must be maintained in good working order.
- A sufficient number of workers must be trained in the use of fire-extinguishing equipment.

C3.5.3.7 SITE EMERGENCY PROCEDURES

The Principal Contractor / Sub-Contractor shall establish an Emergency Evacuation and Rescue plan.

The plan shall include the following detail:

- The role and responsibility of every individual in the work area on fire safety emergency evacuation and rescue;
- General work area precautions, fire prevention, detection, protection and warning alarm systems;

- Fire fighting and rescue equipment including types of fire extinguishers;
- Fire safety measures for Site accommodation;
- Escape and communication;
- Fire brigade access, facilities and coordination;
- Fire drills and training including the use of fire fighting equipment;
- Material storage including flammable liquids, gasses and waste;

The Principal Contractor / Sub-Contractor shall ensure that all procedures, precautionary measures and safety standards stipulated in the Plan are communicated, implemented and complied with by all workers including other interfacing contractors on Site.

The Principal Contractor / Sub-Contractor shall practice their emergency preparedness within six (6) weeks of the commencement of work and at least four (4) monthly intervals thereafter.

The Principal Contractor / Sub-Contractor shall review and ensure the adequacy of the Plan as the work progress.

The Principal Contractor / Sub-Contractor shall conduct monthly checks on fire fighting equipment and test alarms and detection devices installed on Site and document findings in a register which shall be on site at all times for inspection.

The Principal Contractor / Sub-Contractor shall conduct weekly inspections of escape routes, fire brigade access, fire fighting facilities and working areas to ensure that the requirements stipulated in the Fire Safety, Emergency, Evacuation and Rescue Plan are complied with. All inspection records shall be documented in registers and kept in the Health and Safety file for inspection at any time.

C3.5.3.8 HOUSEKEEPING

Suitable housekeeping must continuously be implemented on the construction site, including:

- proper storage of materials and equipment
- removal of scrap, waste and debris at appropriate intervals;

Loose materials shall not be placed or allowed to accumulate on the site so as to obstruct access and egress from workplaces and passageways.

C3.5.3.9 STACKING & STORAGE

- Adequate storage areas are must be provided.
- Storage areas must be kept neat and under control.

C3.5.3.10 ILLUMINATION

Provide adequate artificial lighting when work is carried out after dark or inside buildings.

C3.5.3.11 SANITATION / HYGIENE

Provision of site hygiene facilities:

- One sanitary facility for every 30 workers.
- Adequate washing facilities.
- One shower facility for every 15 workers;

Drying sheds, huts, rooms or other accommodation for sheltering during bad weather, storing clothes and taking meals. Facilities should include tables and chairs, suitable means for boiling water and a supply of wholesome drinking water.

The contractor shall provide reasonable and suitable living accommodation for the workers at construction sites which are remote from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

C3.5.3.12 PERSONAL PROTECTIVE EQUIPMENT

The Principal Contractor / Sub-Contractor shall provide and maintain suitable PPE (Personal Protective Equipment) for all employees employed on the Site.

The Principal Contractor / Sub-Contractor shall ensure that such PPE comply with the requirements of the OHS Act (Occupational Health and Safety Act, Act 85 of 1993).

The Principal Contractor / Sub-Contractor shall also ensure that all equipment is properly used by his / her employees during the course of their work.

The Principal Contractor / Sub-Contractor shall record all issues of all equipment to his / her employees in documented registers and such registers shall be kept in the Health and Safety File on site and made available for inspection at all times.

The Principal Contractor / Sub-Contractor shall provide the Client / Client's Agent with a colour code by which employees will be identified with regard to occupations, responsibilities, accountabilities, reporting relationships and access to different locations on site. (e.g. hard hats, overalls).

PPE shall be provided, used, and maintained in a sanitary and reliable condition wherever it is necessary by reason of hazards.

All personal protective equipment shall be of safe design and construction for the work to be performed.

C3.5.3.13 PERMIT TO WORK REQUIREMENTS

Institute a "hot work" permit system in respect of:

- metalwork flame cutting,
- site welding,

C3.5.3.14 LOCK-OUT

Institute a "Lock-out" procedure in respect of controlling energy so as to prevent unexpected operation or activation of machinery or equipment. This procedure must include a written policy, specific procedures, rules and supervisory follow-up, covering the positive locking of switches and valves to ensure that alterations, maintenance, set-up and or other work can be performed safely.

C3.5.3.15 MONTHLY HEALTH AND SAFETY AUDITS

The Principal Contractor shall carry out monthly Health and Safety Audits on the measures contained within his / her Health and Safety Plan submitted to the Client as well as Health and Safety Plans submitted by Sub-Contractors appointed by the Principal Contractor to demonstrate that the required level of health and safety are being achieved and maintained and compile a full report to the Client on such audit.

The Client will audit the Principal Contractor as well as his / her Sub-contractor's Health and Safety Plans from time to time and will advise the Principal Contractor of any matter with which he / she is not satisfied and the Principal Contractor shall take such steps as are necessary to satisfy the Client.

The Client will carry out such audits as he / she considers necessary but not less than monthly.

The Principal Contractor shall make available, specialist personnel as the Client may consider necessary for the performance of such audits.

The Principal Contractor shall develop and maintain an Audit Schedule that details the audits planned to be undertaken by the Principal Contractor of the work under the contract, including sub-contractors, for the duration of the contract. The Audit Schedule shall form part of the Health and Safety Plan that needs to be submitted by the Principal Contractor.

Audit reports shall detail the scope of the audit, the audit questions and the audit findings.

The Client shall be promptly provided with copies of all audit reports together with other documentation to show that all matters raised have been appropriately addressed.

Unless otherwise directed by the Client the Principal Contractor / Sub-Contractor shall undertake its initial OHS Audit within 4 weeks of commencement of work. The Principal Contractor / Sub-Contractor shall undertake subsequent OHS Audits at a frequency not less than once every 3 months.

All Principal Contractor's OHS Audits shall include an assessment of Sub-Contractor compliance with the approved OHS Plan.

C3.5.3.16 MANAGEMENT REVIEW

The Principal Contractor shall undertake an independent review of the Health and Safety Plan for the contract in accordance with the requirements of the OHS Act, relevant Regulations and in particular the Construction Regulations 2014.

A review shall be undertaken 3 months after commencement of the contract and every 6 months thereafter for the duration of the contract.

Following the completion of the review, the Principal Contractor shall submit a written report that details the suitability, adequacy and effectiveness of the OHS Plan and to certify that the Site procedures, practices and operations are in accordance with the contract.

C3.5.3.17 PROVISION OF INFORMATION

- Provide Sub-Contractors appointed by him / her with the relevant sections of the Health and Safety specifications pertaining to the construction work which has to be performed.
- Where changes are brought to the design and construction, provide sufficient information and appropriate resources to the Sub-Contractor to execute the work safely.
- Discuss and negotiate with Sub-Contractors the contents of the Health and Safety Plan / Plans submitted by them and finally approve such plans for implementation.
- Ensure that copies of Health and Safety plans compiled by the Principal Contractor and his / her Sub-Contractors are available on request to an employee, DOL Inspector, contractor, Client.
- The Principal Contractor / Sub-Contractor shall detail procedures that will ensure that personnel are suitably consulted and communicated with during the planning and application of work activities associated with the contract.
- The Principal Contractor / Sub-Contractor shall detail the procedures for the identification, assessment and control of hazards associated with the day-to-day work activities. These procedures shall include requirements for consultation with personnel involved in the work activity.
- The Principal Contractor / Sub-Contractor shall have procedures for ensuring that OHS information is communicated to and from its personnel. The Principal Contractor / Sub-Contractor shall hold OHS meetings with all personnel or their representatives at the site on a weekly basis.
- Minutes shall be recorded for all OHS meetings and posted on OHS notice boards within 48 hours of the meeting.
- The Principal Contractor / Sub-Contractor shall maintain at the Site an OHS Notice Board located in a prominent position and accessible to all personnel, for the distribution of OHS information.
- The Principal Contractor / Sub-Contractor shall as a minimum, establish and implement procedures for reporting relevant and timely information with regard to OHS Performance and incidents.
- The Principal Contractor / Sub-Contractor shall establish, implement and maintain a controlled copy of all Contract OHS documentation on Site.
- Where the Principal Contractor / Sub-Contractor's Health and Safety Plan references other documentation including the contract, the Principal Contractor / Sub-Contractor shall ensure that section and clause numbers are clearly denoted in its Health and Safety Plan. All documentation referenced in the Health and Safety Plan shall be available on Site for the duration of the contract.
- Ensure that Health and Safety Files kept by Sub-Contractors appointed by the Principal Contractor is kept on site and made available to an inspector, Client.
- Hand over a consolidated health and safety file to the Client upon completion of construction work, including all drawings, designs, materials used and other similar information concerning the completed structure.
- In addition to the Health and Safety File compile a comprehensive and updated list of all contractors on site accountable to the Principal Contractor as well as the agreements between the parties and the type of work done by them.

C3.5.3.18 STOP THE EXECUTION OF CONSTRUCTION WORK

Stop any construction / construction related work conducted by any person on the construction site, which is not in accordance with the Principal Contractor's health and safety plan and or the health and safety plans of Sub-Contractors which possess a threat to the health and or safety of persons.

C3.5.3.19 HANDING OVER OF PROJECT HEALTH AND SAFETY FILE

- Hand over a consolidated health and safety file to the Client upon completion of construction work, including all drawings, designs, materials used and other similar information concerning the completed structure.
- In addition to the Health and Safety File compile and hand over a comprehensive and updated list of all contractors on site accountable to the Principal Contractor as well as the agreements between the parties and the type of work done by them.

C3.5.3.20 RECORDS AND RECORDS MANAGEMENT

- The control of records shall be in accordance with the Principal Contractor's / Sub-Contractor's approved Health and Safety Plan for the contract.
- Records shall be registered, ordered and retained on Site in the Health and Safety File for the duration of the contract.

C3.5.4 CHEMICAL HAZARDS

The following construction materials and substances to be used in the works have been identified as potentially posing special health and/or safety hazards during the project:

NOTE:

The above mentioned is not a definitive list of all potential harmful products. Other materials and substances commonly used during construction may also present health or safety hazards, however, it is deemed that these should be familiar to the average competent Contractor as part of routine risk and OHS (Occupational Health, Safety and Hygiene) assessments and are therefore not included here.

Adopt all precautionary measures provided by manufacturers for storage, use and application of specified materials.

Data sheets for these, and any other materials that will be used for the works, are to be obtained by the contractor from the manufacturers.

C3.5.5 SAFETY HAZARDS

C3.5.5.1 TOOLS

C3.5.5.1.1 Hand tools

- Employers shall not issue or permit the use of unsafe hand tools.
- Wrenches, including adjustable, pipe, end, and socket wrenches shall not be used when jaws are sprung to the point that slippage occurs.
- Impact tools, such as drift pins, wedges, and chisels, shall be kept free of mushroomed heads.
- The wooden handles of tools shall be kept free of splinters or cracks and shall be kept tight in the tool.

C3.5.5.2 PORTABLE ELECTRICAL TOOLS

No person shall use a portable electric tool with an operating voltage which exceeds 50 to earth unless –

- it is connected to a source of electrical energy incorporating an earth leakage protection device which meets the requirements of section 36 of the OHS Act or,
- it is connected to a source of high frequency electrical energy derived from a generator which is used solely for supplying energy to such portable electric tool and which arrangement is approved by the chief inspector; or
- it is clearly marked that it is constructed with double or reinforced insulation.

Portable electric tools, together with its flexible cord and plug shall be maintained in a serviceable condition.

C3.5.6 EXCAVATIONS

- The contractor shall ensure that all excavation work is carried out under the supervision of a competent person who has been appointed in writing.
- The contractor shall evaluate the stability of the ground before excavation work begins.
- The Contractor shall take suitable and sufficient steps in order to prevent any person from being buried or trapped by a fall or dislodgement of material in an excavation;
- The contractor shall not permit any person to work in an excavation which has not been adequately shored or braced.
- Shoring and bracing may not be necessary where-
 - the sides of the excavation are sloped to at least the maximum angle of repose measured relative to the horizontal plane; or
 - such an excavation is in stable material:
 - Provided that-
- permission being given in writing by the appointed competent person upon evaluation by him or her of the site conditions; and
- where any uncertainty pertaining to the stability of the soil still exists, the decision from a professional engineer or a professional technologist competent in excavations shall be decisive and such a decision shall be noted in writing and signed by both the competent person and a professional engineer or technologist, as the case may be;
- Take steps to ensure that the shoring or bracing is designed and constructed in such manner rendering it strong enough to support the sides of the excavation in question;
- Ensure that no load, material, plant or equipment is placed or moved near the edge of any excavation where it is likely to cause its collapse and thereby endangering the safety of, any person, unless precautions such as the provision of sufficient and suitable shoring or bracing are taken to prevent the sides from collapsing;

- Cause convenient and safe means of access to be provided to every excavation in which persons are required to work and such access shall not be further than 6m from the point where any worker within the excavation is working;
- Cause every excavation, including all bracing and shoring, to be inspected-
 - i. daily, prior to each shift;
 - ii. after every blasting operation;
 - iii. after an unexpected fall of ground;
 - iv. after substantial damage to supports; and
 - v. after rain,
- by a competent person in order to pronounce the safety of the excavation to ensure the safety of persons, and those results are to be recorded in a register kept on site and made available to an inspector, client, client's agent, contractor or employee upon request;
- Cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or whereby the safety of persons may be endangered, to be-
 - adequately protected by a barrier or fence of at least one meter in height and as close to the excavation as is practicable; and
 - provided with warning illuminates or any other clearly visible boundary indicators at night or when visibility is poor
 - Cause warning signs to be positioned next to an excavation within which persons are working or carrying out inspections or tests.

C3.5.7 FORMWORK & SUPPORT WORK

The contractor shall ensure that-

- all formwork and support work operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose;
- all formwork and support work structures, are adequately designed, erected, supported, braced and maintained so that they will be capable of supporting all anticipated vertical and lateral loads that may be applied to them and also that no loads are imposed onto the structure that the structure is not designed to withstand.
- The designs of formwork and support work structures are done with close reference to the structural design drawings and where any uncertainty exists, the structural designer should be consulted.
- All drawing pertaining to the design of formwork or support work structures are kept on the site and are available on request by an inspector, contractor, client, client's agent or employee.
- All equipment used in the formwork or support work structure are carefully examined and checked for suitability by a competent person, before being used.
- All formwork and support work structures are inspected by a competent person immediately before, during and after the placement of concrete or any other imposed load and thereafter on a daily basis until the formwork and support work structure has been removed and the results have been recorded in a register and made available on site.
- If, after erection, any formwork and support work structure is found to be damaged or weakened to such a degree that its integrity is affected, it shall be safely removed or reinforced immediately.
- Adequate precautionary measures are taken in order to-
 - Secure any deck panels against displacement, and
 - Prevent any person from slipping on support work or formwork due to the application of formwork or support work release agents.

- The health of any person is not affected through the use of solvents or oils or any other similar substances.
- Upon casting concrete, the support work or formwork structure should be left in place until the concrete has acquired sufficient strength to support safely, not only its own weight but also any imposed loads and not removed until authorization has been given by a competent person.
- Provision is made for safe access by means of secure ladders or staircases for all work to be carried out above the foundation bearing level.
- All employees required to erect, move or dismantle formwork and support work structures are provided with adequate training and instruction to perform these operations safely
- The foundation conditions are suitable to withstand the weight caused by the formwork and support work structure and any imposed loads, such that the formwork and support work structure are stable.

C3.5.8 CONSTRUCTION VEHICLES

The contractor shall ensure that all construction vehicles and mobile plants-

- are of an acceptable design and construction;
- are maintained in a good working order;
- are used in accordance with their design and the intention for which they were designed, having due regard to safety and health;
- are operated by workers who-
 - i. have received appropriate training and been certified competent and been authorised to operate such machinery; and
 - ii. are physically and psychologically fit to operate such construction vehicles and mobile plant by being in possession of a medical certificate of fitness;
- have safe and suitable means of access;
- are properly organized and controlled by providing adequate signalling or other control arrangements to guard against the dangers relating to the movement of vehicles and plant, in order to ensure their continued safe operation;
- are prevented from falling into excavations, water or any other area lower than the working surface by installing adequate edge protection, which may include guardrails and crash barriers;
- where appropriate, are fitted with structures designed to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn;
- are equipped with an electrically operated acoustic signalling device and a reversing alarm;
- are on a daily basis inspected prior to use, by a competent person who has been appointed in writing and the findings of such inspection is recorded in a register.

The contractor shall furthermore ensure that-

- no person rides or be required or permitted to ride on any construction vehicle or
 - mobile plant otherwise than in a safe place provided thereon for that purpose;
- every construction site is organized in such a way that pedestrians and vehicles can move safely and without risks to health;
- the traffic routes are suitable for the persons using them, sufficient in number, in suitable positions and of sufficient size;
- every traffic route is, where necessary indicated by suitable signs.
- all construction vehicles and mobile plant left unattended at night, adjacent to a freeway in normal use or adjacent to construction areas where work is in progress, shall have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of the vehicles or plant;

- bulldozers, scrapers, loaders, and other similar mobile plant are, when being repaired or when not in use, fully lowered or blocked with controls in a neutral position, motors stopped and brakes set;
- whenever visibility conditions warrant additional lighting, all mobile plant are equipped with at least two headlights and two taillights when in operation;
- tools and material are secured in order to prevent movement when transported in the same compartment with employees;
- vehicles used to transport employees have seats firmly secured and adequate for the number of employees to be carried; and
- when workers are working on or adjacent to public roads, reflective indicators are provided and worn by the workers.

C3.5.9 ELECTRICAL INSTALLATIONS

- Before construction commences and during the progress thereof, adequate steps must be taken to ascertain the 'presence of and guard against danger to workers from any electrical cable or apparatus.
- All parts of electrical installations and machinery must be of adequate strength to withstand the working conditions on construction sites;
- In working areas where the exact location of underground electric power lines unknown, employees using jackhammers, shovels or other hand tools which may make contact with a power line, must be provided with insulated protective gloves or otherwise that the handle of the tool being used is insulated;
- All temporary electrical installations must be inspected at least once a week and electrical machinery on a daily basis before use on a construction site by competent persons and the records of these inspections must be recorded in a register to be kept on site.
- The control of all temporary electrical installations on the construction site must be designated to a competent person who has been appointed in writing.

C3.5.10 USE & STORAGE OF FLAMMABLE LIQUIDS

- Where flammable liquids are being used, applied or stored it must be done in such a manner that would cause no fire or explosion hazard, and that the workplace is effectively ventilated:
 - Provided that where the workplace cannot effectively be ventilated-
 - i. every employee involved is provided with a respirator, mask or breathing apparatus of a type approved by the chief inspector, and
 - ii. steps are taken to ensure that every such employee, while using or applying flammable liquid, uses the apparatus supplied to him or her;
- No person smokes in any place in which flammable liquid is used or stored, and the contractor shall affix a suitable and conspicuous notice at all entrances to any such areas prohibiting such smoking;
- Flammable liquids on a construction site is stored in a well-ventilated reasonably fire resistant container, cage or room and kept locked with proper access control measures in place;
- An adequate amount of efficient fire-fighting equipment is installed in suitable locations around the flammable liquids store with the recognized symbolic signs;
- Only the quantity of flammable liquid needed for work on one day is to be taken out of the store for use;
- All containers holding flammable liquids are kept tightly closed when not in actual use and, after their contents have been used up, to be removed from the construction site and safely disposed of;
- Where flammable liquids are decanted, the metal containers are bonded or earthed;
- No flammable material such as cotton waste, paper, cleaning rags or similar material is stored together with flammable liquids.

C3.5.11 WELDING & CUTTING

No contractor shall require or permit welding or flame cutting operations to be undertaken, unless –

- the person operating the equipment has been fully instructed in the safe operation and use of such equipment and in the hazards which may arise from its use;
- effective protection is provided and used for the eyes and respiratory system and, where necessary, for the face, hands, feet, legs, body and clothing of persons performing such operations, as well as against heat, incandescent or flying particles or dangerous radiation;
- leads and electrode holders are effectively insulated; and
- the workplace is effectively partitioned off and where not practicable all other persons exposed to the hazards are warned and provided with suitable protective equipment.

No contractor shall require or permit electric welding to be undertaken in wet or damp places, inside metal vessels or in contact with large masses of metal, unless –

- the insulation of the electrical leads is in a sound condition;
- the electrode holder is completely insulated to prevent accidental contact with current-carrying parts;
- the welder is completely insulated by means of boots, gloves or rubber mats; and
- at least one other person who has been properly instructed to assist the welder in case of an emergency is and remains in attendance during operations

No contractor shall require or permit welding, flame cutting, grinding, soldering or similar work to be undertaken in respect of any tube, tank, drum, vessel or similar object or container where such object or container –

- is completely closed, unless a rise in internal pressure cannot render it dangerous; or
- contains any substance which, under the action of heat, may –
 - i. ignite or explode; or
 - ii. react to form dangerous or poisonous substances,

Where hot work involving welding, cutting, brazing or soldering operations is carried out at places, other than workplaces which have been specifically designated and equipped for such work, the employer shall take steps to ensure that proper and adequate fire precautions are taken.

C3.5.12 BLASTING & USE OF EXPLOSIVES

C3.5.12.1 SAFETY DISTANCES

The contractor shall –

- apply the safety distances for the respective categories of explosives as stipulated in Annexure 1 of the Explosives regulations;
- where less than five kilograms of explosives is used, apply to the chief inspector of occupational health and safety for a determination of a safety distance which the employer shall enforce;

C3.5.12.2 SUPERVISION OF EXPLOSIVES

In order to ensure that the provisions of the Act and its regulations in relation to explosives workplaces are complied with, the contractor shall in writing appoint a competent and certified person in a full-time capacity to be explosives manager in respect of every workplace where explosives are being used, tested, stored or manufactured:

The contractor shall appoint one or more persons, who are suitably qualified and experienced, as authorized supervisors to assist the explosives manager.

The contractor shall ensure that –

- the explosives manager
 - a. approves in writing the rules, methods, materials, equipment and tools to be used in the danger area;
 - b. ensures that all persons under his or her control are informed of the hazards related to their tasks and are thoroughly trained in safe work procedures, in particular with respect to shock, friction risk of fire, or static electricity, and are familiar with the requirements of the Explosives regulations
 - c. prescribes all protective clothing and equipment to be used in the danger area
 - d. ensures that the processes and equipment specified in schedule licences are safe and appropriate for the manufacturing processes envisaged for the workplace.
- the supervising official
 - a. is at all times in a position to exercise control over the operations
 - b. reports without delay to the explosives manager any plant or
 - c. equipment under his or her control that has or may have posed a risk:
 - d. ensures that all rules implemented in the interest of health and safety are at all times complied with;
 - e. stops all work involving explosives if he or she becomes aware of any risk posed to the health and safety of persons.

C3.5.12.3 SAFE HANDLING OF EXPLOSIVES

The contractor shall ensure that –

- all explosives or ingredients thereof are at all times free of foreign material;
- all reasonable precautions are taken to prevent the spillage of explosives;
- cleaning procedures in the case of a spillage of explosives are prescribed in writing by the explosives manager: Provided that where no cleaning procedures have been prescribed any unusual spillage of explosives shall be reported immediately to the supervising official;
- all waste, paper, timber, rags, cotton and similar materials that have been in contact with explosives or an ingredient of an explosive are disposed of in a manner prescribed in writing by the explosives manager: Provided that at the end of the working day all waste and floor sweepings from danger areas shall be deposited in the designated places;
- the explosives or partly mixed explosives are conveyed as soon and as carefully as possible and taking such precautions and in such a manner as will effectively guard against any accidental ignition or explosion
- only containers provided for the conveyance of explosives are used for transporting explosives or partly mixed explosives and that such containers are at all times kept clean, free from grit and in a good state of repair;
- vehicles containing explosives are left unattended only in designated places

The contractor shall ensure that –

- all material, equipment, tools or similar articles used in a danger area are decontaminated after such use, and that no person makes use of any such article that has not been decontaminated after use in a contaminated area;
- the certification of the decontamination process is certified and approved by the explosives manager or a person authorized by the explosives manager.

- Unless permission has been granted by the chief inspector of occupational health and safety, no contractor shall use –
- explosives in workplaces other than explosives workplaces approved by the chief inspector of occupational health and safety;
- any explosives for which no provision is made in Explosives regulations.

No contractor shall allow unauthorized access to such explosives or bury, dump, hide or abandon any explosives.

No contractor shall use any explosive material for blasting purposes unless

- he or she is in possession of a written permission issued by or under the authority of the chief inspector of occupational health and safety;
- he or she is undergoing training while using such blasting material under the immediate and constant supervision of a person who is in possession of permission

C3.5.12.4 DANGEROUS AREAS

The contractor shall ensure that entry and exit from danger areas is only permitted

- at the permanent authorized point of entry or exit: Provided that entry or exit at any other point may be authorized by the explosives manager or a person authorized by him if the authorized gatekeeper has been informed thereof;
- for persons and vehicles authorized thereto by the explosives manager or a person authorized by him;
- to visitors under escort by an authorized person who is aware of the hazards attached to the danger area.

The contractor shall keep a register of the entries and exits and that register shall be available on the premises for inspection by an inspector.

No person shall –

- enter the danger area with –
 - a. tobacco;
 - b. matches, cigarette lighters or other devices capable of generating heat or spark sources;
 - c. intoxicating liquor or narcotics;
 - d. food, medicine or drinkable fluids: Provided that authorization to enter with such articles may be granted by the explosives manager for purposes of consumption in licensed mess rooms and smoking areas: Provided further that special rules for the control of such consumption and smoking, approved by the chief inspector of occupational health and safety shall be made in writing and shall be enforced by the employer, self-employed person or user; or
 - e. radio transmitters or cellular telephones; or

The contractor shall ensure that hazard warning signs are clearly displayed at the entrance to any danger area.

C3.5.12.5 VESSELS UNDER PRESSURE

C3.5.12.6 MANUFACTURER'S DATA PLATE

Every user of a boiler or pressure vessel shall cause a manufacturer's plate with the following minimum particulars to be securely fixed in a conspicuous place to the shell of every such a boiler or pressure vessel:

- a) Name of manufacturer;
- b) country or origin;
- c) year of manufacture;
- d) manufacturer's serial number;
- e) name, number and date of the standard of design;
- f) design gauge pressure in Pascal's; (design pressure)
- g) maximum permissible operating pressure in Pascal's;
- h) operating temperature;
- i.) capacity in cubic meters; and
- j) mark of an approved inspection authority.

No person shall remove such a manufacturer's plate or wilfully damage or alter the particulars stamped thereon.

C3.5.12.7 PORTABLE GAS CONTAINERS

No user shall use or require or permit a portable gas container to be used, and no user shall fill, place in service, handle, modify, repair, inspect or test any portable gas container, other than in compliance with standards incorporated into the Vessels under Pressure regulations.

C3.5.12.8 HAND HELD FIRE EXTINGUISHERS

No user shall use, require or permit the use of a hand held fire extinguisher unless designed, constructed, filled, recharged, reconditioned, modified, repaired, inspected or tested in accordance with a safety standard incorporated into the Vessels under Pressure regulations.

No person shall fill, recharge, recondition, modify, repair, inspect or test any hand held fire extinguisher unless a holder of a permit issued by the South African Bureau of Standards in terms of SABS 1475.

C3.5.12.9 GAS FUEL USE, EQUIPMENT AND SYSTEMS

No person shall handle, store or distribute a gas fuel in any manner, including the filling of a container, other than in accordance with a health and safety standards.

C3.5.12.10 INSPECTION AND TEST

Any user of a boiler or pressure vessel shall cause, where reasonably practicable, such a boiler or pressure vessel, including the appurtenances and automatic controls and indicators, to be subjected to an internal and external inspection, and a hydraulic pressure test to 1.25 times the maximum permissible safe operating pressure as the case may be –

- by an approved inspection authority before commissioning after installation, re-erection or repairs;
- by a person appointed in writing by the user and who is competent to do such inspections and tests by virtue of their training, knowledge and experience in the operation, maintenance, inspection and testing of a boiler

or pressure vessel within 36 months from the date of the previous internal and external inspection and hydraulic pressure test: Provided that where a pressure vessel is not subjected to corrosion, the user may dispense with the internal inspection and hydraulic pressure test subject to the written approval of an approved inspection authority:

Provided further that an inspector may require a specific boiler or pressure vessel to be inspected or tested more frequently or permit a specific boiler or pressure vessel to be inspected or tested less frequently:

C3.5.12.11 RECORDKEEPING

Any user of a vessel under pressure shall keep on his premises a record which shall be open for inspection by an inspector in which the results of inspections, tests, modifications and repairs shall be recorded, dated and signed by the competent person.

C3.5.12.12 MAINTENANCE

No user shall use, cause or permit a vessel under pressure or gas fuel system, including all automatic controls, indicators and appurtenances, to be used unless it is at all times maintained in a safe working condition and the efficiency thereof is proved by regular testing.

No user shall use or cause or permit a vessel under pressure to be used unless it is kept clean and free from any:

- ❖ carbonized oil or other inflammable material which may ignite under working conditions;
- ❖ material which may cause corrosion; or
- ❖ material which is liable to chemical reaction which may cause an uncontrolled rise in pressure.

C3.5.13 PHYSICAL HAZARDS

C3.5.13.1 ERGONOMICS

- Ensure that assigned tasks do not exceed the limits of the performance capacities of the worker.
- Prevent injury or any detrimental effects to the health of the worker
- Provide that tasks and working conditions will not lead to impairments.

C3.5.13.2 NOISE

No contractor shall require or permit an employee to work in an environment in which he is exposed to an equivalent noise level equal to 85 dB(A) or higher. The contractor shall reduce the equivalent noise level to below 85 dB(A) or, where this is not reasonably practicable, he shall reduce the level to as low as is reasonably practicable and take all reasonable steps to isolate the source of the noise acoustically. Where the equivalent noise level in any workplace cannot be reduced to below 85 dB(A) the contractor shall –

- prohibit any person from entering a noise zone unless such person wears hearing protectors.

The contractor shall provide, free of charge, hearing protectors to each employee who works in or, to any person who is required or permitted to enter a noise zone, and no contractor shall require or permit any person to work in or enter such noise zone, and no person shall work in or enter such noise zone, unless he wears such hearing protectors in the correct manner: Provided that where the

equivalent noise level to which employees are exposed, is such that the attenuation of the hearing protectors does not reduce the said noise to below 85 dB(A) the employer concerned shall limit the time during which employees work in that noise zone in such a way that they are not exposed to an equivalent noise level equal to 85 dB(A) or higher.

The contractor shall properly instruct any person who is required to wear hearing protectors in the use of such protectors and inform him of noise zones where the wearing thereof is compulsory.

The contractor shall –

- ensure that every employee employed in a noise zone is subjected to audiometric examinations conducted in accordance with section 7 of SABS 083, by an audiometrist approved by the chief inspector;
- keep records of the results of each audiometric examination and make such records available for inspection by an inspector if he so requires; and
- keep such records for a minimum period of 30 years after termination of employment: Provided that if the employer ceases activities all such records shall be forwarded to the regional director.

C3.5.13.3 VIBRATION

Whole-body vibration occurs when the body is supported on a surface which is vibrating (e.g., when sitting on a seat which vibrates, standing on a vibrating floor or recumbent on a vibrating surface). Whole-body vibration occurs in all forms of transport and when working near some industrial machinery.

Hand-transmitted vibration is the vibration that enters the body through the hands. It is caused by various processes where vibrating tools or work pieces are grasped or pushed by the hands or fingers. Exposure to hand-transmitted vibration can lead to the development of several disorders.

C3.5.14 SITE WIDE ELEMENTS

C3.5.15 SITE ACCESS AND EGRESS

- Access to the site will involve crossing the public footpath.
- Store materials and plant away from means of access for the general public and occupants.
- Remove rubbish and demolition materials regularly. Do not allow to accumulate on flat roofs.
- Maintain free access through designated means of escape at all times
- Agree with the Client / Client's Agent delivery points for materials before commencing works.

C3.5.15.1 VISITORS TO THE SITE

- All visitors to report to the Principal Contractor's reception area for OHS Induction training.

- All visitors to sign the visitor's registration document.
- All visitors to be provided with a Visitors Permit to enable them to access the construction site.
- All un-inducted visitors must be accompanied on the construction site by an inducted person.
- No visitors shall be allowed to access the construction site without wearing the necessary PPE.

C3.5.15.2 DELIVERIES

Access will involve crossing the public footpath.

C3.5.15.3 EMERGENCIES

Ensure that there are adequate escape routes and that they are kept clear at all times.

C3.5.15.4 LOCATION OF TEMPORARY SITE ACCOMMODATION

See Site Lay-out Plan.

C3.5.15.5 LOCATION OF MATERIALS UNLOADING AND STORAGE

Materials are to be unloaded and stored in locations which will not in any way affect access or egress to the site nor the works.

C3.5.15.6 TRAFFIC AND PEDESTRIAN ROUTES

The road, public footpaths and access way are to be kept open at all times. All necessary signage and barriers are to be put in place to protect pedestrians at the site entrance and access and egress points.

C3.5.15.7 SAFETY

- Ensure that all employees are aware of the Health and Safety policy and put into place arrangements to ensure that all visitors and workers new to the site are aware of the site safety provisions.
- Locate underground electricity cables, mark and take precautions to avoid.
- Ensure that cartridge operated tools are operated by trained personnel and in accordance with the maker's instructions that the gun is cleaned regularly and kept in a secure place when not in use.
- Protect people who may be exposed to health risks arising from hazardous substances.

C3.5.16 CONTINUING LIAISON

The procedures for consideration and evaluation of the health and safety implications of Contractor designed elements of the works must follow the recognised principles of prevention and protection and take account of the issues highlighted in this OHS Specification.

The following information is to be submitted by the Contractor to the Client / Client's Agent in sufficient time to allow adequate consideration by the Client / Client's Agent and, where appropriate, the design team, and the provision of relevant information to those persons affected by the works, prior to the commencement of the relevant works:

- Suitable and sufficient information to demonstrate that health or safety issues have been adequately considered.
- Risk assessments.
- A list of health and/or safety hazards identified which cannot be designed out.
- A list of any materials or substances which are specified or inherent in the design which is potentially hazardous to health and/or safety.

C3.5.16.1 UNFORESEEN EVENTUALITIES

The following action is to be taken in the event of unforeseen eventualities arising during the construction stage of the project which require significant design changes, or affect the resources required to carry out the work without risk to health and/or safety, or have other health or safety implications.

The Client / Client's Agent and, where possible, the Principal Contractor are to be advised as soon as possible.

Full details of the relevant health and safety issues involved are to be reviewed with the Client / Client's Agent and Principal Contractor as soon as possible.

Full details of any revised designs, risk assessments and identified hazards and/or hazardous materials and substances are to be issued to the Client / Client's Agent and Principal Contractor in sufficient time to allow for the revision of the Health and Safety Plan and notification of all persons affected by the health and/or safety implications of the changes prior to the commencement of the affected works.

C3.5.16.2 SITE LIAISON

Liaise with all other contractors and implement any agreed changes to the Health and Safety Plan arising from such liaison. Set up regular training for all operatives including induction training for all staff upon arrival to site.

C3.5.16.3 HEALTH AND SAFETY FILE

Provide the Planning Supervisor with any relevant information which the contractor believes should be incorporated into the Health and Safety File.

C3.5.16.4 DESIGN DEVELOPMENT

Provide the Client with all design information prepared by sub-Contractors.

Arrange liaison meetings with sub-contractors to discuss and review health and safety issues arising from the sub-contractors' designs.

C3.5.17 CONCLUSION

The hazards listed above were identified posing potential threats to the health and or safety of persons that will work on the contract. Although every effort were made to ensure that every possible hazard was identified the Employer cannot guarantee this, therefore it is imperative for the contractor to conduct a comprehensive risk identification and hazard assessment in order to make certain that all hazards are identified.

C3.5.18 MANAGEMENT

Management of the works

The management of the site shall be in accordance with the provisions of the SANS Standard Specification for Road and Bridge Works for State Authorities (1998 edition).

ADDENDUM TO CONSTRUCTION HEALTH AND SAFETY BASELINE SPECIFICATION

C3.5.19 INTRODUCTION

Empowered by section of the Disaster Management Act 57 of 2002, (DMA), President Ramaphosa declared a national state of disaster. The declaration of a national disaster meant that the government determined the medical emergency (international pandemic) posed by the COVID-19 virus, precipitated special circumstances beyond what is provided for in existing legislation in order to prevent the threat of the virus to the healthcare system, the economy and the people of South Africa.

Coronavirus Disease 2019 (COVID-19) is a respiratory disease caused by the SARS-CoV-2 virus. To reduce the impact of COVID-19 outbreak conditions on businesses, workers, customers, and the public, it is important for all employers to plan and ensure preparedness for COVID-19.

LEPELLE WATER needs to ensure that everything reasonable practicable is being done at all construction projects to protect the employees, stakeholders, service providers, contractors and the community which could be negatively impacted by the Construction activities so as to minimise the spread of any infectious disease such as the Coronavirus COVID-19.

The Professional Service providers, Contractor and contractors shall be responsible for the Health & Safety on all construction/maintenance and health and safety requirements of any activities may not be compromised during this time. If any activity cannot be undertaken in a health and safety manner due to lack of suitable qualified personnel being available or social distancing being implemented, the activity should not commence.

C3.5.20 REFERENCES

The Department of Employment and Labour has appealed to employers to use the prescriptions of the Occupational Health and Safety Act, Act 85 of 1993 in particular the Hazardous Biological Agents Regulations governing workplaces in relation to Coronavirus Disease 2019 caused by the SARS-CoV-2 and the COVID-19 Occupational Health and Safety Measures in Workplaces COVID-19 (C19 OHS), 2020.

The OHS Act read with the Hazardous Biological Agents Regulations requires the employer to provide and maintain as far as is reasonably practicable a working environment that is safe and without risks to the health of employees.

Section 8(2)(b) requires steps such as may be reasonably practicable to eliminate or mitigate any hazard or potential hazard before resorting to personal protective equipment (PPE). However, in the case of COVID19, a combination of controls is required, although the main principle is to follow the hierarchy of controls.

Section 14 of the Occupational Health and Safety, (OHS) Act obliges employees to take reasonable care for health and safety of him- or herself and others who may be affected by their acts or omissions. This obliges employees to comply with any duty or requirement imposed by the employer or any other person by OHS Act to co-operate with the employer or person to enable that duty or requirement to be performed or complied with. Employees are also required by OHS Act to carry out lawful orders and obey the health and safety rules and procedures laid down by is

employer or by anyone authorized by his employer in the interest of health and safety.

However, before the implementation of control measures, current risk assessments need to be reviewed and updated, considering the new hazards posed by exposure to COVID-19 in the workplace. This is in accordance with all above mentioned references.

C3.5.21 AMENDED CONSTRUCTION HEALTH AND SAFETY BASELINE SPECIFICATION

The Amended Health and Safety Baseline specification document provides Professional service providers, stakeholders, Contractors with guidelines to respond safety, effectively, and efficiently to the COVID-19 outbreak aligned to Government and other leading local authorities until Regulations are implemented.

C3.5.22 RISK ASSESSMENT

The Contractor/Contractor significant health and safety requirements and aspects of the construction project must focus on the following Pre-Construction Start-up:

HIRA Methodology

The HIRA methodology is to provide specific focus on COVID-19 and adapt the measures required and taking into account the specific circumstances of the workplace.

The Contractor must focus on the identification of different exposure level, high contact activities and identification of vulnerable workers e.g. immunocompromised employees and employees 60 years and above and special measures for their protection, including protection against unfair discrimination or victimization.

C3.5.23 ENGINEERING CONTROLS

Ventilation

Contractor must ensure all workplaces are well ventilated by natural or mechanical means to reduce the SARS-CoV-2 viral load. Contractor must ensure that all windows are opened for

natural ventilation.

Physical Barriers

Contractor must arrange physical barrier to be placed between work stations or erected on work stations to form a solid physical barrier between workers while they are working and where required the Contractor must provide the employees with face shields or visors.

Adaption of workstations to increase social distancing

The Contractor must as far as practicable, minimize the number of workers on at the workplace at any given time through rotation, staggered working hours, shift systems, remove working arrangements or similar measures in order to achieve social distancing practice of work stations spaced at least 1.5 metres apart.

C3.5.24 ADMINISTRATIVE CONTROLS

Screening

Screening of all employees entering the Construction site is vital in ensuring that all LEPELLE WATER Construction site remains COVID-19 free. The Contractors preventative control measures must include:

- Travel declaration questionnaire must be completed by all security personnel, professional teams, client teams, contractor employees and contractors before entering the site gate.
- Adequately train (directly or indirectly) identified employee/s to perform daily workplace COVID-19 symptom screening. The average normal body temperature is generally accepted as (37°C).
- Provide compulsory medical screening equipment example: No-contact Thermometers.
- Provide prescribed personal protective equipment (PPE) to those assigned to perform the screening. Face Shields and masks will be made available to screening personnel.
- All required items to operate safely must be available at the screening

desk, these includes, hand sanitizers, pens for filling in registers and travel declaration questionnaire Should employees or visitors fail the questionnaire to be completed they should not be allowed to enter site.

- Any employee/team member displaying a temperature between 37.1°C and 37.9°C will be isolated and placed either next to the Security Guardhouse or in his/her vehicle until second temperature testing is done.
- The employee/team member temperature will be taken again after 15 min. If the temperature has increased the person will be required to leave and go to the closest Clinic, access to site will be denied.
- If the employee/team member temperature has decreased to an acceptable/normal level, access will be granted.
- Any employee/team member with a temperature of 38°C or above will be denied access and will be required to leave immediately and be advised to visit a Doctor;
- All cases where persons were denied access a detailed register kept on site of the date, name of contractor, name of employee, contact number.
- Contractor should keep record of all such screening, and should an employee show any positive symptoms related to COVID-19, then such an employee must be isolated from other employees, provided with gloves and mask, and the **Department of Health Hotline 0800 029 999** immediately contacted.

Communication and Training information Strategies

The Contractor must provide workers with information that raises awareness in any form or manner, including where reasonably practicable leaflets and notices placed in conspicuous places in the workplace informing workers of the:

- dangers of the virus
- manner of its transmission
- the measures to prevent transmission such as personal hygiene
- social distancing
- use of masks
- cough etiquette
- where to go for screening or testing if presenting with the symptoms

Health and Safety Committees

The requirements and the role of the health and safety committee should not deviate from the requirements and functions set in Section 19 and 20 of the OHS Act. Above and beyond what is described as the functions of the health and Committee in Section 20 of the OHS Act the health and safety committee must assist with recommendations and guidance on handling the impact of COVID-19 on the specific project.

Security & Access Controls

Public access to any construction site is to be limited at all times, and non-essential visitors are not to be allowed entry. Contractor must ensure access to site are managed at all times. The following aspects must be included in the Health and Safety plan:

- Introduce staggered start and finish times to reduce congestion.
- Monitor site access points to enable social distancing.
- Require all workers to wash and clean their hands before arriving at security control to sign in the register.

Induction

The Contractor must ensure induction to all security personnel, professional teams, client teams, contractor employees and contractors educating all on COVID-19 signs, symptoms, processes on site, social distancing before entering the site gate and a register must be provided to sign.

Employee Medicals

Contractor must ensure that all employees medical certificates of fitness are still valid. In a case where medicals expired, the Contractor must provide a list of which employees, occupation and when they will be scheduled for medicals.

Facilities

Contractor must ensure that sanitizers must be one that has at least 70% alcohol content and is in accordance with the recommendations of the Department of Health.

The Contractor must ensure there are sufficient quantities of hand sanitizer based on the number of workers or other persons who access the workplace at the entrance of, and in, the workplace which the employees and other persons.

The Contractor must ensure that there are:

- adequate facilities for the washing of hands with soap
- clean water available on site
- only paper towels are provided to dry hands after washing
- the use of fabric towelling is prohibited the workers are required to wash their hands and sanitize their hands regularly while at work
- the workers interacting with the public are instructed to sanitize their hands between each interaction with public
- surfaces that employees and teams come into contact with are routinely cleaned and disinfected.

Provision of such facilities for safekeeping to be accompanied with a procedure which includes:

- Employees should avoid bringing personal items to site.
- Food bought from home must be placed in an enclosed container, packet, and returned home for cleaning.
- Do not share any food or water.
- Training and awareness to address the importance of good hygiene practice.
- Apart from extra clean personal clothing no other personal belongings allowed onsite except if kept in area provided by the Contractor or in the designated works area.
- Employees should also be required to stay on site once they have entered it and avoid using local shops.
- Consider increasing the number or size of facilities available on site if possible, especially depending on the amount of employees currently and taking into account the social distancing requirements of 1.5m
- The capacity of each rest area should be clearly identified at the entry to each facility, and where necessary attendants provided to supervise

compliance with social distancing measures.

- Break times should be staggered to reduce congestion and contact at all times.
- Drinking water should be provided with enhanced cleaning measures of the tap mechanism introduced.
- Frequently clean surfaces that are touched regularly.
- Hand cleaning facilities or hand sanitiser should be available at the entrance to any facility where people eat and should be used by employees when entering and leaving the area.
- All rubbish should be put straight in the bin and not left for someone else to clear up.
- Tables should be cleaned between each use.
- Crockery, eating utensils, cups etc. should not be used unless they are disposable or are washed and dried between use.

Contractor must ensure that social distancing measures are implemented through supervision in common areas.

Reporting of incidents for regulatory purposes

If a worker has been diagnosed with COVID-19, the contractor must-

- Report it to the Department of Health, the Department of Employment and Labour and LEPELLE WATER
- Investigate the cause including any control failure and review its risk assessment to ensure that the necessary controls and PPE requirements are in place; and
- It must give administrative support to any contact-tracing measures implemented by the Department of Health.

Medical Surveillance Programme

Contractor must ensure that all employees on site undergo routine medical examinations specific to the work to be performed taking into account the hazard and risk exposures. This is to address pre-employment examination, periodic examination as required, and exit examinations. Where medical examinations are governed by legislation, the contractor to ensure that legislative requirements are complied with by all employees.

Contractor must ensure that all the employees performing work on site are declared medically fit for the work they are to perform.

Copies of valid medical certificates of fitness to be available in the occupational health and safety file.

Accommodation Arrangements

Where accommodation is provided by the Contractor/sub-contractor, factors to be considered in the procedure include, inter alia:

- Density of occupants to allow for adequate social distancing (minimum 1.5m) in sleeping and dining quarters;
- Restriction on the number of persons using the same sanitary/hygiene facilities;
- Provision of dedicated crockery and cutlery for each occupant, together with a procedure for effective cleaning and safe storage of same and a prohibition on the sharing of utensils;
- Dedicated facilities for safekeeping of personal belongings and above-mentioned utensils for each person. Such facilities are to allow for total segregation of belongings and must be easy to sanitize. Provision of such facilities for safekeeping to be accompanied with a procedure for the use and sanitizing of the storage facility to reduce the risk of cross-contamination;
- Facilities for accommodation provided by the contractor to have in place stringent procedures for personal hygiene, ongoing maintenance of sanitizing and social distancing, and
- Additional rules to include a prohibition on the sharing of clothing, towels and other personal belongings, as well as the laundering of clothing for multiple persons at the same time.
- Handwashing / Sanitizing stations to be available at contractor accommodation. Employees to ensure washing and disinfecting of hands before entering the accommodation.
- Sealable bags provided to each person for keeping PPE requiring laundering, such as gloves and overalls, to ensure each person's PPE is contained and not cross-contaminate other employees' PPE.

C3.5.25 HEALTH AND SAFE WORK PRACTICES

Deep Cleaning at Construction Sites

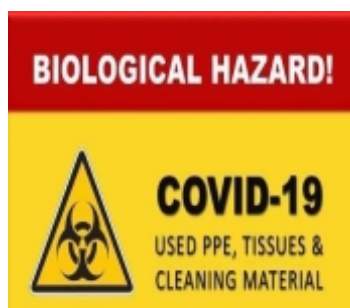
The Contractor must ensure that the construction site, particularly in communal areas such as security access control room, site office, working areas, ablution facilities, welfare facilities, eating facilities, hand washing facilities and confined spaces are disinfected and cleaned, regularly, in addition, this must include, all touch points such as taps, toilets flushers and seats, door handles and push plates, handrails and corridors, lift and hoist controls, machinery and equipment controls, eating area chairs, telephone equipment, keyboards, photocopiers and other office equipment.

Employees that are appointed to conduct deep cleaning must be trained on all the Health and Safety protocols, including the Handling of Hazardous Chemical Substances, the Material Safety Data sheet and must be provided with the correct PPE and supervision in accordance with Regulations for Hazardous Biological Agents 4 Information and Training.

Waste Disposal

Contractor must ensure that all waste is disposed in the correct and required manner. All disposal masks and gloves are biological waste and must be disposed:

- Separate waste bins (must be labeled) for used PPE (gloves, masks) must be supplied by the contractor.
-



Dust masks and Gloves to be disposed as hazardous waste.

- Waste must be disposed at a registered waste facility.
- Proof of waste disposal must be kept for record keeping.
- Employees handling waste must comply to the PPE requirements before handling such.

C3.5.26 PPE

Contractor must ensure that all accessing the Construction site will be required to sanitize or wash hands at the entry and exit point of the site. The Contractor is responsible to issue the appropriate PPE as per the job description and according to HIRA critical task activities, with a minimum of two cloth masks which complies with the requirements set out in the Guidelines issued by the Department of Trade, Industry and Competition. Before construction, the Contractor must ensure that he has made arrangements for PPE to be available at site with construction start-up. The Contractor must enforce that:

- No employees are allowed to share any of their PPE.
- PPE must be worn at all times on site.
- PPE such as face masks is required for all employees or member entering the site, the said masks are to be worn on site.
- Masks should fit properly, completely covering the face from bridge of nose to chin.
- Always clean hand before putting on or removing face masks.
- Only touch the cord or elastic at the back when removing the masks.
- Contractor must ensure that a PPE procedure are implemented for the usage and the disposing (if applicable) of PPE.
- Contractor must ensure that the employees are informed, instructed, trained how to use the mask correctly.

C3.5.27 PROVISION OF SAFE TRANSPORT FOR EMPLOYEES

Transportation of Employees

Wherever possible Contractor employees must travel to site alone making use of their own

transport. If contractor employees have no option but to share transport the following must be adhered to:

- Journeys should be shared with the same individuals and with the minimum number of people at any one time as per Government guidelines.
- Good ventilation (i.e. keeping the windows open) and facing away from each other may help to reduce the risk of transmission.
- The vehicle should be cleaned regularly, using gloves and standard cleaning products, with particular emphasis on handles and other areas where passengers may touch surfaces.
- Hand cleaning facilities must be provided at entrances and exits.

Travelling to and from Construction site

Professional teams, Contractor management and LEPELLE WATER project team to minimize travelling to site. Work from home should be priority as far as reasonably practicable especially for office staff. Progress and Technical meetings must be scheduled through available technology platforms such as Microsoft teams, Zoom or Skype.

Professional teams travelling to sites by vehicle will be limited to 2 persons, if 1 person drives/operate the vehicle and another person need to be seated at the back. If the vehicle is a single cab, strictly only 1 person will be allowed in the vehicle. Bus services and e- hailing services shall not carry more than 50% of the licensed capacity and taxi services shall not carry more than 70% of the licensed capacity.

All Vehicles/public transport must be disinfected. Before entering public transport ensure to sanitize or wash your hands with soap, as soon as arrival on site ensure to wash your hands with soap or sanitize before entering the construction area.

C3.5.28 GENERAL

Compliance to the OHS Act 85 of 1993 and its regulations should not be limited to this amendment made to the Health and Safety Baseline Specifications. The amendment must be read in concurrence with the existing Baseline Health and Safety Baseline Specifications, COVID-19 Occupational Health and Safety Measures in Workplaces COVID-19 (C19 OHS), 2020 and Section 27 (2) of the Disaster Management ACT, 2002 (ACT NO. 57 OF 2002).

In terms of the Government Notice, No R. 480 of 29 April 2020, the COVID-19 Ready Workplace Plan must be in place before the reopening of any project, it should also include the following information that must be submitted to the appointed Construction Health and Safety Agent, Health and Safety Consultants or the appointed Lepelle Water SHEQ Specialist:

1. The planned date the construction site will open;
2. The hours it will be open
3. A timetable setting out the phased return of employees to enable appropriate measures to be taken to avoid and reduce the spread of the virus;
4. List of employees who can work from home, employees who are 60 years or older and those with comorbidities.
5. Proof of Appointment of a COVID-19 compliance officer responsible for the duties as outlined in regulation 16(6) of the said Notice COVID-19 Occupational Health and Safety Measures in Workplaces COVID-19 (C19 OHS), 2020.

Once construction has commenced the appointed Construction Health and Safety Agent, Health and Safety Consultant or the LEPELLE WATER SHEQ Specialist will conduct a compliance audit to ensure compliance. Due to the Risk level of COVID-19 spreading in the communities, all non-compliant site will be stopped with immediate effect.

C3.5.29 ACCEPTANCE

Hereby I confirm that I have read and understood and confirm my intention to comply with all the legal requirements set out under the OHS Act 85 of 1993 and its regulations, COVID-19 Occupational Health and Safety Measures in Workplaces COVID-19 (C19 OHS), 2020, Section 27 (2) of the Disaster Management ACT, 2002 (ACT NO. 57 OF 2002) and this amendment to the Baseline Health and Safety Specification:

THUS AGREED TO AND SIGNED AT _____ on this the _____ day

of _____ 2021, in the presence of the undersigned witness:

Signature _____ Date _____

Witness Name _____ Signature _____

SIGNED ON BEHALF OF *CONTRACTOR*

THUS AGREED TO AND SIGNED AT _____ on this the _____ day

of _____ 2021, in the presence of the undersigned witness:

Signature _____ Date _____

Witness Name _____ Signature _____

SIGNED ON BEHALF OF LEPELLE WATER

Tender No: LNW 04/21/22

BABANANA WATER PROJECT RS 135 -

Phase 1C: Construction Of Pipeline 1 and 6 at
Mawa Village & Surrounding Areas

OCCUPATIONAL HEALTH AND SAFETY



Project		COVID-19 Construction Sites		Evaluator Name				BASELINE RISK ASSESSMENTS34-BRA-0001																							
Compiled By		LEPELLE-IDD-SHEQ		Signature				00																							
Date of Assessment				Responsible Manager																											
				Signature																											
PROBABILITY INDEX	5	Almost certain to inevitable	SEVERITY INDEX INJURY/DISEASE (I)	5	Fatal	SEVERITY INDEX PRODUCTION (P)	5	No production	SEVERITY INDEX ENVIRONMENT (E)	5	Permanent effects	SEVERITY INDEX COST (C)	5	> R500 000	FREQUENCY INDEX	5	Hazard permanently present	PROBABILITY VALUE X SEVERITY VALUE X FREQUENCY VALUE /125 = TOTAL SCORE (%)													
	4	Probable		4	Permanent to Slight Disability		4	Loss of 1 month or more production		4	Long term 2 years		4	Med - 6 months to 1 year		4	R100 000 - R499 999		4	Hazard arises every week											
	3	Improbable		3	14 Days with complete recovery		3	Loss of 1 week of production		3	Short term - 1 day to 6months		3	R10 000 - R99 999		3	Hazard arises every month														
	2	Less than even chance		2	Medical attention 14 Days with complete recovery		2	Loss of 1 day's production		2	Insigificant effect		2	R1 000 - R9 999		2	Hazard arises every year														
	1	High improbable		1	First aid only		1	Loss of 1 man shift		1			1	R0 - R999		1	Hazard arises every 5 years														
Risk Value																															
A		90 - 100%		Very High Risk																											
B		60 - 79%		High Risk																											
C		40 - 59%		Medium Risk																											
D		20 - 39%		Lower Risk																											
E		0 - 19%		Low Risk																											
PPE Requirement & Safety Signs																															
		A		B		C		D		E		F		G		H		I		J		K		L		M		N		O	
Item	Task / General Activities			Hazard Identified			Risks i.r.t the hazard			Severity Index								PPE		Signs		Corrective Action				Responsible Person & Time Frame					
										I	P	E	C	Tot	Asses. Count	5 Points Each	Formula = points "5"5	Probability Index	Frequency Index	Risk Score	Risk Value										
1	Site Preparation - Disinfecting Facilities (offices, bathrooms/toilets, eating areas) , ensuring sufficient handwashing stations and or hand sanitizing stations, Procuring of sufficient amount of required PPE.			1) Handling of chemicals to clean surfaces (Health Hazards) Eye contact with splashing chemicals, skin irritations and even burns from strong chemicals used to clean, dizziness and nausea from inhaling of hazardous chemicals			Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus.			4				4	1	5	125	5	5	100	80%	Specific PPE required for handling of chemicals (PVC gloves, dustmasks, overall Is or coveralls) Above and beyond the mandatory PPE for the site		1) The Principal contractor must ensure that the construction site, particularly in communal areas such as security access control room, site office, working areas, ablution facilities, welfare facilities, eating facilities, hand washing facilities and confined spaces are disinfected and cleaned, regularly, in addition, this must include, all touch points such as taps, toilets flushers and seats, door handles and push plates, handrails and corridors, lift and hoist controls, machinery and equipment controls, eating area chairs, telephone equipment, keyboards, photocopiers and other office equipment. 2) Employees that are appointed to conduct deep cleaning must be trained on all the Health and Safety protocols, including the Handling of Hazardous Chemical Substances, the Material Safety Data sheet and must be provided with the correct PPE and supervision.				Principal Contractor			
			2) Dust						5				5	1	5	125	5	5	125	100%											
			3) Touching of surfaces, door handles and materials that might have been contaminated with Covid - 19						2				2	1	5	125	5	5	50	40%											
									Total Average Risk Value																						
																						75%									

Tender No: LNW 04/21/22

BABANANA WATER PROJECT RS 135 -

Phase 1C: Construction Of Pipeline 1 and 6 at
Mawa Village & Surrounding Areas

OCCUPATIONAL HEALTH AND SAFETY



2	Travel to and from construction site	1) PSP's , contractor management and LEPELLE project teams traveling from 1 province to another. 2) Flights(domestic) / Airports 3) Teams traveling in big groups 4) Contaminated vehicle / transport /taxi's / busses 5) Pick up and drop off areas for public transport	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td>5</td><td></td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr></table> Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus. Total Average Risk Value 75%	1. Health & safety (I)	4			4	1	5	125	5	5	100	80%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)	5			5	1	5	125	5	5	125	100%	4. Environment (E)		2		2	1	5	125	5	5	50	40%	PPE requirements for traveling are not limited, but the following PPE must be considered - Dustmasks / respiratory protection and gloves	1) PSP's, Contractor management and LEPELLE project team to minimize travel to site. Work from home should be priority, meetings can be scheduled through available technology platforms. 2) Flights Will not be allowed until proven save by President of the Republic 3) Professional teams travelling to sites by vehicle will be limited to 2 persons, if 1 person drives/operate the vehicle and another person need to be seated at the back. If vehicle is a single cab, strictly only 1 person will be allowed in the vehicle. bus services and e-hailing services shall not carry more than 50% of the licensed capacity and taxi services shall not carry more than 70% of the licensed capacity 4) All Vehicles / public transport must be disinfected / sanitized before entering. Before entering public transport ensure to sanitize or wash your hands with soap, as soon as arrival on site ensure to wash your hands with soap or sanitize before entering the construction area. All employees 5) Pick up and drop off areas for public transport the employees and general public must ensure social distancing is adhered to. Do not sit or stand next to other people , keep at least a safe distance of between 1.5m and 2m.	Principal Contractor
1. Health & safety (I)	4			4	1	5	125	5	5	100	80%																																											
2. Cost (C)			4	4	1	5	125	5	5	100	80%																																											
3. Productivity (P)	5			5	1	5	125	5	5	125	100%																																											
4. Environment (E)		2		2	1	5	125	5	5	50	40%																																											
3	Security / Access Control to construction site	1) PSP's , contractor management and LEPELLE project teams visiting sites 2) Employees returning to sites 3) Material deliveries 4) Public / unauthorised persons entering construction sites 5) Employees / visitors / public / project team with confirmed positiveCovid-19 or with flu-like symptoms entering sites 6) Employees gathering in groups at site laydown area or site entrance	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td>5</td><td></td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr></table> Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus. Total Average Risk Value 75%	1. Health & safety (I)	4			4	1	5	125	5	5	100	80%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)	5			5	1	5	125	5	5	125	100%	4. Environment (E)		2		2	1	5	125	5	5	50	40%	PPE must be supplied to all employees / visitors entering the site	PPE requirements signage, emergency contact numbers (Covid-19) to be displayed at site entrance 1) PSP's, Contractor management and LEPELLE project team must ensure compliance to regulations and access procedures for the specific sites 2) All employees and visitors to the site must undergo general medical screening (Non-contract Thermometer) to take the persons temperature. Any employee or visitor with a temperature of 38' degrees shall not be allowed to enter the site. This person must immediately be isolated from other persons and must be referred to a nearby testing station. 3) All employees and visitors must complete travel declaration that must include travel to any possible hot spot areas. If traveled to any hot spot areas the person must first be medically declared safe / not positive for Covid-19 before allowed to enter the site. 4) All employees or visitors entering site with flu-like symptoms will not be allowed to enter the site. If employees or visitor do not declare they have flu-like symptoms and it is noticed by construction team or employees , criminal action will be taken against such person. 5) Deliveries to site must be handled with the same policy or procedure as for all employees and visitors on site. Employees handling the delivery or the offloading must ensure PPE requirements are met. 6) Social distancing to be implemented at site entrances, principal contractor to ensure procedure is implemented and adhered to. 7) every worker to report whether they suffer from any of the following additional symptoms: body aches, loss of smell or loss of taste, nausea, vomiting, diarrhoea, fatigue, weakness or tiredness.	Principal Contractor
1. Health & safety (I)	4			4	1	5	125	5	5	100	80%																																											
2. Cost (C)			4	4	1	5	125	5	5	100	80%																																											
3. Productivity (P)	5			5	1	5	125	5	5	125	100%																																											
4. Environment (E)		2		2	1	5	125	5	5	50	40%																																											
4	Site specific Health and safety Induction	1) Large groups of employees to undergo induction 2) Induction not addressing procedures, risk assessment and information in relation with Covid-19 3) Inductions conducted in confined spaces 4) Inappropriate social distancingwhen conducting inductions 5) No control of amount of employees to be or that were inducted.	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td>5</td><td></td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr></table> Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus. Total Average Risk Value 75%	1. Health & safety (I)	4			4	1	5	125	5	5	100	80%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)	5			5	1	5	125	5	5	125	100%	4. Environment (E)		2		2	1	5	125	5	5	50	40%	PPE must be supplied to all employees / visitors entering the site	Signage at site entrance to indicate to employees and visitors to attend to site induction before accessing the site 1) Current Health and Safety Inductions to be reviewed and amended to ensure information regarding procedures, safe working procedure and risk assessments address risk associated with Covid-19. 2) Inductions to be conducted in small groups not larger than 15 employees / visitors at a time. This Induction must be conducted in an open well ventilated area (like in the open air). 3) When conducted Induction all employees to comply to the social distancing requirements of having at least 1.5 m- 2m between eachother. 4) Registers for all employees to be available and kept updated with the following information: - Age of Employees - Health status – (High risk immunocompromised) - Socio economic status/Unskilled Labour - Accommodation	Principal Contractor
1. Health & safety (I)	4			4	1	5	125	5	5	100	80%																																											
2. Cost (C)			4	4	1	5	125	5	5	100	80%																																											
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5	Site Facilities / Toilets / Hand wash Stations / Eating areas / Offices or boardrooms	1) Bathrooms, toilets, hand wash stations, offices and eating areas surfaces contaminated and not cleaned on a regular basis throughout the duration of the day 2) Insufficient amount of soap, hand sanitizer, cleaning materials 3) Insufficient amount of Toilets (chemical and flushable toilets) 4) Inappropriate social distancing at these mentioned areas 5) Offices, eating area not well ventilated 6) Site offices over populated (to many managers/supervisors sharing a office)	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td>5</td><td></td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr></table> Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus. Total Average Risk Value 75%	1. Health & safety (I)	4			4	1	5	125	5	5	100	80%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)	5			5	1	5	125	5	5	125	100%	4. Environment (E)		2		2	1	5	125	5	5	50	40%	Cloth masks and gloves are required at all times	Signages to be displayed location for Offices, Eating areas, Bathroom facilities	1) Eating areas to be set up in such a way that the maximum number of persons who will use the area at any one time are able to maintain the required social distancing of 1 metre. Should this not be practicable, meal times are to be staggered on a rotational basis to avoid contact between persons. No communal drinking facilities at eating areas (shared cups etc.). The PC to provide adequate supplies of bottled water to all employees on site. Empty bottles to be disposed of as normal waste. Training and awareness to address procedures and the importance of good hygiene practice. Workers are required to stay on site once they have entered it and not use local shops. • Break times should be staggered to reduce congestion and contact at all times. • Workers should be asked to bring pre-prepared meals and refillable drinking bottles from home. 2) Ablution facilities are an essential facility that must be available for workers across a site. Facilities are a high risk area and increased cleaning regimes are required to be introduced. A policy on how this will be done is required, that will cover both portable and permanent facilities. The following are considerations, which include, inter alia: • Portable toilets to be provided at a 1:10 ratio • Cleaners to continually clean and have a formal cleaning regime (checklist to be conducted and kept for records) • Hand washing facilities (soap and water, paper towel) to be available where possible, and if not, to provide hand sanitizer • Flush toilets preferably 1:15 unless increased cleaning regime present; • Restrict the number of people using toilet facilities at any one time e.g. use a welfare attendant; • Wash hands before and after using the facilities; • Enhance the cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush; • Portable toilets should be avoided wherever possible, but where in use these should be cleaned and emptied more frequently; • Provide suitable and sufficient rubbish bins for hand towels with regular removal and disposal that need to be managed as hazardous waste;	Principal Contractor
1. Health & safety (I)	4			4	1	5	125	5	5	100	80%																																												
2. Cost (C)			4	4	1	5	125	5	5	100	80%																																												
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4. Environment (E)		2		2	1	5	125	5	5	50	40%																																												
6	Site inspections / visits and site meetings	1) Coming into contact with infectious surfaces/ item/ individuals 2) Inappropriate social distancing when meetings are held in container office 3) Large group of Teams, managers, agent and client representatives visiting site and moving around on site 4) Insufficient amount of PPE for visitors 5) Procedures / Induction not followed 6) Visitors not aware of Emergency procedures	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td>5</td><td></td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td></td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr></table> Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus. Total Average Risk Value 75%	1. Health & safety (I)	4			4	1	5	125	5	5	100	80%	2. Cost (C)			4	4	1	5	125	5	5	100	80%	3. Productivity (P)	5			5	1	5	125	5	5	125	100%	4. Environment (E)		2		2	1	5	125	5	5	50	40%	All visitor must comply to the PPE requirements. If not, the visitors will not be allowed to enter the site	Signages at site entrance to indicate site office and rules	1) Meeting areas/ preferably use technology (Skype, Zoom, Microsoft teams): The PC is to limit the number of employees at all activities to the minimum required to do the work in a safe manner. Where possible meetings must be held in open areas limited to essential personnel. Technological alternatives to be exploited for meeting attendance if possible. 2) All visitors attending site meetings must undergo site induction were all procedures and rules are explained in relation with Covid-19 requirements.	
1. Health & safety (I)	4			4	1	5	125	5	5	100	80%																																												
2. Cost (C)			4	4	1	5	125	5	5	100	80%																																												
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7	Accommodation for contractor employees	1) Accommodation for employees over populated 2) Inappropriate social distancing practised within a house environment 3) Insufficient cleaning practises in the house (disinfecting of surfaces and laundry) 4) No handwash station or hand sanitizer available before entering the house 5) Employees bringing visitors/family to the house	1. Health & safety (I) 4 4 1 5 125 5 5 100 80% 2. Cost (C) 4 4 1 5 125 5 5 100 80% 3. Productivity (P) 5 5 1 5 125 5 5 125 100% 4. Environment (E) 2 2 1 5 125 5 5 50 40%	Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus. Total Average Risk Value	75%	1) Where accommodation is provided by the contractor/sub-contractor, factors to be considered in the procedure include, inter alia: • Density of occupants to allow for adequate social distancing (minimum 1.5m) in sleeping and dining quarters; • Restriction on the number of persons using the same sanitary/hygiene facilities; • Provision of dedicated crockery and cutlery for each occupant, together with a procedure for effective cleaning and safe storage of same and a prohibition on the sharing of utensils; • Dedicated facilities for safekeeping of personal belongings and abovementioned utensils for each person. Such facilities are to allow for total segregation of belongings and must be easy to sanitize. Provision of such facilities for safekeeping to be accompanied with a procedure for the use and sanitizing of the storage facility to reduce the risk of cross-contamination; • Facilities for accommodation provided by the contractor to have in place stringent procedures for personal hygiene, ongoing maintenance of sanitizing and social distancing, and • Additional rules to include a prohibition on the sharing of clothing, towels and other personal belongings, as well as the laundering of clothing for multiple persons at the same time. 2) Handwashing / Sanitizing stations to be available at contractor accommodation. Employees to ensure washing and disinfecting of hands before entering the accommodation. 3) Sealable bags provided to each person for keeping PPE requiring laundering, such as gloves and overalls, to ensure each person's PPE is contained and not cross contaminate other employees PPE.	Principal Contractor
			1. Health & safety (I) 4 4 1 5 125 5 5 100 80% 2. Cost (C) 4 4 1 5 125 5 5 100 80% 3. Productivity (P) 5 5 1 5 125 5 5 125 100% 4. Environment (E) 2 2 1 5 125 5 5 50 40%	Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus. Total Average Risk Value	75%	1) All tools used by employees to be disinfected daily before and after use. 2) Materials handled by employees to be disinfected before handled by another employee. 3) Storage areas must be strictly controlled with handwash stations or sanitizer available before handling materials or tools. 4) Social distancing to be implemented within the storage area.	Principal Contractor
			1. Health & safety (I) 4 4 1 5 125 5 5 100 80% 2. Cost (C) 4 4 1 5 125 5 5 100 80% 3. Productivity (P) 5 5 1 5 125 5 5 125 100% 4. Environment (E) 2 2 1 5 125 5 5 50 40%	Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus. Total Average Risk Value	75%	1) Where it is not possible to maintain the required distance between workers due to the nature of the work activity, e.g. curb laying, confined working areas, rebar tying, preparing wire cages, the contractor will be required to implement, maintain and enforce a procedure to adequately protect such workers against potential infection with the corona virus. This includes but is not limited to: Providing adequate supplies of suitable PPE such as face masks, task specific gloves, safety glasses, disposable/additional coveralls; PPE used during multi-person activities to be exchanged immediately after the task is completed;	Principal Contractor
			1. Health & safety (I) 4 4 1 5 125 5 5 100 80% 2. Cost (C) 4 4 1 5 125 5 5 100 80% 3. Productivity (P) 5 5 1 5 125 5 5 125 100% 4. Environment (E) 2 2 1 5 125 5 5 50 40%	Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus. Total Average Risk Value	75%	PPE requirements signage to be displayed on site	Principal Contractor

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10	Training / Informations	1) Employees, visitors and communities in surrounding areas has a lack of knowledge in respect of Covid-19	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td>5</td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>75%</td></tr></table> Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus.	1. Health & safety (I)	4		4	1	5	125	5	5	100	80%	2. Cost (C)		4	4	1	5	125	5	5	100	80%	3. Productivity (P)	5		5	1	5	125	5	5	125	100%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										75%		Training information to be displayed on site offices and at site entrances.	1) Toolbox talks to be conducted outdoors when possible in order for persons to maintain social distancing. Where inclement weather does not allow for this, toolbox talks to be conducted with smaller groupings of workers in a sheltered area large enough to maintain social distancing. 2) Regular training sessions to be held to ensure employees are updated on Covid-19 cases, information and control measures. 3) Awareness posters displayed on site and site entrances. 4) The Principal Contractor must provide workers with information that raises awareness in any form or manner, including where reasonably practicable leaflets and notices placed in conspicuous places in the workplace informing workers of the dangers of the virus, the manner of its transmission, the measures to prevent transmission such as personal hygiene, social distancing, use of masks, cough etiquette and where to go for screening or testing if presenting with the symptoms.	Principal Contractor
1. Health & safety (I)	4		4	1	5	125	5	5	100	80%																																																				
2. Cost (C)		4	4	1	5	125	5	5	100	80%																																																				
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4. Environment (E)		2	2	1	5	125	5	5	50	40%																																																				
Total Average Risk Value										75%																																																				
11	Waste disposals	1) Exposure to Group 4 Hazardous Biological Agent 2) Coming into contact with infectious items / PPE like dustmasks, gloves 3) Inappropriate disposal of worn PPE	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td>5</td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>75%</td></tr></table> Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus.	1. Health & safety (I)	4		4	1	5	125	5	5	100	80%	2. Cost (C)		4	4	1	5	125	5	5	100	80%	3. Productivity (P)	5		5	1	5	125	5	5	125	100%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										75%	Specific PPE required for handling of chemicals / hazardous waste (PVC gloves, dustmasks, overall Is or coveralls) Above and beyond the mandatory PPE for the site		1) Separate waste bins (must be labeled) for used PPE (gloves, masks) must be supplied by the principal contractor. Dustmasks and gloves to be disposed as hazardous waste 2) Waste must be disposed at a registered waste facility. (Proof of waste disposal must be kept for record keeping). 3) Employees handling waste must comply to the PPE requirements before handling such.	Principal Contractor
1. Health & safety (I)	4		4	1	5	125	5	5	100	80%																																																				
2. Cost (C)		4	4	1	5	125	5	5	100	80%																																																				
3. Productivity (P)	5		5	1	5	125	5	5	125	100%																																																				
4. Environment (E)		2	2	1	5	125	5	5	50	40%																																																				
Total Average Risk Value										75%																																																				
12	Medical Surveillance	1) Employees not medically fit to work 2) Employees with chronic conditions / Tuberculosis / HIV 3) Employees over the age of 50	<table><tr><td>1. Health & safety (I)</td><td>4</td><td></td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>2. Cost (C)</td><td></td><td>4</td><td>4</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>100</td><td>80%</td></tr><tr><td>3. Productivity (P)</td><td>5</td><td></td><td>5</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>125</td><td>100%</td></tr><tr><td>4. Environment (E)</td><td></td><td>2</td><td>2</td><td>1</td><td>5</td><td>125</td><td>5</td><td>5</td><td>50</td><td>40%</td></tr><tr><td colspan="10">Total Average Risk Value</td><td>75%</td></tr></table> Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus.	1. Health & safety (I)	4		4	1	5	125	5	5	100	80%	2. Cost (C)		4	4	1	5	125	5	5	100	80%	3. Productivity (P)	5		5	1	5	125	5	5	125	100%	4. Environment (E)		2	2	1	5	125	5	5	50	40%	Total Average Risk Value										75%			1) All employees on site undergo routine medical examinations specific to the work to be performed taking into account the hazard and risk exposures. This to address pre-employment examination, periodic examination as required, and exit examinations. 2) Where medical examinations are governed by legislation, the principal contractor to ensure the legislative requirements are complied with by all employees. 3) All the employees performing work on site are declared medically fit for the work they are to perform. 4) Employees are notified confidentially by the construction health and safety officer or other appropriate delegated person of the results and interpretation of their medical examinations and any abnormal findings, health conditions, referrals or recommendations made as well as any restrictions that may become evident from medical examinations. 5) In the event of referrals or recommendations for additional testing or consultation with health specialists, proof of action taken by the principal contractor to be maintained. Action taken could be a scheduled appointment with a specialist, an appointment for the additional testing etcetera. 6) Copies of valid medical certificates of fitness to be available in the occupational health and safety file. The requirements above to be founded on a duty of care towards employees to ensure employees are made aware of any health conditions or health restrictions which may have resulted from or may be aggravated by work activities on site or associated areas. The consultation, notification and communication with the employee to, with the employees' written consent, be made available upon request for verification by the client.	Principal Contractor
1. Health & safety (I)	4		4	1	5	125	5	5	100	80%																																																				
2. Cost (C)		4	4	1	5	125	5	5	100	80%																																																				
3. Productivity (P)	5		5	1	5	125	5	5	125	100%																																																				
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Phase 1B:- Construction Of Mawa 8 & Mookgo 6 Booster Pump Stations For Electrical and Mechanical Works



13	Emergency Procedures	1) No emergency procedure addressing the handling of suspected infected employees. 2) Inappropriate social distancing at emergency evacuation points 3) Insufficient First Aid box content 4) No Specific PPE available for first aiders to attend to injured employees	1. Health & safety (I) 4 4 1 5 125 5 5 100 80% 2. Cost (C) 4 4 1 5 125 5 5 100 80% 3. Productivity (P) 5 5 1 5 125 5 5 125 100% 4. Environment (E) 2 2 1 5 125 5 5 50 40% Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus.	Specific PPE required for first aiders to attend to injured employees	Signage required to indicate the location of First Aid facilities, emergency evacuation route / location, emergency contacts	1) An updated emergency plan is to be completed that is in line with the current Regulations of the National Disaster Management Act. First aid Extra gloves, and disinfectants are to be available, first aiders are to be issued with at least FFPT2 masks should they be required to respond Evacuation plans Evacuation plans should consider social distancing. Isolation of potentially infected workers The emergency plan is to consider how anyone who arrives on site and displays any of the symptoms, or has a raised temperature. 2) Emergency response plan must be developed, implemented and communicated for persons suspected of being infected with or exposed to the virus. The procedure is to be applicable to all levels of management and supervision, employees and local labour.	Principal Contractor
14	Social Distancing	1) Large groups of employees in close proximity 2) Employees working close to each other 3) Site entrance / access 4) Site facilities / ablutions / offices / eating areas	1. Health & safety (I) 4 4 1 5 125 5 5 100 80% 2. Cost (C) 4 4 1 5 125 5 5 100 80% 3. Productivity (P) 5 5 1 5 125 5 5 125 100% 4. Environment (E) 2 2 1 5 125 5 5 50 40% Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus.			Principal contractor to ensure that the construction site and facilities are set up in such a way that it will be possible as far as is practicable to maintain the required social distancing of a minimum of 1 metre between persons when at work. Floor vinyls / markers can be used to indicate the correct spacing inbetween each other. 1) Tasks that require more than 1 person to complete Where it is not possible to maintain the required distance between workers due to the nature of the work activity, the contractor will be required to implement, maintain and enforce a procedure to adequately protect such workers against potential infection with the corona virus. - Adequate supplies of suitable PPE such as face masks, task specific gloves, safety glasses, disposable/additional coveralls to be issued to employees; - The PPE used during multi-person activities to be exchanged and disposed as hazardous waste immediately after the task is completed; - Sealed bins to be provided for disposable PPE such as masks, disposable coveralls, disposable gloves, etc.; - Sealable bags provided to each person for keeping PPE requiring laundering, such as gloves and overalls, and - Sanitising/washing facilities provided for immediate sanitizing of hard hats, safety glasses, shoes, safety harnesses etc. on completion of multi- person tasks. All the above to be utilized when breaking for lunch or leaving the site, and before commencing with the next or new work activity. 2) It must, as far as practicable, minimize the number of workers on at the workplace at any given time through rotation, staggered working hours, shift systems, remote working arrangements or similar measures in order to achieve social distancing, 3) If it is not practicable to arrange work stations to be spaced at least one and a half metres apart, the employer must- arrange physical barriers to be placed between work stations or erected on work stations	Principal Contractor
15	Health Hazards	1) Handling of Hazardous chemical when Cleaning and disinfecting surfaces (skin, eye, inhaling)	1. Health & safety (I) 4 4 1 5 125 5 5 100 80% 2. Cost (C) 4 4 1 5 125 5 5 100 80% 3. Productivity (P) 5 5 1 5 125 5 5 125 100% 4. Environment (E) 2 2 1 5 125 5 5 50 40% 1) Skin contact with hazardous chemicals could cause skin irritation and even burns (Dermatitis) 2) Eye contact with chemicals splashing could cause serious eye burns and even temporary blindness 3) Inhaling of chemical fumes could cause headache, dizziness and even nausea	Task Specific PPE require to handle hazardous chemicals	Signage required at storage area for all hazardous chemicals / MSDSs must be available at storage area	1) MSDS /SDS to be available for all chemicals used on site. MSDS / SDS to be communicated to all the exposed employees to ensure they gain the required knowledge on how to handle the specific hazardous chemicals safely. 2) Employees that is required to deep clean facilities before start of project and daily is required to wear the required PPE (Dustmask / respiratory protection, safety goggles, PVC gloves, overalls or coveralls).	Principal Contractor

Phase 1B:- Construction Of Mawa 8 & Mookgo 6 Booster Pump Stations For Electrical and Mechanical Works

[illegible]

17		1. Health & safety (I)	4		4	1	5	125	5	5	100	80%		Screening of all employees entering the Construction site is vital in ensuring that all the LEPELLE Construction site remains COVID-19 free. The Principal contractors preventative control measures must include:
		2. Cost (C)		4	4	1	5	125	5	5	100	80%		
		3. Productivity (P)	5		5	1	5	125	5	5	125	100%		
		4. Environment (E)	2		2	1	5	125	5	5	50	40%		

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Phase 1B:- Construction Of Mawa 8 & Mookgo 6 Booster Pump Stations For Electrical and Mechanical Works



	Pre - site entrance screening	1) Coming into contact with infectious individuals	Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus.			Personnel conducting pre-entering screening to ensure they are fully compliant with PPE requirements	1) Travel declaration questionnaire must be completed by all security personnel, professional teams, client teams, principal contractor employees and contractors before entering the site gate. 2) Adequately train (directly or indirectly) identified employee/s to perform daily workplace COVID-19 symptom screening. The average normal body temperature is generally accepted as (37°C). 3) Provide compulsory medical screening equipment example: Non- contact Thermometers. 4) Provide prescribed personal protective equipment (PPE) to those assigned to perform the screening. Face Shields and masks will be made available to screening personnel. 5) All required items to operate safely must be available at the screening desk, these includes, hand sanitizers, pens for filling in registers and travel declaration questionnaire Should employees or visitors fail the questionnaire to be completed they should not be allowed to enter site. 6) Any employee/team member displaying a temperature between 37.1°C and 37.9°C will be isolated and place either next to the Security Guardhouse or in his/her vehicle until second temperature testing is done. 7) The employee/team member temperature will be taken again after 15 min. If the temperature has increased the person will be required to leave and go to the closest Clinic, access to site will be denied. 8) If the employee/team member temperature has decreased to an acceptable/normal level, access will be granted. 9) Any employee/team member with a temperature of 38°C or above will be denied access and will be required to leave immediately and be advised to visit a Doctor; 10) All cases where persons were denied access a detailed register kept on site of the date, name of contractor, name of employee, contact number. 11) Principal contractor should keep record of all such screening, and should an employee show any positive symptoms related to COVID-19, then such an employee must be isolated from other employees, provided with gloves and mask, and the Department of Health Hotline 0800 029 999 immediately contacted.	Principal Contractor
18	Procurement of PPE and Sanitizers, disinfectants and other measures	1) Insufficient amount of PPE available for all employees 2) No Soap, sanitizers or disinfectants available on site	1. Health & safety (I) 4 4 1 5 125 5 5 100 80% 2. Cost (C) 4 4 1 5 125 5 5 100 80% 3. Productivity (P) 5 5 1 5 125 5 5 125 100% 4. Environment (E) 2 2 1 5 125 5 5 50 40% Exposure (close contact) to a person with confirmed or suspected COVID-19 or getting in contact with surfaces that might have been contaminated could lead to severe health effects and even fatality, and if not attended to or self isolation could lead to the spread of the virus.			Personnel conducting pre-entering screening to ensure they are fully compliant with PPE requirements	1) All required PPE must be available on site prior to start of work 2) Employees to be issued with a minimum of 2 overalls. 3) Material masks at least 2 per person to be issued to all employees on site. All employees, visitors on site must wear a dustmask or a material face mask. 4) Procedure for disposing of used PPE to be implemented, monitored and communicated to all employees and visitors. 5) Dustmasks and latex gloves to be disposed after each use and should not be used over a period of 1 day 6) Every employer must, free of charge, ensure that – there are sufficient quantities of hand sanitizer based on the number of workers or other persons who access the workplace at the entrance of, and in, the workplace which the workers or other persons are required to use and every employee who works away from the workplace, other than at home, must be provided with an adequate supply of hand sanitizer.	Principal Contractor

C3.6 GENERAL CONDITIONS OF CONTRACT (GOVERNMENT)

GENERAL CONDITIONS OF CONTRACT (GCC)

NOTES:

The purpose of this document is to:

- (i) Draw special attention to certain general conditions applicable to government Bids, contracts and orders; and
- (ii) To ensure that clients be familiar with regard to the rights and obligations of all parties involved in doing business with government.

In this document words in the singular also mean in the plural and vice versa and words in the masculine also mean in the feminine and neuter.

- The General Conditions of Contract (GCC) will form part of all Bid documents and may not be amended.

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1. Definitions

1. The following terms shall be interpreted as indicated:

- 1.1 **“Acceptable bid”** means any bid, which, in all respects, complies with the specifications and conditions of the bid as set out in the bid document.
- 1.2 **“Bid”** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of State for the provision of goods, works or services.
- 1.3 **“Black enterprise”** means an enterprise that is 50,1% owned by black persons and where there is substantial management control. Ownership refers to economic interest while management refers to the membership of any board or similar governing body of the enterprise.
- 1.4 **“Black empowered enterprise”** means an enterprise that is at least 25,1% owned by black persons and where there is substantial management control. Ownership refers to economic interests. Management refers to executive directors. This is whether the black enterprise has control or not.
- 1.5 **“Black people”** includes all African, Coloured or Indian persons who are South African citizens by birth or by descent or who were naturalised prior to the commencement of the constitution in 1993. In addition, the term also includes black people who became South African citizens after the constitution’s commencement but who would have been able to be naturalised prior to this, were it not for the Apartheid laws which prohibited naturalisation of certain persons. This means that an African, Coloured or Indian person who was not a South African citizen before the commencement of the constitution in 1993 but who would have been entitled to apply to be naturalised prior to 1993, will also be considered a black person and therefore a beneficiary of BEE.
- 1.6 **“Black woman-owned enterprise”** means an enterprise with at least 25,1% representation of black women within the black equity and management portion.
- 1.7 **“Closing time”** means the date and hour specified in the bidding documents for the receipt of bids.
- 1.8 **“Comparative price”** means the price after the factors of a non-firm price and all unconditional discounts that can be utilised have been taken into consideration.
- 1.9 **“Community or broad-based enterprise”** means an enterprise that has an empowerment shareholder who represents a broad base of members such as a local community or where the benefits support a target group, for example black women, people living with disabilities, the youth and workers. Shares are held via direct equity, non-profit organisations and trusts.

Benefits from the shareholding should in a measurable sense be directed towards the uplifting of the community through job creation, welfare, skills development, entrepreneurship and human rights. At the same time, directors and management of groups should significantly comprise black persons.

These arrangements are appropriate in situations where the activities or operations of an enterprise or industry directly impact on a community or are located in a community, or may benefit a community. Notable examples are large industrial projects, mining and tourism. Other instances, which do assist in broadening the

shareholder base, are employee share ownership schemes; these are a viable empowerment shareholder option. In this and other circumstances, these arrangements should not detract from the ability of the shareholder to exercise significant influence or control over the operations of the business.

- 1.10 **“Consortium or joint venture”** means an association of persons for the purpose of combining their expertise, property, capital, efforts, skills and knowledge in an activity for the execution of a contract.
- 1.11 **“Contract”** means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- 1.12 **“Contract price”** means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
- 1.13 **“Control”** means the possession and exercise of legal authority and power to manage the assets, goodwill and daily operations of a business and the active and continuous exercise of appropriate managerial authority and power in determining the policies and directing the operations of the business.
- 1.14 **“Co-operative or collective enterprise”** is an autonomous association of persons who voluntarily join together to meet their economic, social and cultural needs and aspirations through the formation of a jointly-owned enterprise and democratically controlled enterprise.
- 1.15 **“Corrupt practice”** means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.
- 1.16 **“Countervailing duties”** are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
- 1.17 **“Country of origin”** means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 1.18 **“Day”** means calendar day.
- 1.19 **“Delivery”** means delivery in compliance with the conditions of the contract or order.
- 1.20 **“Delivery ex stock”** means immediate delivery directly from stock actually on hand.

- 1.21 **"Delivery into consignees store or to his site"** means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the supplies are so delivered and a valid receipt is obtained.
- 1.22 **"Disability"** means, in respect of a person, a permanent impairment of a physical, intellectual, or sensory function, which results in restricted, or lack of, ability to perform an activity in the manner, or within the range, considered normal for a human being.
- 1.23 **"Dumping"** occurs when a private enterprise abroad markets its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.
- 1.24 **"Equity Ownership"** means the percentage ownership and control, exercised by individuals within an enterprise.
- 1.25 **"Force majeure"** means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 1.26 **"Fraudulent practice"** means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- 1.27 **"GCC"** means the General Conditions of Contract.
- 1.28 **"Goods"** means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- 1.29 **"Historically Disadvantaged Individual (HDI)"** means a South African citizen -
- 1.29.1 who, due to the Apartheid policy that had been in place, had no franchise in national elections prior to the introduction of the Constitution of the Republic of South Africa, 1983 (Act 110 of 1983) or the Constitution of the Republic of South Africa, 1993, (Act 200 of 1993) ("the interim Constitution); and/or
- 1.29.2 who is a female; and/or
- 1.29.3 who has a disability:

provided that a person who obtained South African citizenship on or after the coming to effect of the Interim Constitution, is deemed not to be a HDI.

- 1.30 **Imported content**” means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the supplies covered by the bid will be manufactured.
- 1.31 **“Local content**” means that portion of the bidding price which is not included in the imported content provided that local manufacture does take place.
- 1.32 **“Management**” means an activity inclusive of control and performed on a daily basis, by any person who is a principal executive officer of the company, by whatever name that person may be designated, and whether or not that person is a director.
- 1.33 **“Manufacture**” means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.
- 1.34 **“Order**” means an official written order issued for the supply of goods or works or the rendering of a service.
- 1.35 **“Owned**” means having all the customary elements of ownership, including the right of decision-making and sharing all the risks and profits commensurate with the degree of ownership interests as demonstrated by an examination of the substance, rather than the form of ownership arrangements.
- 1.36 **“Parliament**” means Parliament of the Republic of South Africa as set out in Chapter Four of the Constitution.
- 1.37 **“Person**” includes reference to a juristic person.
- 1.38 **“Project site**” where applicable, means the place indicated in bidding documents.
- 1.39 **“Purchaser**” means the organization purchasing the goods.
- 1.40 **“Rand value**” means the total estimated value of a contract in Rand denomination that is calculated at the time of the bid invitations, and includes all applicable taxes and excise duties.
- 1.41 **“Republic” or “RSA**” means the Republic of South Africa.
- 1.42 **“RFP**” means Request for Proposal.
- 1.43 **“RFT**” means Request for Tender.

- 1.44 **“RFQ”** means Request for Quotation.
- 1.45 **“SCC”** means the Special Conditions of Contract.
- 1.46 **“Secretary”** means the Secretary to Parliament.
- 1.47 **“Services”** means those functional services ancillary to the supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.
- 1.48 **“Specific contract participation goals”** means the goals as stipulated in the Preferential Procurement Regulations, 2001. In addition to above-mentioned goals, the Regulations [12. (1)] also make provision for organs of State to give particular consideration to procuring locally manufactured products.
- 1.49 **“Small, Medium and Micro Enterprises (SMMEs)”** bears the same meaning assigned to this expression in the National Small Business Act, 1996 (Act 102 of 1996).
- 1.50 **“Sub-contracting”** means the primary contractor’s assigning or leasing or making out work to, or employing another person to support such a primary contractor in the execution of part of a project in terms of the contract.
- 1.51 **“Trust”** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person.
- 1.52 **“Trustee”** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.
- 1.53 **“Written”** or **“in writing”** means handwritten in ink or any form of electronic or mechanical writing.

2. Application

- 2.1 These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services, sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.
- 2.2 Where applicable, special conditions of contract are also laid down to cover specific supplies, services or works.

- 2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

3. General

- 3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.
- 3.2 With certain exceptions, invitations to bid can be accessed electronically from www.parliament.gov.za

4. Standards

- 4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

5. Use of contract documents and information; inspection

- 5.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance.
- 5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.
- 5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.

- 5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

6. Patent rights

- 6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.

7. Performance security

- 7.1 Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.
- 7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.
- 7.3 The performance security shall be denominated in the currency of the contract or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:
- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
 - (b) a cashier's or certified cheque
- 7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified in SCC.

8. Inspections, tests and analyses

- 8.1 All pre-bidding testing will be for the account of the bidder.

- 8.2 If it is a bid condition that supplies to be produced or services to be rendered should at any stage during production or execution or on completion be subject to inspection, the premises of the bidder or contractor shall be open, at all reasonable hours, for inspection by a representative of Parliament or an organisation acting on behalf of Parliament.
- 8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
- 8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the supplies to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
- 8.5 Where the supplies or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such supplies or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.
- 8.6 Supplies and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
- 8.7 Any contract supplies may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract. Such rejected supplies shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with supplies which do comply with the requirements of the contract. Failing such removal the rejected supplies shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute supplies forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected supplies, purchase such supplies as may be necessary at the expense of the supplier.
- 8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 23 of GCC.

9. Packing

- 9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to

extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

- 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

- 10.1 Delivery of the goods shall be made by the supplier in accordance with the terms specified in the contract. The details of shipping and/or other documents to be furnished by the supplier are specified in SCC.

- 10.2 Documents to be submitted by the supplier are specified in SCC.

11. Insurance

- 11.1 The goods supplied under the contract shall be fully insured by the bidder in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified in the SCC.

12. Transportation

- 12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified in the SCC.

13. Incidental services

- 13.1 The supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:

- (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;

- (b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
- (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
- (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
- (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

14. Spare parts

14.1 As specified in SCC, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

- (a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and
- (b) in the event of termination of production of the spare parts:
 - (i) Advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and
 - (ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

- 15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.

- 15.2 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for twelve (12) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.
- 15.3 The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.
- 15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified in SCC, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

16. Payment

- 16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified in SCC.
- 16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfilment of other obligations stipulated in the contract.
- 16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.
- 16.4 Payment will be made in Rand unless otherwise stipulated in SCC.

17. Prices

- 17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price

adjustments authorized in SCC or in the purchaser's request for bid validity extension, as the case may be.

18. Variation orders

- 18.1 In cases where the estimated value of the envisaged changes in purchase does not vary more than **15%** of the total value of the original contract, the contractor may be instructed to deliver the goods or render the services as such. In cases of measurable quantities, the contractor may be approached to reduce the unit price, and such offers may be accepted provided that there is no escalation in price.

19. Assignment

- 19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

20. Subcontracts

- 20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

21. Delays in the supplier's performance

- 21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.
- 21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.

- 21.3 No provision in a contract shall be deemed to prohibit the obtaining of supplies or services from a national department, provincial department, or a local authority.
- 21.4 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the supplies are required, or the supplier's services are not readily available.
- 21.5 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 21.2 without the application of penalties.
- 21.6 Upon any delay beyond the delivery period in the case of a supplies contract, the purchaser shall, without cancelling the contract, be entitled to purchase supplies of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

- 22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

23. Termination for default

- 23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:
- (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
 - (b) if the Supplier fails to perform any other obligation(s) under the contract; or

- (c) if the supplier, in the judgment of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.

24. Anti-dumping and countervailing duties and rights

24.1 When, after the date of bid, provisional payments are required, or antidumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the contractor to the State or the State may deduct such amounts from moneys (if any) which may otherwise be due to the contractor in regard to supplies or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him.

25. Force Majeure

25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.

25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

26. Termination for insolvency

26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the purchaser.

27. Settlement of Disputes

- 27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.
- 27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.
- 27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.
- 27.4 Mediation proceedings shall be conducted in accordance with the rules of procedure specified in the SCC.
- 27.5 Notwithstanding any reference to mediation and/or court proceedings herein,
- (a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
 - (b) the purchaser shall pay the supplier any monies due the supplier.

28. Limitation of liability

- 28.1 Except in cases of criminal negligence or wilful misconduct, and in the case of infringement pursuant to Clause 6;
- (a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and
 - (b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

29. Governing language

- 29.1 The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.

30. Applicable law

- 30.1 The contract shall be interpreted in accordance with South African laws, unless otherwise specified in SCC.

31. Notices

- 31.1 Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice
- 31.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

32. Taxes and duties

- 32.1 A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.
- 32.2 A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
- 32.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid, Parliament must be in possession of a tax clearance certificate, submitted by the bidder. This certificate must be an original issued by the South African Revenue Services (SARS).

33. Transfer of contracts

- 33.1 The contractor shall not abandon, transfer, cede assign or sublet a contract or part thereof without the written permission of the purchaser

34. Amendment of contracts

- 34.1 No agreement to amend or vary a contract or order or the conditions, stipulations or provisions thereof shall be valid and of any force unless such agreement to amend or vary is entered into in writing and signed by the contracting parties. Any waiver of the requirement that the agreement to amend or vary shall be in writing, shall also be in writing.

35. Prohibition of restrictive practices

- 35.1 In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder(s) is / are or a contractor(s) was / were involved in collusive bidding.

- 35.2 If a bidder(s) or contractor(s) based on reasonable grounds or evidence obtained by the purchaser has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in section 59 of the Competition Act No 89 Of 1998.
- 35.3 If a bidder(s) or contractor(s) has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.

C3.8 LABOUR INTENSIVE CONSTRUCTION

SJ: LABOUR INTENSIVE SPECIFICATION

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SJ 01 SCOPE

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

- a) trenches having a depth of less than 1.5 metres
- b) stormwater drainage
- c) low-volume roads and sidewalks

SJ 02 PRECEDENCE

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this specification shall prevail.

SJ 03 HAND EXCAVATEABLE MATERIAL

Hand excavate able material is material:

a) granular materials:

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

b) cohesive materials:

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

- Note:
- 1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.
 - 2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table SJ1: Consistency of materials when profiled

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

SJ 04 TRENCH EXCAVATION

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

SJ 05 COMPACTION OF BACKFILLING TO TRENCHES (areas not subject to traffic)

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

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

SJ 06 EXCAVATION

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

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

SJ 07 CLEARING AND GRUBBING

Grass and small bushes shall be cleared by hand.

SJ 08 SHAPING

All shaping shall be undertaken by hand.

SJ 09 LOADING

All loading shall be done by hand, regardless of the method of haulage.

SJ 10 HAUL

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150 m.

SJ 11 OFFLOADING

All material, however transported, is to be off- loaded by hand, unless tipper-trucks are utilised for haulage

SJ 12 SPREADING

All material shall be spread by hand.

SJ 13 COMPACTION

Small areas may be compacted by hand provided that the specified compaction is achieved.

SJ 14 GRASSING

All grassing shall be undertaking by sprigging, sodding, or seeding by hand.

SJ 15 **STONE PITCHING AND RUBBLE CONCRETE MASONRY**

All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, must to be collected, loaded, off loaded and placed by hand.

Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Grout shall be mixed and placed by hand.

SJ 16 **MANUFACTURED ELEMENTS**

Elements manufactured or designed by the Contractor, such as manhole rings and cover slabs, precast concrete planks and pipes, masonry units and edge beams shall not individually, have a mass of more than 320kg. In addition the items shall be large enough so that four workers can conveniently and simultaneously acquire a proper hand hold on them.

C4 SITE INFORMATION

SITE INFORMATION

C4.1 LOCATION OF SITE

The plants, with their coordinates, are:

RESERVOIR/PS	Latitude	Longitude	Approximate perimeter length
Mawa 8 PS	-23.584142°	30.512622°	7000 m
Hlohlokwe	-23.541062°	30.481398°	3480 m
Gamokgwathi	-23.576788°	30.599892°	747 m

ANNEXURE 1: MATERIALS LIST AND GENERAL ARRANGEMENT DRAWINGS

ANNEXURE 2: BASELINE RISK ASSESSMENT

BESELINE RISK ASSESSMENT



BASELINE RISK ASSESSMENT : LNW 04/21/22 BABANANA WATER PROJECT RS 135 - Phase 1C: Construction Of Pipeline 1 and 6 at Mawa Village & Surrounding Areas

Activity Description:	BASELINE RISK ASSESSMENT				Project No:	LNW04/21/22
Assessment Team:	LNW	Assessment Date:	June 2021	Review Date:		
NOTE:	Bidders are to study the OHS specifications in terms of the OHS Act Construction Regulations 2014 and price accordingly. No additional allocation of funds will be added to OHS compliance in terms of Construction Regulations 2014 post appointment.					

Tas k #	Task Description	Hazards / Aspects / Failures	Potential Risks / Impacts	SHEQ Category	Likelihood	Consequence	Raw Risk Rating	Mitigation / Control Measures	SHEQ Category	Likelihood	Consequence	Residual Risk Rating	Resp Person
1	Induction and training	- Injuries due to employees not aware of dangers in work area - Long hours of induction. - Use of unfamiliar language. - Imcompetent trainer/facilitator. - Issueing Incorrect PPE afterwards.	Injury Disability Property damage	S&H BI/AD L&R	4	5	20 (H)	- Inductions- Employees to be informed to all hazards in the work area as well as the recommended precautionary measures - Site specific induction to be conducted to all employees, sub-contractors and visitor's - Employees to be trained on all tools and equipment. - Ensuring that all the employees understood	S&H BI/AD L&R	2	4	8 (M)	Safety Officer Site Agent General Foreman

BESELINE RISK ASSESSMENT

		• Employment of underaged employees.						the training including questionnaires raised. • Ensure all employees get the correct PPE. • The contractor to hire people that are legal to work in terms of age. • Medical fitness examinations must be conducted to all the employees prior commencemnet of work.					
2	Site establishment	• Fence erection. • Exposure to hazardous materials. • Exposure to moving machinery and vehicles. • Exposure to exhisting services. • Office building building and istallation of ventillations. • Installation of electrical connections. • Clearing of site	Injury, disease, Property damage,	S&H BI/AD L&R	3	4	12 (H)	• Management to ensure site layout be approved by relevant engineer to consider site traffic, plant movement and other interfacing contractor site layouts. • Ensure that proper PPE is provided. • Ensure that Plants used for clearing are inspected and well serviced. • Contractor to ensure that competent persons are hired for isntallations.	S&H BI/AD L&R	2	4	8 (M)	Site Agent General Foreman
3	Environmental control	Environmental risks	Environment al	EN	2	3	6 (M)	• Ensure all waste areas controlling hazardous waste is kept clear • Ensure area housing hazardous waste is bunded to prevent run-off and absorption into the ground water systems	EN	1	3	3 (L)	Environmental officer

BESELINE RISK ASSESSMENT

								• Ensure the area is well demarcated and screened off • Ensure that waste is disposed legally with an appointment letter from legal appointee. • Ensure all spills are reported immediately • Ensure drip trays are used when the risk to spillage is high • Ensure the waste storage area has sufficient capacity • Ensure that all loose materials are covered and tied down to prevent wind picking the loose items out of the storage area or facility • Ensure storage areas and facilities are kept neat and tidy at all times • Ensure these areas are cleared regularly of waste material • Ensure all hazardous waste is removed to an approved dumping site/facility • Ensure correct colour coded waste bin for the discarding of waste					
4	Access/egress to site & correct placing of units	Restricted/unsafe access & parking of vehicles and plant	Injury Property damage	S&H BI/AD L&R	4	4	16 (H)	• Management to ensure site layout approved by client to consider site traffic, plant movement and other interfacing contractor site layouts	S&H BI/AD L&R	2	4	10 (M)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

5	Create access through berm using TLB	Substandard plant	Injury Property damage Production loss	S&H BI L&R	3	4	14 (M)	- Only certified and approved operator to be used. - Plant pre-inspection checklist to be completed - Tool box talk and risk assessment training before work commences - Work area to be barricaded and flag man to control people and plant movement	S&H BI L&R	1	4	4(L)	Site Agent General Foreman
6	Truck onto site and lay down area	- Reckless driving - Uncertified driver - Substandard truck Conditions	Injury Fatality Property damage	S&H BI/AD L&R	3	5	15 (H)	- Ensure drivers are qualified and competent. - Ensure drivers are informed of route and site traffic requirements - Vehicle to be approved and licensed to enter site - Ensure that the plant is serviced on intervals and by competent and certified personnel.	S&H BI/AD L&R	2	4	10 (M)	Site Agent General Foreman
7	Pedestrian access to site (LNW labourers) Construction plant access to site.	- Unsafe pedestrian access (Walkway) - Plants that are not road worthy - Incompetent drivers or operators.	Injury Property damage Production loss	S&H BI L&R	4	4	16 (H)	- Safe demarcated walkway to be conducted - Walkway to be barricaded with snow netting - Pedestrian crossings to be conducted and utilised. - Pedestrian and plants access must be separated.	S&H BI L&R	1	4	4 (L)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

								- Vehicle and plant signages must be made available. - Monitoring of site. - Appointment of qualified security service provider.					
8	Offloading and positioning of containers/offices (mobile crane)	- Equipment failure - Load falling - Rigger (falling) - Load striking employees - Load striking other containers - Load swinging	Injury Property damage Production loss Fatality	S&H BI L&R	4	5	20 (H)	- Management (supervisor) to ensure that only certified and approved operator, crane and lifting tackle to be used. - All lifting equipment to be inspected and registered - Plant pre-inspection checklist to be completed - Operator and rigger to attend tool box talk and risk assessment training before work commences - Supervisor and rigger to ensure correct lifting tackle and attaching method/procedures applied - Qualified and competent rigger allocated to specific crane (one on one communication) - Rigger to wear safety harness and tie-off at all times. - Step ladder must be used for access to top of container - If working on top of load the rigger must	S&H BI L&R	1	4	4 (L)	Site Agent General Foreman



BESELINE RISK ASSESSMENT

[illegible]

BESELINE RISK ASSESSMENT

9	Erecting safety and security fencing	Employees Fencing material (Wire and poles) Tools (Tensioners and pliers) Theft (Unauthorised entry) Hi-hub Crane truck Unfenced borrow pits	Injury Disability, Production loss, Property damage, animal loss	S&H BI/AD L&R	2	4	8 (M)	- Ensure outriggers are in full extended position and on firm and stable ground using spreader boards - Crane may not travel with outriggers in extended position - Trained and competent workers to be used under supervision for fence erecting - Only approved and correct hand tools for the job may be used - No homemade or modified tools allowed on site - Tools to be inspected before commencing of work - Security guard will be appointed to provide security and access controll. - Labelled tools or plants.	S&H BI/AD L&R	1	2	2(L)	Site Agent General Foreman
10	Installation of safety signs and notice boards	Un-informed employees Inadequate signage Incorrect signage	Injury Property damage	S&H BI/AD L&R	2	2	4 (L)	- Legal required signage must be displayed to be clearly visible at all times. - All required signage to be available - Informative, prohibitive, mandatory and emergency signs - Signage change and applicability should be maintained	S&H BI/AD L&R	1	1	2 (L)	Site Agent General Foreman
11	Emergency preparedness	Fire fighting equipment Insufficient no's	Injury Property damage	S&H BI/AD L&R	2	3	6 (M)	Fire fighting equipment must be placed in accordance to survey	S&H BI/AD L&R	1	4	4 (L)	Site Agent General Foreman Safety Officer

BESELINE RISK ASSESSMENT

			Production loss					- conducted during site establishment - Identification and signage must be clear and visible - All relevant equipment to be inspected and on register					
12	First aid	Inadequate medical assistance Untreated injuries	Dieases, disability	S&H BI L&R	2	4	8 (M)	- First aid boxes to be available at each work area clearly identified, signage installed and qualified first aider identified - First aid boxes to comply with minimum requirements inspected and registered	S&H BI L&R	1	3	3 (L)	Safety Officer First Aider
13	Facilities	Hygiene Insufficient no Waste Eating area Drinking water	Hygiene Environment al Poor hygiene Illnesses and ailments Water contaminate d	S&H BI L&R	2	2	4 (L)	- Separate toilets for both genders must be available and clearly identified - Ration 1 to 20 and to be cleaned 3 times a week - Separate waste bins for different wast categories to be available and identified - Waste disposal plan and schedule must be maintained - Skips must have lids - Adequate, clean and shaded eating area to be ensured - Facilities to be ensured from start of site establishment - Clean drinking water must be available	S&H BI L&R	1	2	2 (L)	Safety Officer Site Agent

BESELINE RISK ASSESSMENT

								Signage to be installed to all drinking and non drinking water					
14	Power supply and electricity to office area	Generator	Injury	S&H	4	4	16 (H)	- DB board must stand on firm level base and should be locked at all times - DB board to be inspected and approved by qualified electrician	S&H	2	4	8 (M)	Site Agent General Foreman
		Electrical cables	Injury Electrocution	S&H BI L&R	3	4	12 (H)	- All cables to be routed underground - Only qualified electrician to do installation and termination	S&H BI L&R	2	4	8 (M)	Site Agent General Foreman
15	Refuelling Tank	Environmental spillage	Soil contamination Fire risk	S&H EN	3	3	12 (H)	- Bunding or drip tray to be utilised - Spill kit to be available at all times - MSDS available at generator - Fire extinguisher and relevant required signage to be installed (no smoking, no open flames and hearing protection)	S&H EN	1	3	3 (L)	Site Agent General Foreman Environmental officer

Tender No: LNW 04/21/22

BABANANA WATER PROJECT RS 135 -

Phase 1C: Construction Of Pipeline 1 and 6
at Mawa Village & Surrounding Areas



BESELINE RISK ASSESSMENT

								Boundry wall to be available.					
16	Lay down area Stacking and storage	Inadequate space	Injury	S&H BI L&R	3	3	12 (H)	Lay down area must be well planned to ensure adequate space	S&H BI L&R	1	3	3 (L)	Site Agent General Foreman
		Poor stack/storage practices	Property damage	S&H BI L&R	2	5	10 (H)	- Safe stacking and storing practices/procedures must be maintained - Access and off-loading space must be a priority - Area to be barricaded - Flammable material not to be stacked together.	S&H BI L&R	1	3	3 (L)	Site Agent General Foreman
		Dunnage	Injury Property damage	S&H BI L&R	3	3	9 (M)	Timber poles (Dunnage) to be used for stacking material	S&H BI L&R	1	3	3 (L)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

17	Loading and off-loading of truck/machinery with mobile crane	Unfit personnell on site Incorrect PPE Incompetent personnel Under the influences of alcohol and substances	Injury Fatality	S&H BI/AD L&R	4	4	16 (H)	• Insure all personnel are fit by means of medical clearance certificate • All personnel shall undergo all relative inductions, site inductions and risk assessment training • Daily DSTI plus toolbox talks to be conducted • Correct PPE to be worn for the right job or site requirements • Safety harnesses to be worn when working at heights and safety life lines to be erected when required • Safety harnesses will be issued per person and will be inspected and booked out accordingly • Supervisor to ensure personnel is competent for the task at hand with competency/qualifications certificates • All competency certificates to be kept in the safety officer office • All appointments to be up to date • Crane operator must be licence by an authorised training institution • Only competent rigger to do lifting operations • No employee to work when under the	S&H BI/AD L&R	1	4	4 (L)	Site Agent General Foreman Banksman
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BESELINE RISK ASSESSMENT

								influence of drugs or alcohol					
								Random alcohol test will be conducted					
18	Approval of mobile crane	Non compliance No crane certification	Injury Fatality	S&H BI/AD L&R	3	4	12 (H)	- All cranes to be checked and tested by an testing station - All cranes shall be finally inspected and passed by project vehicle inspector - The crans shall have an up to date and valid load test certificate, rope test certificate, LMI calibration certificate and crane hook certificate - Full maintenance record of crane	S&H BI/AD L&R	1	4	4 (L)	Site Agent General Foreman Safety Officer

BESELINE RISK ASSESSMENT

								- Operator competence certificate - Crane pre-use checklist available and checklist completed daily - Crane specification and load chart available in crane cab, understood and used by operator					
19	Select correct lifting equipment	Pinch points Lifting equipment failure	Injury Property damage	S&H BI/AD L&R	3	4	12 (H)	- Pre task assessment for correct lifting equipment above 5 ton – Rigging study - Wear correct PPE - Client representative can inspect tools and equipment and request tools to be replaced or repaired - Competent person/s shall be appointed for the responsibility of looking after equipment and tools must be inspected as required Hazard awareness briefings - Rigging study to be approved by construction manager and master rigger	S&H BI/AD L&R	2	3	6 (L)	Site Agent General Foreman
20	Hook up lifting equipment , crane and material to be lifted.	Pinch points	Injury	S&H BI/AD L&R	4	4	16 (H)	- Connect lifting equipment to correct procedures - All lifting equipment must have a load certificate inspection	S&H BI/AD L&R	2	4	8 (M)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

	Hoist up crane slowly to get equipment slack out							and must be updated and lock down in register					
								- Keep hands clear once hooked up - Rigger to ensure all personnel are clear when hoisting, to get slack out					
21	Raise load slowly to check load stability and centre of gravity	Equipment failure	Injury Fatality Disability Property damage	S&H BI L&R	3	5	15 (H)	- Use correct and certified equipment - Work within crane and lifting equipment specification - Rigger only personnel to communicate with crane operator by means of hand signals, radio communications and or whistles - Rigger to remove glove when giving hand signals - Do not exceed wind speed for elevated lifts - Rigger to ensure no person to be under a suspended load. - No personnel within the swing radius of the crane	S&H BI L&R	2	4	8 (M)	Site Agent General Foreman
22	Raise load to desired height and slew to designated installation area Remove lifting equipment	Incorrect lifting practices Lifting equipment failure Crane toppling over	Injury Fatality Property damage Production loss	S&H BI L&R	3	4	12 (H)	- Work to lifting procedures/task analysis - Rigger to communicate with operator - Ensure sufficient guide ropes attached - Work to equipment specifications - Work within crane load chart specification	S&H BI L&R	2	3	6 (M)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

								• Work within wind regulations – 6m/s or analyse situation • Rigger to ensure he/she constant eye contact with crane operator or radio contact • Rigger to ensure no person to be under a suspended load					
23	Weather conditions	Lightning/wind Storms and thunder storms	Injury Fatality	S&H BI/AD L&R	2	4	14 (H)	• Work within wind regulation – 6m/or analyse situation • Stop task and call manager or rigger for assistance if in doubt ask crane operator • Do not work in thunderstorms and lightning • No work to be conducted on elevated positions when raining • If possible when load is suspended lower the load to ground level • Do not work with any steel/lifting of any steel when raining	S&H BI/AD L&R	1	4	4 (L)	Site Agent General Foreman
24	Truck arrived at site	Un informed operator Restricted access to loading area	Injury Property damage	S&H BI L&R	2	4	8 (M)	• Supervisor to inspect driver's public licence and condition of truck by means of an checklist. • Truck maintenance/service record to be with driver of truck • Driver to be send back if condition are not complied with	S&H BI L&R	1	4	4 (L)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

								- Supervisor to escort trucks to lie-down area - Communication with truck and crane operator - Area to be identified and barricaded - If delivery truck from a supplier come to site they need to complete the proforma checklist at the warehouse and manager to sign off.					
		Truck operator under influence of alcohol and substances	Injury Property damage	S&H BI L&R	3	4	12 (H)	- Randomly drug and alcohol test to be conducted - All truck drivers compulsory to do alcohol test prior of enter site area	S&H BI L&R	2	3	6 (M)	Site Agent General Foreman
		Load not secure	Property damage	S&H BI L&R	3	3	9(M)	- Suppliers must be notified before hand that supplier is not allowed on site. - If delivery truck from an supplier come to site and complete proforma checklist at warehouse and their manager must sign - Signed form accompany with truck to site - Delivery truck to be inspected for secure load before entry on site.	S&H BI L&R	1	2	2 (L)	Site Agent General Foreman
		Not in position of stop blocks and PPE	Injury	S&H BI L&R	2	2	4 (L)	- Spare stop blocks to be provided or operator remain in truck. - Engine to be stopped engage park brakes and stay seated to take	S&H BI L&R	1	1	1 (L)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

								- action if track comes in motion - Operator not allowed exiting truck without correct PPE					
		Incorrect parking on site	Injury Property damage	S&H BI L&R	3	3	9 (M)	- Supervisor to plan off load area before trucks arrived - Supervisor to eliminate that roads been close for other users - Barricade area off	S&H BI L&R	1	2	2 (M)	Site Agent General Foreman
25	Climbing on to truck to connect lifting equipment	Falling from truck	Injury	S&H BI L&R	3	4	12 (H)	- Personnel must take tripping hazard in consideration and not walk on the edge of truck load bed - Ensure 3 point contact when climbing on and off the truck - Ladder to be used when ascending or descending truck - Workers to wear safety harness attached to life line if working height exceeds 18m; lineyard on harness not exceeds 1 meter	S&H BI L&R	2	3	6 (M)	Site Agent General Foreman Banksman/Slinger
		Caught between	Injury	S&H BI L&R	2	3	6 (M)	- Ensure loads are stable when offloading - Workers to ensure proper footing and keep their feet out from line of fire	S&H BI L&R	1	2	2 (L)	Site Agent General Foreman
		Cuts and brazes	Injury	S&H BI L&R	1	2	2 (L)	- Ensure all material is free from sharp edges and protruding objects - Gloves and safety boots to be worn	S&H BI L&R	1	1	1 (L)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

26	Traffic Accomodation	Failure to inform members of the public about project thru PSC and CLO Non/incorrect placing of signage signage	Injury Fatality Disability Property damage due to traffic accidents	S&H BI L&R	3	4	12 (H)	- Discuss Traffic Plan with PSC and CLO and inform members of the public including employees - Placement of correct signage - Pre use inspection prior of use - No damage equipment to be used - Informing members of the public of construction activities thru CLO	S&H BI L&R	1	5	5 (M)	Site Agent General Foreman
27	Identifying and Exposing of existing services Hand excavations Setting out points (Survey)	Unsafe conditions unstable ground, incorrect identification Hand tools Incorrect setting out points (Demarcation)	Damage to services and disruption to existing services Production loss Loss of production Injury to employees	S&H BI L&R	2	2	5 44(L)	- Pre-checks on hand tools - Discuss DSTI with employees - Identify and expose services - Pre-checks on hand tools - Warn others in close proximity when excavating using hand tools - Barricade all excavations - Management, surveyor and supervisor must ensure that SOP's are in accordance with approved and accepted drawings and survey results	S&H BI L&R S&H BI L&R	1	2	3 (L)	Site Agent General Foreman
28	Barricading of work area	Uncontrolled movement	Injury Disability Fatality Property damage	S&H BI L&R	2	2	5 (L)	All excavation areas will be barricaded with solid barricading from before excavations start until	S&H BI L&R	1	2	3(L)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

			Production loss					- after backfilling is completed - Excavation to be numbered and put on register - Daily pre-work check list to be completed and permit obtained by appointed supervisor - Signage for barricading to be installed at access to excavation					
29	Excavation with Excavator Handling and storage of excess spoil	Man and machine interface Failure of equipment Property damage Excess spoil (Rocks, stone boulders etc.) Plant lock out	Injury Fatal Property damage	HS	3	5	15H	- Discuss traffic management plan - Pre-use inspection of plant daily before use - Operator and supervisor to inspect site before actual works - Excess spoil will be removed from excavation work area with tipper - Spoil remain in work site area for backfilling purposes will be stock piled in safe area - All spoil will be stored further than 2m way from excavation edges and outside barricading - Stock pile will not cause restriction to access/egress of work area	S&H BI L&R	1	4	4 (M)	Site Agent General Foreman
30	Placing spoil	Excess material/spoil (Excavation sides collapsing)	Injury Fatality Property damage	S&H BI L&R	2	2	4 (L)	- No excess spoil will be placed within 2m from excavation - All spoil material to be removed offsite to a identified land fill	S&H BI L&R	1	2	3(L)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

								- All excavation sides will be shored to prevent collapsing of materials - Spoil at edges will not exceed height of 2m and will be shored 1-2 at all times					
31	Access/egress to excavation	Poor or no access/egress at excavation	Injury	S&H BI L&R	2	2	5(L)	All excavation will be supplied with sufficient access/egress ladders for entry and exit, placed no further than 6m away from nearest workers and no further than 6m apart.	S&H BI L&R	1	2	3(L)	Site Agent General Foreman
32	Using of drilling machine Pre-use inspection Changing of drill bits	- Inspection not done and on register - Drilling machine not made safe - Incorrect tools used - Incorrect bit fitted	Injury Equipment damage	S&H BI L&R	3	3	9 (M)	- Inspection to be done by competent person - User of drilling machine to be trained and found competent - Checklist to be signed off by competent appointed supervisor - Permanent lock switch not allowed	S&H BI L&R	1	3	3 (L)	Site Agent General Foreman

BESELINE RISK ASSESSMENT

		- Bit fitted wrong way - Damaged bit fitted						- Only trained and found competent employees to change drill bits on a drilling machine - To ensure drilling machine is unplugged - Equipment needs to be inspected prior entering site - Proper tool (Chuck key) to be use - Supervisor to ensure correct bit is provided and fitted - Bit to be inspected prior of fitment by competent and trained employee					
33	Use of drilling machine (drilling thru hard rock)	- Drilling machine used by incompetent employee - Noise - Dust - Bit coming off while working with drilling machine - Employee injured as a result of an electric shock	Injury Disability Fatality	S&H BI L&R	3	3	9 (M)	- Only trained employees allowed to work with drilling machine - Ensure drilling machine not to be left unsupervised - Ear plugs to be worn when drilling - No loose clothing to be worn - Dust mask to be used - Correct PPE to be worn at all times - Employee to ensure drill bit is attached properly and secured with suck key - Drilling machine not to be used while standing in water - Drilling machine to be inspected before use - Faulty equipment to be removed from site	S&H BI L&R	1	3	3 (L)	Site Agent General Foreman



BESELINE RISK ASSESSMENT

								No drilling operations to be done during rain					
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BESELINE RISK ASSESSMENT

34	Use of mobile compressor	• Unauthorised persons using equipment • Operator not knowing where emergency stop button is • No inspection done prior of commencement of work • Leakage of diesel/petrol • Oil decomposition • Rotating parts • Cleaning of clothes and skin with compressed air	Fire risk Injury Fatality Property damage Injury	S&H BI L&R	3	4	12 (H)	• Only authorised trained employees to use equipment • Supervisor to be present at all times • Supervisor to give employee on the job training as to the hazards and risk associated with the mobile Compressor and emergency preparedness • Only trained employees to use mobile Compressor • Inspection to be done daily by supervisor prior commencement of entering site. • Material safety data sheets must be on site and communicated to all employees by supervisor • Drip trays to be utilised • No smoking or open flames near Mobile Compressors that are in operation • Contaminated soil will be properly disposed in line with construction EMP • Disposal certificate will be kept on record • Only certified companies used to dispose of hazardous waste • Regular cleaning of cylinders and valves	S&H BI L&R	2	3	6 (M)	Site Agent General Foreman
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BESELINE RISK ASSESSMENT

								• Supervisor to ensure employees comply • All rotating parts must be guarded. • Supervisor to ensure that items are covered in pre start inspection • Supervisor to ensure no employees uses compressed air to dust off clothes or skin as irritation can occur • Communicate to employees in Toolbox Talk • Warning signs to be displayed •						
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BESELINE RISK ASSESSMENT

35	Hazardous chemical storage	- Employees not familiar with MSDS - Liquid splashing - Employees inhaling fumes - Liquid spilling from container - No information of hazardous substance signage - No fire extinguisher	Injury Disability Fatality	S&H BI L&R	3	4	12 (H)	- Obtain formal approval of flammable store from the relevant local authority and display the certificate at the entrance to the store - Flammable liquid store to conform all legal requirements - Assessment to be carried out to determine the quantity of flammable liquid kept on site - No open flames and no smoking symbolic signs to be displayed in the vicinity of flammable liquid store - All material safety data sheets (MSDS) to be available at all times - Liquid bulk storage tanks to be banded. - Each bund to be capable of containing the maximum volume of the tank +10% - Fire extinguisher to be in 10 meter radius.	S&H BI L&R	2	2	3	6 {M}	Site Agent General Foreman
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