



public works  
& infrastructure

Department:  
Public Works and Infrastructure  
**REPUBLIC OF SOUTH AFRICA**

# STELLENBOSCH QUARANTINE STATION: UPGRADING OF THE SEWERAGE SYSTEM

## C3: SCOPE OF WORK

Sub-Heading:	Form no.:
Scope of Work & Specifications	Project specific. PG-01.1 (EC)
HIV/AIDS Specification and Schedules	Standard PW 1544 Specification and Schedules
Occupational Health & Safety Specification	
Expanded Public Works Specification	

## PG-01.1 (EC) SCOPE OF WORKS – GCC 3<sup>rd</sup> Edition (2015)

<b>Project title:</b>	<b><i>Stellenbosch Quarantine Station: Upgrading of Sewerage System</i></b>		
<b>Tender no:</b>	<i>CPT1001/25</i>	<b>Reference no:</b>	<i>6522/5981/5/6</i>

### C3. Scope of Works

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## **B: AMENDMENTS TO THE PARTICULAR SPECIFICATIONS**

**Variations and additions to the following SANS 1200 Standardised Specifications:**

SANS 1200 A	: General
SANS 1200 AB	: Engineer's Office

### C3.3 PARTICULAR SPECIFICATIONS

The following Additional Specifications for work not covered by the SANS 1200 Standardised Specifications or the Technical and Particular Specifications are bound in after the Technical and Particular Specifications:

SB	: Operational and maintenance manuals
SC	: General decommissioning and testing
SANS2001-BS SASTT-TS-TT2:2013	: Trenchless construction works
SD	: General training
SH	: HIV / AIDS Requirements
SI	: Occupational Health and Safety
SL	: Implementation of Expanded Public Works Programme (EPWP)
PS-TD	: Cured-In-Place-Pipes (CIPP) Resin Impregnated Felt Tube Inversion

### C3.4 STANDARD SPECIFICATIONS:

The standard specifications on which this contract is based are the **South African Bureau of Standards Standardized Specifications for Civil Engineering Construction SABS 1200**. *(Note to compiler. "SABS" has been changed to "SANS"; the SABS 1200 specifications are due to be replaced in the foreseeable future by SANS 2100)*

Although not bound in nor issued with this Document, the following Sections of the Standardized Specifications of SABS 1200 shall form part of this Contract:

1. SANS 1200 : Standardised Specifications for Civil Engineering Construction\*
2. SANS : Standard Specifications\*
3. PW 371 : Specification of Materials and Methods to be used. Fourth revision, October 1993.
4. Standard Specification for the Electrical Equipment and Installation for Mechanical Services, Issue VIII December 1984\*\*
5. Standard Electrical Specifications, January 1984, GPS 24-0367\*\*
6. Standard Specifications for Electrical Installations and Equipment pertaining to Mechanical Installations\*\*
7. SANS 10400 : The application of the National Building Regulations\*
8. Department of Public Works : Standard Electrical Specifications\*\*
9. Department of Public Works : Operation and Maintenance Manual for Waste Water Treatment Work: DPW's Basic Requirements (June 2012)\*\*
10. Department of Water Affairs : Green Drop & Blue Drop Requirements (Version 1.0 – 2010) \*\*\*
11. Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under Expanded Public Works Programme\*\*\*\*
12. PW 347/2012 : Civil Engineering Manual

\* Not issued with this document, but available at the Contractor's expense from the SA Bureau of Standards, Private Bag X191, PRETORIA, 0001.

\*\* Not issued with this document but available from the Director General, Department of Public Works, Private Bag X65, PRETORIA 0001, or any office of the Regional Representative of this Department.

\*\*\* Not issued with this document but available from National Department: Water and Sanitation ([www.dws.gov.za](http://www.dws.gov.za)).

\*\*\*\* Not issued with this document but available from National Department: Public Works and Infrastructure ([www.publicworks.gov.za](http://www.publicworks.gov.za) or [www.epwp.gov.za](http://www.epwp.gov.za)).

### 3.5 PROJECT SPECIFICATIONS:

#### Status

The Project Specification, consisting of two parts, forms an integral part of the contract and supplements the Standard Specifications.

Part1 A contains a general description of the works, the site and the requirements to be met.

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

In the event of any discrepancy between a part or parts of the Standardised of Particular Specifications and the Project Specification, the Project Specification shall take precedence. In the event of a discrepancy between the specifications, (including the Project Specifications) and the drawings and / or the Bill of Quantities, the discrepancy shall be resolved by the Engineer before the execution of the work under the relevant item.

#### 3.5.1 GENERAL

##### PS-1 PROJECT DESCRIPTION:

The project entails the repair and upgrade of sewer infrastructure at Stellenbosch Quarantine Station. The work may include any one or more of the activities as set out in clause PS3 below. The work also includes compilation of operating and maintenance manuals, site plans as well as training of User Client operators and all maintenance personnel. The Expanded Public Works Programme (EPWP) shall be implemented as specified.

**NOTE:** The works will be carried out within facilities that are occupied by User Client's personnel and associates.

##### PS-2 DESCRIPTION OF SITE AND ACCESS:

Stellenbosch Quarantine Station is the property of the Department of Public Works. The location of the site is shown on the map included with the drawings. The asset register is included under PS.3.2. The various installations at Stellenbosch Quarantine Station were maintained under a maintenance contract, until commencement of this Contract.

Access will be given to completed installations, while other installations may still be incomplete for which no access will be given. Where parts of an installation have been completed, and where such parts, or sub-sets, of an installation is well defined and can be clearly distinguished from the rest of the incomplete installation, access will be given for the part, or sub-sets, only. Remuneration for preventative and breakdown maintenance of the part of the installation, will be pro-rata the tendered rate for the complete installation, based on the scope and size of the completed part of the installation.

##### PS-3 DETAILS OF CONTRACT:

Work to be performed as part of an installation under this Contract involves the work described below under PS.3.3.

Replacement and maintenance of each of these installations (Pump Station PS-A and PS-B) will be the responsibility of the Contractor and will be evaluated on a monthly basis by the Engineer.

The description of the Works given above is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract.

##### PS-3.1 EXISTING SITES:

The locations of the site are shown on the map. The site, Farm Nr: (17/183, 8/283 & RE/283), is located on Polkadraai Road/ Adam Tas Road (R310) as one enters Stellenbosch. The investigated

site is located between Kuils River and Stellenbosch. The Stellenbosch Quarantine Station is located  $\pm 3$ km West from the Stellenbosch town centre and South of the R310 Road.

### **PS-3.2 EXISTING FACILITIES:**

The following infrastructure is a summary of the existing facilities at the various locations involved in the Contract.

#### **PS-3.2.1 ASSET REGISTER FOR STELLENBOSCH QUARANTINE STATION:**

The site consists of various facilities, as listed below; The premises of Stellenbosch Quarantine are divided into two portions, namely Block A and Block B. The North Eastern (Block A) portion contains the following buildings; admin offices, laboratories, workshops and security. The South Western and Southern portion form part of Block B which is housing units for staff. The location of Block A and B are identified.

### **PS-3.3 CONSTRUCTION WORK:**

The emphasis of this Contract is repairs and upgrade construction work of the sewer system. The items allowed for in the Scope of Works will only be executed upon instruction from the Engineer when so required and when necessary.

#### **PS-3.3.1 Description of Construction Work:**

- The existing network is a combination of vitro clay pipes and uPVC pipes which have many defects as indicated within the CCTV investigation report. All the site's internal mainline reticulation within Block A and B (excluding building reticulation) be relined using trenchless CIPP method and in addition point repairs, where required. The diameter of the pipes to be installed should be a minimum 110mm diameter.
- Increase outgoing rising main size
- Increase the pump sizes

#### **PS-3.6 ROUTINE MAINTENANCE WORK:**

Not Applicable

### **PS-4 CONSTRUCTION AND MANAGEMENT REQUIREMENTS:**

The Contractor shall be responsible for construction works, as set out in the Bill of Quantities and as per relevant specification. The Contractor shall be responsible for all management to do work as indicated in SANS 1200.

### **PS-5 CONSTRUCTION PROGRAMME:**

When drawing up his construction programme, the Contractor shall take into account the time for completion for the corrective new replacement, maintenance and construction work of each installation as indicated in Clause 5.5.1 as amended in Part 1 of the Contract Data.

If the programme submitted by the Contractor in terms of Clause 5.6.1 of the General Conditions of Contract, has to be revised because the Contractor is falling behind in his programme, he shall submit a revised programme of how he intends to regain lost time to ensure practical completion of works of each installation, and completion of the Works within the periods stipulated Part 1 of the Contract Data or within a granted extension of time and also to ensure that other contractors have access to the site to start their work on the dates as shown in the original programme. Proposals to increase the tempo of work must incorporate positive steps to increase production either by more labour and plant on the Site, or by using the available labour and plant in a more efficient manner.

Instructions by the Engineer to expedite progress shall not be the subject of additional compensation to the Contractor unless the instruction explicitly states that the Contractor is entitled to additional compensation and cites the amount of such compensation or the basis on which it is to be determined.



Failure on the part of the Contractor to submit or to work according to the programme or revised programmes shall be sufficient reason for the Engineer to take steps as set out in Clause 9.2 of the General Conditions of Contract as amended in Part 1 of the Contract Data.

The approval by the Engineer of a programme shall have no contractual significance other than that the Engineer will be satisfied if the work is carried out according to the programme. The said approval shall not limit the right of the Engineer to instruct the Contractor to vary the programme if necessary. The Contractor is also referred to Clause PS 8 and Clause PS 12 when preparing this programme.

**NOTE:**

For reasons of limited access, it may not be possible to carry out the corrective maintenance work on some of the installations in parallel with corrective maintenance work on other installations

The Contractor shall organise his work in such a manner as to cause the minimum inconvenience to the User Client's personnel and operations.

The Contractor submits a first programme to the Client for acceptance within four weeks of access to the site.

The Contractor shows on each programme which he submits for acceptance:

- the starting date, access date/s and the Completion Date,
- planned Completion,
- the order and timing of the operations which the Contractor plans to do in order to provide the Works,
- the order and timing of the work of the Client and others as last agreed with them by the Contractor or, if not so agreed, as stated in this Scope,
- the dates when the Contractor plans to complete work needed to allow the Client and others to do their work,
- provisions for
  - float,
  - time risk allowances,
  - health and safety requirements and
  - the procedures as set out in this contract,
- the dates when, in order to provide the works in accordance with this programme, the Contractor will need
  - access to a part of the site, if later than its access date,
  - acceptances,
  - Plant and Materials and other things to be provided by the Client and,
  - information from others,
- for each operation, a statement of how the Contractor plans to do the work identifying the principal Equipment and other resources which he plans to use and
- other information which this Scope requires the Contractor to show on a programme submitted for acceptance

This programme must be in the form of a sufficiently detailed bar chart (Gantt chart) or similar acceptable time/activity form as per the Scope reflecting the proposed sequence and rate/duration of the various activities and the quantities of work that will be carried out every week under each of the items comprising the work scope for this contract. Working hours for the execution of this contract must be indicated, and the programme must clearly indicate project milestones where applicable and the critical path of the activities through the work schedule. It is required that the software required for the preparation and facilitation of the works programme be done in MS Projects (2019 or later versions).

**PS-6 SITE FACILITIES AVAILABLE:**

**PS-6.1 CAMPSITE AND STORE ROOM:**

**(a) Stellenbosch Quarantine Station**

A Site Establishment area is available and will be indicated to the Contractor. The Contractor must provide his own establishment facilities on site.



None of the existing service buildings may be used for storage. The Contractor must provide his own storeroom facilities for the duration of the Contract.

The facilities completed by the Contractor must comply with the South African National Building Regulations and Standards in all aspects.

#### **PS-6.2 WATER, ELECTRICITY AND SEWERAGE:**

(a) Water supply

Water wastage will not be tolerated and will be available at specific points not necessarily adjacent to working areas. The Contractor must make his own arrangements for water supply to the working areas. The Contractor must supply his own standard fittings to couple up at the points where water is available.

The usage of water by the Contractor will be measured. The Contractor shall supply metering devices. In case of water shortages, the Contractor will be responsible to make his own arrangements until such water shortages are resolved and reinstated to the Contractor.

In the event that water is not available on site, the Contractor shall supply at his own cost water for testing of wet services and where necessary preventative maintenance.

The Contractor will be fined at the sanctioned amount determined by the Employer for the occurrences, for water wastage.

(b) Electrical power supply

Electrical power supply is available on the Site and will be free of charge. The Contractor must make his own arrangements for a connection to the electrical power supply. The Contractor will be responsible, at his own cost, for the distribution of electricity for construction and domestic use. The usage of electricity by the Contractor will be measured. The Contractor shall supply metering devices.

(c) Sewerage connection

Chemical toilets shall be used.

**Note:** The Employer shall not be held responsible for any losses or inconvenience due to a disruption in the supply of water and/or electricity.

### **PS-6.3 PARKING FACILITIES:**

Parking facilities are available on the Site.

### **PS-7 SITE FACILITIES REQUIRED:**

#### **PS-7.1 GENERAL:**

The Engineer and/or his representative will use the existing facilities available.

The Contractor shall provide on the Site, for the duration of the repair phase and for the exclusive use of the Engineer and/or his Representative (as applicable), the various facilities described hereunder. The duration of the repair phase is stated in Part 1 of the Contract Data. All such facilities shall be provided promptly on the commencement of the Contract and failure on the part of the Contractor to provide any facility required in terms of this specification shall constitute grounds for the Engineer to withhold payment of the Contractor's Preliminary and General items until the facility has been provided or restored, as the case may be.

#### **PS-7.2 OFFICE ACCOMMODATION:**

The Contractor shall provide within its own site establishment facilities, a suitably furnished office or other venue capable of comfortably accommodating a minimum of twelve (12) persons at site meetings. The Engineer shall be allowed free use of such venue for conducting any other meetings concerning the Contract at all reasonable times.

At the onset of the contract the Engineer will identify the site at which the meeting venue is to be provided.

Irrespective the type of material of which the venue is constructed, the Contractor shall ensure that the temperature inside the venue is always between 20°C and 24°C.

The site meeting venue shall further comply with and be furnished in accordance with the requirements of Subclause 3.2 of SANS 1200 AB. The Contractor shall maintain the venue/office(s) in accordance with the requirements of Subclause 5.2 of SANS 1200 AB.

Such a venue accommodation shall be provided within the Contractor's site establishment facilities.

#### **PS-7.3 CARPORTS (NOT REQUIRED):**

The Contractor shall provide on Site *one (1)* carport with parking for two vehicles for the exclusive use of the Engineer. At the onset of the contract the Engineer will identify the site at which the carport is to be provided.

#### **PS-7.4 SITE MEETING VENUE:**

The Engineer and/or his representative will use the existing facilities available at Stellenbosch Quarantine Station if available.

#### **PS-7.5 CONTRACT NAME BOARDS:**

The Contractor shall provide, erect and maintain 1 (one) contract nameboards at such position and location as are directed by the Engineer, in accordance with the requirements set out in SANS 1200 AB (as amended) and according to the nameboard drawing contained in the document.

The Contractor shall before, ordering or manufacturing any such contract nameboards, obtain the Engineer's written approval in respect of all names and wording to appear on the contract nameboards.

The specification for such nameboard will be provided by the Employer, which may change from time-to-time.

#### **PS-7.6 TELEPHONE FACILITIES:**

The Contractor shall, in accordance with the requirements of Subclause PSAB 4.1 of the Project Specifications, provide on-site, the following telephone facilities for the use of the Engineer and his Representative:

(a) Telkom telephones

(i) Number of separate telephone lines (numbers): Nil

(ii) Number of telephone handsets required: Nil

(b) Cellular telephones

Not required

#### **PS-7.5 COMPUTER FACILITIES (NOT REQUIRED):**

The Contractor shall provide new computer facilities together with the specified software installed, for the exclusive use of the Engineer and his staff, in accordance with the requirements of SANS 1200 AB (as amended).

#### **PS-7.6 TELEFAX FACILITIES:**

Not required.

#### **PS-7.7 ELECTRICITY SUPPLY FOR THE ENGINEER (NOT REQUIRED):**

All electricity supply to the Engineer's office(s) and laboratory (if applicable), whether provided by the Contractor by way of a reticulated supply from a local authority or by way of on-site generators, shall be regulated by the Contractor to within limits such as to prevent damage occurring to any electrical plant and equipment provided by the Contractor or by the Engineer, as a result of fluctuations in the electrical current supplied.

#### **PS-7.8 HOUSING FOR ENGINEER'S REPRESENTATIVE (NOT REQUIRED):**

The Engineer will provide housing for the Engineer's representative. The housing and the relevant services and local authority rates and charges shall be paid for by the Contractor on the written instruction of the Engineer, from an amount included in Schedule 1 of the Bill of Quantities for this purpose.

The Contractor is entitled to a percentage of the value of each payment to the Engineer to cover his expenses in this regard.

#### **PS-7.9 CALL CENTRE (NOT REQUIRED):**

A call centre has been established by the Employer to log, route and monitor incoming breakdown calls.

The call centre is administered centrally and is responsible for the routing of breakdown calls on each contract at the installation. The call centre is operational 24 hours per day, 365 days per year. The Contractor shall be responsible for the fixed and variable call costs incurred by the call centre for a relevant contract. The Contractor shall be reimbursed from an amount included in the Bill of Quantities, on written instruction of the Engineer. Operating costs of the call centre will be calculated, based on the number of breakdowns logged per contract, and invoiced on a monthly basis.

The Contractor is entitled to a percentage of the value of each payment in relation to the call centre to cover his expenses in this regard.

## **PS-8 REQUIREMENTS FOR ACCOMMODATION OF TRAFFIC:**

Requirements for the accommodation of traffic shall be in accordance with Clause 8.1. of the GCC (2015). Where road surfaces and other components/ services of/ within roads are repaired, the Contractor shall plan his work in such a way that existing traffic volumes are accommodated on the same road until work is complete. No service roads shall be constructed for purposes of accommodation of traffic during corrective maintenance.

Accommodation of Traffic to comply with all applicable statutory requirements including the latest edition of The Southern African Development Community Road Traffic Signs Manual (SADC-RTSM) and The South African Road Traffic Signs Manual (SARTSM).

## **PS-9 OCCUPATIONAL HEALTH AND SAFETY:**

The Contractor shall be required to comply with the Occupational Health and Safety Act 85 of 1993, Construction Regulations 2014 and related regulations. Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.

The proposed type of work, materials to be used and hazards likely to be encountered on this Contract are detailed in the Scope of Work, Pricing Data and Drawings. The Employers' health and safety specifications (subclause 4.1.1) of the regulations will be issued separately.

The Contractor shall in terms of subclause 2.5.1 provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the Employer.

The Contractor shall at all times be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

A payment item is included in the Bill of Quantities to cover the Contractor's cost for compliance with the OHS Act and the abovementioned Construction Regulations 2014.

Access to the Works will be given after OHS Plan is approved.

## **PS-10 ADVERSE PHYSICAL CONDITIONS:**

Adverse physical conditions shall be managed in terms of additional Clause 2.2 of the GCC (2015).

## **PS-11 FEATURES REQUIRING SPECIAL ATTENTION:**

### **PS-11.1 INSTALLATIONS AT FACILITIES:**

The installations at all of the Stellenbosch Quarantine Station's facilities shall be carefully checked for damage and all damages shall be listed and discussed with the Engineer before commencement of corrective maintenance and maintenance work. The Contractor shall present copies of all correspondence in this regard for discussion at the following site meeting.

### **PS-11.2 SECURITY:**

#### **(a) Restrictions on movement and limited access**

The Contractor's personnel, vehicles and equipment will be restricted to areas of construction only. The Contractor shall comply with any requirements that the Engineer may have in this regard and shall take note that for security reasons the access to some areas, may be limited.

#### **(b) Security check on personnel**

The Employer may require the Contractor to have his personnel or a certain number of them security-classified, if so, required by any competent authority.

In the event of the Employer or any competent authority requiring the removal of a person or persons from the site for security reasons, the Contractor shall do so forthwith and the Contractor shall thereafter ensure that such person or persons are denied access to the site and/or to any documents or information relating to the work. In such circumstances the Contractor shall indemnify the Employer and the Engineer and shall hold the Employer and the Engineer harmless against any and all claims of whatever nature arising.

c) Access cards to security areas

Should the work fall within a security area, the Contractor must obtain from the Engineer access cards for his security-cleared personnel and employees who work within such an area. The Contractor must comply with any regulations or instructions issued from time to time, concerning the safety of persons and property, by the BCOCC or SA Police services.

**PS-11.3 SITE TO BE KEPT CLEAN:**

During progress of the work and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

All redundant materials, rubbish and waste arising from the work must be removed from the Site at the Contractor's cost and the site and buildings left clean and tidy.

**PS-11.4 FACILITIES TO OTHER CONTRACTORS:**

In addition to the requirements of Clause 4.8.1 of the General Conditions of Contract the Contractor must make allowances for other Contractors on the Site. This may involve adapting his programme to accommodate the work of other contractors and ensuring access to their sites along prescribed routes over the Site of this Contract.

**PS-11.5 SUBCONTRACTORS:**

In addition to the requirements of Clause 4.4 of the General Conditions of Contract as amended in Part 1 of the Contract Data, the Contractor shall be responsible for work carried out by subcontractors on his behalf. The Engineer will not liaise directly with such subcontractors. Problems related to payments, programming, workmanship, etc., shall be the responsibility of the Contractor and the subcontractor, and the Engineer will not become involved.

**PS-11.6 SANS SPECIFICATIONS AND CODES OF PRACTICE:**

All reference in this document to South African Bureau of Standards specifications and codes of practice, or any other standard specifications or codes of practice, including National Building Regulations, shall be deemed to be references to the latest issues of such specifications and codes.

**PS-11.7 MATERIALS:**

The monthly payment for materials brought onto the Site will only be applicable for contracted works.

Unless otherwise instructed in writing by the Engineer, all proprietary materials are to be used, mixed, applied, fixed, etc. strictly in accordance with the manufacturer's recommendations.

**PS-11.8 BORROW PITS:**

There will be no designated borrow pits. The Contractor shall utilize the material on Site or import material from commercial sources.

**PS-11.9 PROTECTION OF FURNITURE AND EQUIPMENT:**

The Contractor shall be responsible for moving the furniture and equipment in order to provide working space for his personnel. The programme shall be drawn up in such a way as to keep the movement of furniture and equipment to the very minimum and the Contractor shall be solely responsible for any damage to furniture or equipment.



#### **PS-11.10 TESTING AND QUALITY CONTROL:**

The Contractor shall engage the services of an approved independent laboratory or other institution as applicable for quality testing, to ensure that his work complies with the Specifications.

**No separate payment will be made for such testing, the cost of which will be deemed to be included in the Contractor's rates bid for the items of work that require testing in accordance with the Specifications.**

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality-control system and provide experienced engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the Works at all times.

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates bid for the related items of work.

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

On completion and submission of every part of the work to the Engineer for examination, the Contractor shall furnish the Engineer with the results of the relevant tests to indicate compliance with the Specifications.

#### **PS-11.11 DESIGN & REPAIR EXISTING PUMP SUMP TO DETAILS AS ORDERED:**

After assessment of the existing sumps (PS-A & PS-B) by the Contractor and Engineer recommended repair will be conducted by the Contractor.

#### **PS-12 CERTIFICATES OF PAYMENT:**

The statement to be submitted by the Contractor in terms of Clause 6.10.1 of the General Conditions of Contract shall be prepared in accordance with the standard payment certificate prescribed by the Engineer and shall comprise at least two sets of A4-size paper copies.

All costs for the preparation and submission of the statements shall be borne by the Contractor.

Monthly report submitted with the statement for payment to the Engineer for compliance to EPWP requirements. This report shall be submitted in the provided format and electronically (Excel® format) stating the following details of the local labour utilised on the project for the current month:

- Worker's full name
- Worker's ID Number
- Work performed by the worker
- Rate per hour/day
- Hours worked
- Total paid for month

#### **PS-13 CONSTRUCTION IN RESTRICTED AREAS:**

Working space in certain areas may be restricted. The construction method used in these restricted areas largely depends on the Contractor's Plant. However, the Contractor must note that measurement and payment will be according to the specified cross-sections and dimensions irrespective of the method used, and that the rates and prices submitted will be deemed to include full compensation for difficulties encountered while working in restricted areas. No extra payment nor any claim for payment due to these difficulties will be considered.

#### **PS-14 DRAWINGS:**

The Contractor will, in terms of Clause 5.9.1 of the General Condition of Contract, be provided free of charge with three paper prints of each drawing issued to him.

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

Only figured dimensions shall be used and drawings shall not be scaled unless required by the Engineer. The Engineer will provide the dimensions that may have been omitted from the Drawings when request by the Contractor.

#### **PS-15 LEGISLATION:**

(a) Changes in legislation

Reference in the General Conditions of Contract and in any other standard document forming part of this Contract to legislation which has been amended or superseded by other legislation since the most recent publication of such standard document, shall be deemed to be a reference to the amended or replacement legislation.

Such amended or replaced legislation shall be applicable during the Contract Period provided the amendment or replacement occurred more than 28 days before the closing date for bids in terms of Clause 6.8.4 of the General Conditions of Contract as amended in Part 1 of the Contract Data.

#### **PS-16 INSURANCE AMOUNTS:**

The amounts for which the Contractor must ensure the Works in terms of Clause 8.6 of Part 1 of the Contract Data are stated in the Agreement.

#### **PS-17 TIMES FOR COMPLETION:**

Times for completion of work to installations as well as the maintenance down-time for different types of breakdowns are given under Clause 5.5.1 of Part 1 of the Contract Data. The time for completion will start on the date of access to an installation.

#### **PS-18 PRACTICAL COMPLETION:**

- (a) The Contractor shall be entitled in terms of Clause 5.14.1 of the General Conditions of Contract to receive a Certificate of Practical Completion when the Works to be executed under the Contract have been completed to the stage where:
- (i) all materials which are required to be replaced have been replaced and installed to the satisfaction of the Engineer; and
  - (ii) all corrective work have been completed.
- (b) The Engineer shall issue to the Contractor and the Employer a Certificate of Completion in terms of Clause 5.14.4 of the General Conditions of Contract except where a thirty-day commissioning period, as stated in paragraph (c) below, is applicable.
- (c) Where indicated at the end of this paragraph, the issuing of a Certificate of Practical Completion for a certain installation will be followed by a thirty-day commissioning period. The tasks of the Contractor during the thirty-day commissioning period are described in Additional specification SC: General Decommissioning, Testing and Commissioning Procedures. After the completion of the thirty-day commissioning period to the satisfaction of the Engineer, a certificate of completion will be issued to the Contractor as described in Clause 5.14.4 of the General Conditions of Contract.



## **PS-19 PENALTIES:**

Penalties in terms of Clause 5.13.1 of the General Conditions of Contract for late completion of corrective maintenance work to different installations are given under Clause 5.13.1 of Part 1 of the Contract Data. Payment reductions for exceeding the maintenance down-time for different types of breakdowns are given under the applicable pay items in the Bill of Quantities for Additional specifications SA: General Maintenance. Penalties will run concurrently where applicable.

### **(a) Penalty for failing to meet undertakings and/or conditions pertaining to Targeted Procurement for the award of points**

If the bid adjudication points awarded to the Contractor are found to be based on incorrect or false information or the conditions pertaining to the award of points are not met and the Contractor fails to substantiate that such failure is due to a reason acceptable to the Employer as being beyond the Contractor's control, the Contractor shall be liable for and pay to the Employer, an amount determined in accordance with clause 2 and subject to clause 1 both of the Works Information, Part 2 of the Conditions of Bid.

### **(b) Payment reduction for non-performance**

If the Contractor shall fail to rectify an emergency maintenance breakdown, an ordinary maintenance breakdown and damage breakdown within the time as stipulated in Additional Specifications SA: General Maintenance, the Contractor shall be liable to the Employer for the sum/sums stated in the Bill of Quantities for Additional Specification SA as a payment reduction for every hour/day down-time counting from the hour/day the breakdown was reported to the Contractor until the day it was corrective maintenance. These payment reductions will be cumulative and will run concurrently.

Where indicated above that the money will be recovered from the Contractor by means of payment reductions, the fixed negative amounts in the rate column of the Bill of Quantities will be used to reduce payments due to the Contractor.

The imposition of such payment reductions shall not relieve the Contractor from his obligation to complete the Works or from any of his obligations and liabilities under the Contract.

### **(c) Application of penalties to be accumulative**

The imposition of all penalties in terms of this clause shall be accumulative and shall not relieve the Contractor from his obligation to complete the Works or from any of his obligations and liabilities under the Contract.

## **PS-20 NON-WORKING DAYS AND HOURS:**

Whenever any special non-working days stated in Clause 5.8 of Part 1 of the Contract Data fall within the days allowed or stipulated in the Contract of the Contract Data, such special non-working days shall also be excluded from the calculation of the number of working days concerned.

The Contractor shall not work on any statutory public holidays or on any public holidays declared by the Government to be statutory non-working days, except for work related to operation work, corrective maintenance fatal and emergency breakdowns which influences the functionality of any of the installations.

Working hours might be limited and the Contractor shall work in close cooperation with the User Client and Engineer in this regard. Working hours for the different installations are indicated at the end of this clause where applicable.

The Engineer shall be entitled at any time during the Contract, to vary the normal working hours specified in the Bid documents, including increasing or decreasing the total number of hours per day during which the Contractor may execute the Works or specific portions thereof.

If any variation by the Engineer of the normal working hours specified in the Bid Documents should result in an increase or a decrease in the total number of hours per week during which the Contractor is permitted to execute the Works or any particular portions of Works, then the time allowed in the Contract for the completion of the respective part of the Works to which the varied normal working hours apply shall be adjusted proportionately in relation to:

- a) the remaining time allowed for completion of the specific part or parts of the Works; and
- b) the extent of the variation in the total normal working hours per week.

### 3.5.2 AMENDMENTS TO THE STANDARD AND PARTICULAR SPECIFICATION:

The following variations and additions to the SANS 1200 Standardized Specifications referred to in the last clause of Portion 1 apply to this Contract. The prefix PS indicates an amendment to SANS 1200. The letters and numbers following these prefixes respectively indicate the relevant Standardized Specification and clause numbers in SANS 1200.

#### **PSA GENERAL**

##### **PSA 1 SCOPE**

*REPLACE SUBCLAUSE 1.1 WITH THE FOLLOWING:*

"1.1 This specification covers requirements, principles and responsibilities of a general nature that are normally applicable to all Civil Engineering Contracts, as well as the requirements for the Contractor's establishment on the Site."

##### **PSA 2 INTERPRETATIONS**

###### **PSA 2.3 DEFINITIONS**

###### **(a) General**

*ADD THE FOLLOWING DEFINITIONS:*

"General conditions: The General Conditions of Contract specified for use with this Contract, and the Contract Data.

Specified: As specified in the standardized and standard specifications, the Drawings or the Scope of Work.

Permanent Works: as defined in Clause 1.1.1.22 of the General Conditions of Contract shall for the purpose of this Contract, be regarded as the corrective maintenance work and routine maintenance work as defined in Subclause SA 02.06 of Additional Specification SA: General Maintenance."

###### **(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 variation in the value of the Contract price or the Contract Time of Completion.

Time-related charge: A charge, the amount of which varies in accordance with the Time for Completion of the corrective maintenance work, 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 corrective maintenance 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:*

"All manufactured materials supplied shall be new materials unless the contrary is specified. All materials specified in accordance with SANS Specifications shall bear the SANS mark, whether so specified or not. All materials to comply with the latest edition of COTO and the contractor is to allow for sampling by the Engineer at an accredited laboratory at the contractor's cost."

*ADD THE FOLLOWING SUBCLAUSE:*

### **PSA 3.3 ORDERING OF MATERIALS**

The quantities set out in the Bill 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 4 PLANT**

### **PSA 4.2 CONTRACTOR'S OFFICES, STORES AND SERVICES**

*ADD THE FOLLOWING PARAGRAPH BEFORE THE FIRST PARAGRAPH:*

"The Contractor's construction camp shall be fenced off and shall contain all offices, stores, workshops, testing laboratories, toilet facilities, etc. The camp shall always be kept in a neat and orderly condition.

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

*ADD THE FOLLOWING TO THE SECOND PARAGRAPH:*

"One chemical toilet per 10 workmen shall be provided and must be screened from public view and its use shall be enforced.

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

## **PSA 5 CONSTRUCTION**

### **PSA 5.4 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES**

*REPLACE THE HEADING AND THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:*

#### **PSA 5.4 LOCATION AND PROTECTION OF EXISTING SERVICES**

##### **PSA 5.4.1 Location of existing services**

Before underground or excavation work is carried out, the Contractor shall ascertain the presence and position of all services likely to be damaged or interfered with by his activities. He shall obtain up-to-date plans from the Engineer for this purpose, showing the position of services in the area where he intends to work. As services can often not be reliably located from such plans, the Contractor shall determine the exact position of such services by means of suitable detecting equipment and afterwards by careful hand excavation where necessary in order to expose the services at the positions of possible interference by his activities. This

procedure shall also be followed in respect of services not shown on the plans but believed to be present.

All such services, the positions of which have been located at the critical points, shall be designated as 'known' services and their positions shall be indicated on a separate set of Drawings, a copy of which shall be furnished to the Engineer.

While he is occupying the Site, the Contractor shall be liable for all damage caused by him to known services as well as for consequential damage, whether caused directly by his operations or by the lack of proper protection.

#### **PSA 5.4.2 Protection during corrective maintenance and maintenance work**

The Contractor shall exercise all the necessary care to prevent damage to known services during corrective maintenance and maintenance work. Where applicable, major excavating equipment and other Plant shall not be operated dangerously close to these services. Where necessary, excavation in close proximity to these services shall be carefully carried out with suitable hand tools, excluding picks wherever their use could damage the services. No additional payment will apply to such more difficult work.

Services left exposed shall be suitably protected from damage.

#### **PSA 5.4.3 Alterations and corrective maintenances to existing services**

Unless the contrary is clearly specified or ordered, the Contractor shall not carry out alterations to existing services. When this is necessary, the Contractor shall 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.

When existing services are damaged by the Contractor, he shall immediately inform the Engineer, or when this is not possible, the relevant authority, and obtain instructions as to who should carry out corrective maintenances. In urgent cases the Contractor shall take the necessary steps to minimize damage to and interruption of the service. No corrective maintenances of telecommunication cables or electric power lines and cables shall be attempted.

The Employer will accept no liability for damages due to a delay in having such alterations or corrective maintenances affected. The Contractor shall provide all reasonable opportunity, access and assistance to persons carrying out alterations or corrective maintenances of existing services."

*ADD THE FOLLOWING SUBCLAUSE:*

#### **PSA 5.9 SITE MEETINGS**

The Contractor will be required to attend regular site meetings, normally held once a month to discuss general progress, quality of work, problems, claims, payments, etc., but not matters concerning the day-to-day running of the Contract."

#### **PSA 6 TOLERANCES**

*ADD THE FOLLOWING SUBCLAUSE:*

##### **"PSA 6.4 GENERAL**

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 'authorized' 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 'authorized' dimensions.

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

When the work is not constructed in accordance with the 'authorized' 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 'authorized' dimensions, and where the actual dimensions are less than the 'authorized' dimensions minus the tolerance allowed, quantities for payment shall be based on the actual dimensions as constructed."

## **PSA 8 MEASUREMENT AND PAYMENT**

### **PSA 8.1 MEASUREMENT**

#### **PSA 8.1.2 Preliminary and general items or section**

##### **PSA 8.1.2.2 Bid sums**

*REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:*

"The Contractor's bid sums under items PSA 8.3 and PSA 8.4 shall collectively cover all charges during the corrective maintenance phase for

- risks, costs and obligations in terms of the General Conditions of Contract, the Contract Data and of this Standardized Specification, except where provision is made in these Project Specifications to cover compensation for any of these items;
- 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 permanent or temporary work;
- providing facilities on Site for the Contractor's personnel, including offices, storage facilities, workshops, ablutions, for providing services such as water, electricity, sewerage, sewage and rubbish disposal, for access roads and all other facilities required, as well as for the maintenance and removal on completion of the Works of these facilities and the cleaning-up of the camp site on completion of the Works; providing facilities for the Engineer and his staff as specified in SANS 1200 AB and in these Project Specifications" and the scope of works in PS 7 and PSAB.

#### **Monthly Reporting**

The contractor shall maintain daily records with regard to the workers employed and shall, on a monthly basis, submit a report to the Engineer in the prescribed format. Compulsory indicators such as the project budget, actual project expenditure, number of job opportunities created, demographic characteristics of workers employed, minimum daily wage rate, number of person-days of employment created and number of training person-days, shall be included in said report, all as defined in the "Guidelines for the Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP)"

Provision for pricing of compliance with the aforementioned is made under this clause and it is explicitly pointed out that all requirements in respect of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained.

The contractor shall comply with all the requirements of the "Code of Good Practice for Employment Conditions of Work for Special Public Works Programmes" issued in terms of the "Basic Conditions of Employment Act, 1997 (Act 75 of 1997)" and the related "Ministerial Determination", for the employment of locally employed temporary workers on a labour-intensive infrastructure project under the Expanded Public Works Programme (EPWP).

The contractor shall maintain daily records with regard to the workers employed and shall, on a monthly basis, submit a report to the Engineer in the prescribed format, Compulsory indicators such as the project budget, actual project expenditure, number of job opportunities created, demographic characteristics of workers employed, minimum daily wage rate, number of person-days of employment created and number of training person-days, shall be included in said report, all as defined in the "Guidelines for Implementation of Labour-Intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP)".

Provision for pricing of compliance with the aforementioned is made under this clause and it is explicitly pointed out that all requirements in respect of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained

1. Copies of labour contracts with main contractor
2. Certified copies of labour ID's not older than 3 months
3. Timesheets of labours
4. Proof of labour payment into bank account
5. Labour reporting template will be provided

## **PSA 8.2 PAYMENT**

### **PSA 8.2.1 Fixed-charge and value-related items**

*REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:*

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

Eighty per cent (80%) of the sum bid will be paid when the facilities have been provided and approved. The remaining 20% will be paid when the corrective maintenance works have been completed, the facilities have been removed and the camp site has been cleared and cleaned.

### **PSA 8.2.2 Time-related items**

*REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:*

"Subject to the provisions of Subclauses 8.2.3 and 8.2.4, payment under item 8.4.1 (time-related item) will be made monthly in equal amounts as per the rate tendered per month for the 8-month contract period.

## **PSA 8.3 BILLED FIXED-CHARGE AND VALUE-RELATED ITEMS**

*REPLACE THE ITEMS WITH THE FOLLOWING:*

**"PSA 8.3.1 Fixed preliminary and general charges ..... Unit : Sum**

**PSA 8.3.2 Value-related preliminary and general charges..... Unit : Sum**

The sums bid shall include full compensation for all fixed and value-related preliminary and general charges as described in Subclause PSA 8.1.2.2. Payment will be made as described in Subclause PSA 8.2.1."

## **PSA 8.4 BILLED TIME-RELATED ITEMS**

*REPLACE THIS ITEM WITH THE FOLLOWING:*

**"PSA 8.4.1 Time-related preliminary and general charges:**

(a) Stellenbosch Quarantine Station ..... Unit: Month

The sums bid shall include full compensation for all time-related preliminary and general charges as described in Subclause PSA 8.1.2.2. Payment will be made as described in Subclause PSA 8.2.2.



**NOTE:** The total amount bid for items PSA 8.3.1, PSA 8.3.2 and PSA 8.4.1 shall not exceed 15% of the total amount bid the work, excluding value-added tax.

**PSA 8.6 PRIME COST ITEMS**

*REPLACE THIS ITEM WITH THE FOLLOWING:*

**"PSA 8.6 PRIME COST SUMS:**

(a) Description of prime cost sum ..... Unit: PC Sum

(d) Charge required by Contractor on subitem (a) above ..... Unit: %

The Prime Cost Sum provided under subitem (a) in the Bill of Quantities will be expended in accordance with Clause 6.6.2 of the General Conditions of Contract.

The bid percentage under subitem (b) will be paid to the Contractor on the value of each payment made to the Engineer.

**PSA 8.8 TEMPORARY WORKS**

*REPLACE ITEM 8.8.4 WITH THE FOLLOWING:*

**"PSA 8.8.4 Location and protection of existing services:**

**PSA 8.8.4.1 Provision of detecting devices for:**

(a) Water and sewer pipes .....Unit : Sum

(b) Electrical and other cables .....Unit : Sum

The bid sums shall cover the cost of providing and operating suitable equipment for as long as it is needed to locate all the existing services likely to be affected by the construction activities. Alternatively, an approved specialist firm may be employed to carry out the work.

**PSA 8.8.4.2 Hand excavation necessary for locating and exposing existing services in all material:**

(a) In roadways .....Unit: m<sup>3</sup>

(b) In all other areas .....Unit: m<sup>3</sup>

The rates shall cover the cost of excavating by means of hand tools within authorised dimensions, for all precautionary measures to protect the services from damage during excavation and backfilling, and for subsequent backfilling and compacting. Compaction of material in all areas except in roadways shall be to 90% of the modified AASHTO density.

The rate for hand excavation in roadways shall include compensation for compacting excavated or selected backfill material to 93% of modified AASHTO density.

The bid rates shall also include for keeping excavations safe, for dealing with surface and subsurface water, for removing surplus excavated material from the Site, for transporting all material, and for supplying adequate supervision during both excavation and backfilling operations."

*ADD THE FOLLOWING ITEMS:*

**"PSA 8.9 ADDITIONAL TESTS:**

(a) Additional tests required by the Engineer ..... Unit: PC Sum

(b) Attendance and profit ..... Unit: %

An amount has been allowed in the Bill of Quantities under subitem (a) to cover the cost of additional tests required by the Engineer. The Engineer will have the sole authority to spend the amount or part thereof.

The bid percentage under subitem (b) will be paid to the Contractor on the value of each payment made to the testing authority.

Note in connection with subitem (a):

The Contractor is responsible for both the cost of normal testing as described in Sub clause PS 8.10 in portion 1 of the Project Specifications and for the cost of any additional test that indicates that the Specifications have not been complied with.

#### **PSA 8.10 SECTIONAL FENCING FOR THE PROTECTION OF THE WORKFORCE** Unit: m

The bid rate shall include full compensation for the supply, delivery, initial erection and finally removal from the site of the sectional fencing. The cost to move the fencing will not be paid for separately but shall be deemed to be included in the rate bid.

#### **PSA 8.11 MAINTENANCE MATERIAL:**

Supply and deliver maintenance material to the site:

(a) Description of type of service for which material is needed:

- (i) Description of specific material ..... Unit: litre, m<sup>2</sup>, m, number
- (ii) Etc., for other types of material.

(b) Etc. for other types of service

The unit of measurement shall be the litre, square meter, meter or number as applicable to each item ordered on the written instructions of the Engineer.

The bid rates shall include full compensation for supplying and delivering to the maintenance store(s) of the Employer on the Site of the Works each item as billed and shall include for all labour, material, waste and, transport.

A complete book keeping system with delivery notes and order "invoices" shall be kept by the Contractor and the cost thereof shall be deemed to be included in the rates bid for the various items.

The rates bid will be fixed for the full duration of the corrective maintenance and maintenance phases and shall be applicable to any quantity "ordered" irrespective of size, contents, volume of container or the number. The actual square meter size of the "ordered" items will be calculated to two decimal points for payment purposes. No "rounding-off" to the nearest square meter quantity will be allowed. It is expected that the maintenance material will be ordered in small quantities throughout the duration of the Contract."

#### **PSA 8.12 CALL CENTRE (NOT REQUIRED)**

(a) Call centre operating costs for breakdown calls logged ..... Unit: PC Sum

(b) Charge required by contractor on subitem (a) above ..... Unit: %

An amount has been allowed in the Bill of Quantities under subitem (a) to cover the cost of administrating breakdown calls logged through the call centre. The call centre will submit to the contractor a monthly invoice for breakdown calls logged and monthly subscription. The Contractor will be responsible for prompt payment of the invoice received from the call centre.

The bid percentage under subitem (b) will be paid to the Contractor on the value of each payment pertaining to the call centre to cover his expenses in this regard.

Payment to the Contractor will only become due upon submission of proof of payment to the Engineer.

**PSA 8.13 OCCUPATIONAL HEALTH AND SAFETY.....Unit: sum/month**

The bid rate shall include full compensation to the Contractor for compliance with all the requirements of the Occupational Health and Safety Act 85 of 1993, Construction Regulations 2014 and related regulations. Non-compliance with these regulations, in any way whatsoever, will be adequate reason for suspending the Works.

The proposed type of work, materials to be used and hazards likely to be encountered on this Contract are detailed in the Scope of Work, Pricing Data and Drawings. The Employers' health and safety specifications (subclause 4.1.1) of the regulations will be issued separately.

The Contractor shall at all times be responsible for full compliance with the approved plan as well as the Construction Regulations and no extension of time will be considered for delays due to non-compliance with the abovementioned plan or regulations.

**PSA 8.14 HOUSING FOR THE ENGINEER'S REPRESENTATIVE (NOT REQUIRED)**

- (a) Housing for Engineer's representative..... Unit: PC Sum  
b) Charge required by contractor on subitem (a) above .....Unit: %

The Engineer will provide housing for the Engineer's representative. The housing and the relevant services and local authority rates and charges shall be paid for by the Contractor on the written instruction of the Engineer, from an amount included in Section 1200 A of the Bill of Quantities for this purpose.

The Contractor is entitled to a percentage of the value of each payment to the Engineer to cover his expenses in this regard.

**PSAB ENGINEER'S OFFICE**

**PSAB 3 MATERIALS**

**PSAB 3.1 NAME BOARDS**

"The Contractor shall supply and erect at locations approved by the Engineer, the number of contract nameboards specified in Portion 1 of the Project Specifications, 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."

OR

The Contractor shall supply the number of overlays specified in Portion 1 of the Project Specifications.

**PSAB 3.2 OFFICE BUILDING(S)**

*REPLACE THE WORDS: "as scheduled" IN PARENTHESIS IN THE FIRST LINE OF SUBCLAUSE 3.2 OF SANS 1200 AB WITH: "as specified in Portion 1 of the Project Specifications";*

*AND REPLACE SUBCLAUSE 3.2(j) OF SANS 1200 AB WITH THE FOLLOWING:*

*"(j) a heater and fan / air-conditioning unit both of such capacity that the inside of the office(s) is always at a temperature of between 20°C and 24°C."*

*ADD THE FOLLOWING SUBCLAUSE IN CLAUSE 3:*

### **"PSAB 3.3 CAR-PORT (NOT REQUIRED)**

The Contractor shall construct the number of carports indicated in Portion 1 of the Project Specifications, for the sole use of the Engineer and his staff. Each car-port shall be constructed so that the vehicle parked under it is always protected against the direct rays of the sun. The carport area shall be at least 36 m<sup>2</sup> and the floor shall be covered with a layer of crushed stone to alleviate dusty and muddy conditions. The carport(s) shall be positioned so as to provide easy and convenient access to the Engineer's office."

### **PSAB 4 PLANT**

#### **PSAB 4.1 TELEPHONE (NOT REQUIRED)**

*REPLACE THE WORDS: "Department of Post and Telecommunications" WITH "Telkom" AND ADD THE FOLLOWING AT THE END OF SUBCLAUSE 4.1 OF SANS 1200 AB:*

*"In addition to a Telkom telephone and subject to satisfactory transmission and reception quality in the vicinity of the Site, the Contractor shall provide the number of cellular telephones and associated service contracts from a reputable cellular service provider, as specified in Portion 1 of the Project Specifications, for the exclusive use of the Engineer and his staff."*

*ADD THE FOLLOWING NEW SUBCLAUSES TO CLAUSE 4 OF SANS 1200 AB:*

#### **"PSAB 4.2 COMPUTER EQUIPMENT**

Where it is specified in Portion 1 of the Project Specifications that the Contractor shall provide computer equipment on site for the exclusive use of the Engineer and his staff, such computer hardware and software shall comply with the specifications set out in Subclauses PSAB 4.2.1 and PSAB 4.2.2 hereunder.

##### **PSAB 4.2.1 Computer hardware**

- (a) Computers

Not required

- (b) Printers (not required)

Printers shall, unless otherwise approved by the Engineer, be (Black and White) laser printers.

All computer hardware shall be provided complete with the requisite connecting cables and all inter-facing devices and software necessary for its efficient operation as an integral system.

##### **PSAB 4.2.2 Computer software (not required)**

The following software shall be properly installed on the computer, and the original licence agreements and disks shall be provided to the Engineer for safekeeping:

- (a) Microsoft Windows® 8 Professional 64-bit
- (b) MS-Office 2013 Professional

#### **PSAB 4.3 TELEFAX FACILITIES (NOT REQUIRED)**

Subject to the availability of Telkom lines, the Contractor shall provide and install in the Engineer's office referred to in Subclause PSAB 3.2, one plain paper fax machine for the exclusive use of the Engineer and his staff. The Contractor shall provide all consumables such as paper, and ink and toner cartridges as may be necessary for the proper operation of the fax machine.

#### **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 listed in Portion 1 of the Project Specifications.

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, the further survey equipment listed in Portion 1 of the Project Specifications, at all times when such is reasonably required by the Engineer and his staff for the purposes of the Contract."

#### **PSAB 5 CONSTRUCTION**

##### **PSAB 5.4 TELEPHONE**

*REPLACE THE CONTENTS OF SUBCLAUSE 5.4 OF SANS 1200 AB WITH THE FOLLOWING:*

##### **PSAB 5.4.2 Cellular telephones**

The Contractor shall advise the cellular service provider of any faults which develop in the cellular telephone service and/or the cellular telephone handsets and shall, in such circumstances, arrange for the earliest possible restoration of the said service.

The costs of any necessary corrective maintenances and/or the replacement of components to the handsets of the cellular telephones shall be for the Contractor's account.

The Contractor shall ensure that all accounts for cellular phone calls and the respective service contracts are promptly paid."

*ADD THE FOLLOWING NEW SUBCLAUSES TO CLAUSE 5 OF SANS 1200 SB:*

##### **"PSAB 5.6 COMPUTER EQUIPMENT**

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

The Contractor shall further provide at his own cost, all paper and black ink cartridges and other consumables reasonably required by the Engineer.

##### **PSAB 5.7 TELEFAX FACILITIES**

The Contractor shall advise Telkom promptly of any faults which develop in the telephone line service for the fax machine and shall, in such circumstances, arrange for the earliest possible restoration of the said service.

The Contractor shall promptly arrange for any corrective maintenance to or replacement of the fax machine as may prove necessary, and shall ensure that all accounts pertaining to the fax machine are promptly paid.

The Contractor shall further provide at its own cost, all paper, ink cartridges, toner kits and other consumables required for the operation of the fax machine.

##### **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 corrective maintenance or replaced at his own cost within 24 hours after notification by the Engineer's staff.



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

## **PS-TD CURED-IN-PLACE-PIPES (CIPP) RESIN IMPREGNATED FELT TUBE INVERSION**

### **PS-TD-1 SCOPE**

This particular specification covers -the general' construction requirements for the rehabilitation of pipelines by the installation of a resin impregnated flexible-tube, which is pressurized and cured to form a tight fit against the existing pipe.

The lining shall provide a continuous smooth surface throughout the entire •length of pipeline between manholes, with a neat fit to the internal wall of the host pipe.

The lining material shall have adequate abrasion and chemical resistance for the conveyance of raw sewage and shall be sufficiently strong to withstand the operation of cleaning. equipment and high-pressure water jetting during. routine maintenance of the pipeline. The finished lining shall, be free of wrinkles and. other, defects resulting from the release of thermal and/or mechanical stresses applied as part of the proprietary installation procedure.

### **PS-TD-2 SUPPORTING SPECIFICATIONS**

This specification including but not limiting to references the following specifications:

#### UK Water Industry Specification

- WIS 4-34-04 : Specification for Renovation of Gravity Sewers by Lining with Pipes of March 1995.
- WIS 4-34-02 : Specifications for Glass Fiber Reinforced Plastic (GRP) Sewer' Linings
- WRC : Water Research Centre, Sewerage Rehabilitation Manual, Volume 2, Edition 4 American Society for Testing and Materials

#### American Society for Testing and Materials

- ASTM F1216-09 : Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the 'Inversion and Curing of a Resin-Impregnated Tube
- ASTM D790 : Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
- ASTM D5813 : Standard Specification for Cured-In-Place Thermosetting Resin Sewer Piping systems
- ASTM D638 : Standard Test Method for Tensile Strength of Plastics

### **PS-TD-3 INTRODUCTION**

The rehabilitation shall be carried out using the Cured in Place Pipe (CIPP) Inversion Lining technology, consisting of the installation of, a resin-impregnated flexible tube shaped tightly to the original internal surface of the existing pipe, followed by a curing process based on hot water, steam, ultraviolet light or ambient light in accordance with the technical requirements stipulated hereinafter. The final product, shall extend the entire length of sections from manhole to manhole providing a continuous, tight-fitted, water-tight, corrosion resistant and structurally safe pipe.

### **PS-TD4 GENERAL APPROACH OF THE REHABILITATION OF THE SEWER MAIN**

#### **PS-TD4.1 Proprietary System**

This particular specification is a general specification for the Cured-in-Place-Pipe lining of pipelines. Cured-in-Place-Pipe systems are normally proprietary systems that have been developed by specialist manufacturers and installers. The Contractor shall use an approved system in accordance with this specification and in accordance with the approved Standards, Specifications, Codes and/or, Method Statements of the manufacturer and

installer. The specified lining system shall meet the specified structural and hydraulic performance specification. The Contractor shall be required to furnish written confirmation of compliance of the materials, manufacture, methods or installation.

Given that the sewers to be rehabilitated is in service, the cleaning, pipe preparation and relining works will have to be carried out in a sequential basis, one section of pipeline at a time comprised between manholes. It is envisaged that in order to enable the satisfactory execution of the impregnated tube inversion procedure, some sections of the pipeline subjected to continuous excessive and sometimes localized infiltration will require sealing of leaking pipe joints and/or installation of a pre-liner which is installed within the host pipe, before inverting the impregnated liner tube to prevent contamination of the uncured resin by excessive groundwater infiltration.

#### **PS-TD4.2 Work Sequence**

- Applying and obtaining construction wayleaves. Refer to list provided by the Employer's Agent/ Client.
- Liaison with Employer's Agent for diversions of each section of sewer.
- Coordination with the Employer's Agent to notify the residents with house connections in the section of pipeline to be rehabilitated to stop discharging wastewater until such a time as that section of sewer has been relined and the house connections have been repaired and reconnected.
- Implementation of traffic control measures for the work area and road crossings where required.
- Implementation of temporary by-pass around the section of pipeline to be rehabilitated.
- Plugging of pipe inlet(s) of upstream manhole and installation of pumping equipment and temporary sewage diversion main and starting of by-pass pumping.
- Cleaning of section of pipeline.
- Procuring and supplying the correct material for the CIPP (pre-liner and main structural line).
- Procuring all plant.
- Installation of step irons and manhole restoration as stated in the contract.
- Cleaning of section of pipeline and removal of obstructions, including cutting of protruding house connections.
- Removal from site of liquid, and solid wastes from cleaning operations in accordance with the approved environment management plan.
- CCTV inspection of the cleaned and prepared pipe sewer under over-pumping conditions.
- Installation of the cured in place relining system in accordance with this specification.
- Collection of CIPP sample(s) for testing and CCTV inspection.
- Reinstatement of connections and lateral branches in accordance with this specification.
- Acceptance of finished section or implementation of remedial actions, if required.
- Removal of plug at upstream manhole, removal of by-pass pumping equipment and pipes and restoration of service to house connections.

The restorations of manholes to be completed before CIPP installation commences and damages to manholes to be repaired upon completion. Further specifications are given in the project specifications PS-TD.

#### **PS-TD-5 MATERIALS**

##### **PS-TD-5.1 The Tube**

The tube shall consist of one or more layers of flexible needled felt or an equivalent non-woven or woven material or combination thereof, compatible with the resin to be used and capable of withstanding the installation pressures and curing temperatures inherent to the proprietary procedure, as well as the long-term loading requirements. The tube shall be capable to fit irregularities and out-of-roundness of the existing pipeline. To ensure close fit of the finished product to the host pipe wall, the Contractor shall make allowance for circumferential stretching during the inversion process. The wet-out tube shall have relatively uniform thickness so that when compressed at installation pressures will not be less than the calculated minimum design wall thickness.



The fabric tube shall, have an impermeable and flexible membrane that will contain the resin and facilitate vacuum impregnation and monitoring of the resin saturation during the wetting-out procedure and that will become the interior wall of the finished CIPP after inversion. The wall colour of the internal finished surface of the CIPP shall be a relatively light reflective colour, so that a clear examination via a CCTV inspection may be carried out effectively. The lining tube shall be manufactured to a size that when installed will fit the internal circumference and length of the host pipe. The seams in the lining tube shall be stronger than the un-seamed tube.

The tube must be calibrated per-meter and the meterage numerals must be visible at or about the crown of the new pipe once installed into the host pipe.

#### **PS-TD-5.2 Resin**

The resin system shall be a thermoset corrosion resistant polyester or vinyl ester system including all required catalysts, or an epoxy resin and hardener that is compatible with the inversion process so that when cured within the tube create a composite that satisfies the requirements of ASTM F1216 and ASTM D5813, the physical and chemical properties specified herein, and those which are to be utilized in the submitted and approved design of the CIPP as described in a subsequent section of this specification. The cured resin shall form a hard impermeable material. The Resin must be thermal setting, to be cured in the presence of water or steam.

#### **PS-TD-5.3 Calcium Aluminate Mortar (Manhole Rehabilitation)**

The mortar for manhole rehabilitation must be 100% calcium aluminate mortar and be able to withstand biogenic corrosion.

#### **PS-TD-6 DESIGN**

The CIPP Liner shall be fabricated from materials which, when cured, shall be able to withstand internal exposure to and the corrosive effects of normal sewerage effluent liquids and gasses containing hydrogen sulphide, carbon monoxide, carbon dioxide, methane, dilute sulphuric acid and exposure to soil bacteria and chemical attack which may be due to materials in the surrounding ground or sewerage within it.

The lining shall be designed to meet the specified structural and hydraulic performance requirements of the lining. Forms stating the relevant parameters and design methods are provided with this specification and the contractor shall provide the required parameters and design. Should the Contractor find that any part of the design parameters differ on site to those stated in the tender (e.g. host pipe diameters), he shall report it immediately to the Employer's Agent. The Employer's Agent shall review the implications and may instruct the Contractor to submit revised design calculations based on revised design parameters. The Employer's Agent shall check the revised design calculations and may approve any dimensional changes to the liner prior to ordering. The performance of the installed lining shall be measured against the tendered designs for compliance.

#### **PS-TD-7 STRUCTURAL DESIGN REQUIREMENTS**

##### **PS-TD-7.1 Overview**

The Cured-in-Place-Pipe liner shall conform to the following minimum initial structural properties.

##### **PS-TD-7.3 Liners**

Alternative pay items have been included for reinforced and un-reinforced liners.

The liner shall comprise one or more layers of absorbent woven or non-woven glass fibre. The lining tube un-reinforced liners shall comprise one or more layers of absorbent woven or non-woven polyester fabric or felt. Reinforced and un-reinforced liners shall comply with Particular Specification TD.

Since reinforced liners are generally stronger than un-reinforced liners, reinforced liners have been scheduled with thinner wall thicknesses than un-reinforced liners. For this reason, the of CPT 1001/21 minimum structural properties for reinforced and un-reinforced CIPP liners are stipulated as follows:

<u>Structural Property</u>	<u>Minimum Values</u>	
	<u>Un-Reinforced Liner</u>	<u>Reinforced Liner</u>
Short Term Modulus of Elasticity	1 725 MPa (ASTM F1216)	7 000 MPa
Short Term Flexural Strength	31 MPa (ASTM F1216)	100 MPa

**It must be noted that the liners scheduled in the Schedule of Rates are designed according to the following criteria and can withstand the following parameters:**

**Table A**

STRUCTURAL-DESIGN					
The Wall Thicknesses of the liners have been designed in accordance with ASTM Standard F1216 - Appendix X1 for a Partially Deteriorated Gravity Pipe Condition.					
The Wall Thicknesses of the liner-is to be designed to withstand the hydrostatic load, which shall be assumed be to that acting at the invert with the water table at the surface.					
The Modulus of Elasticity used shall be the long-term value (50 years), which if not known shall be assumed to be 50% of the short-term value.					
The following shall apply:					
The structural properties stated above for reinforced-and un-reinforced CIPP liners.					
Diameter of host pipeline (mm)	150	200	225	250	300
Enhancement Factor	7	7	7	7	7
Assumed Ovality	4%	4%	4%	4%	4%
Ovality Factor	0.7	0.7	0.7	0.7	0.7
Safety Factor	2	2	2	2	2
<b>REINFORCED LINER</b>					
<b>Scheduled Wall Thickness</b>	3.5mm	3.5mm	3.5mm	5.0mm	5.0mm
<b>Allowable Groundwater Head</b>	26m	10m	7m	16m	9m
<b>UN-REINFORCED LINER</b>					
<b>Scheduled Wall Thickness</b>	5.0mm	5.0mm	5.0mm	7.5mm	7.5mm
<b>Allowable Groundwater Head</b>	19m	8m	5m	11m	6m

**PS-TD-8 PRE-CONSTRUCTION/ PREPARATION AND CONSTRUCTION**

**PS-TD-8.1 Pre-Construction**

The Contractor shall clean the pipeline with jetting equipment to remove silt, debris and loose pipe material, in accordance with PS-TA. Care shall be exercised that excessive pressures do not damage the pipework.

The pipeline shall also be inspected by CCTV camera to confirm all debris has been removed. The Contractor shall use a pipe scraper, cutter, borer or pig to ream the pipe to remove excessive hard deposits on the pipe wall and ensure the bore of the pipe is of adequate size to accommodate the lining.

## **PS-TD-8.2 Preparation**

The Contractor shall verify all lengths and host pipe internal diameters on site prior to the ordering of the lining tube. Individual installations runs may be made through one or more manholes as determined on site by the Contractor and approved by the Employer's Agent. The impregnation or wetting-out of the liner with resin shall take place in controlled factory conditions.

The volume of resin used shall be sufficient to fill all voids in the tube material and the volume shall be adjusted for the change in resin volume due to polymerization, to allow for any migration of resin into the cracks, and joints in the host pipe (in sections not protected with a pre-liner) and attain the Design Thickness specified. The lining shall be transported and stored in a manner to ensure that there is no damage or premature curing of the lining.

Contractor to submit all the planned preparatory arrangements to the Employer's Agent for approval at least 7 days prior to commencing any lining.

### The Contractor shall:

- Ensure all wayleaves obtained, maintained and adhered to.
- Traffic accommodation plans have been submitted and approved by the Employer's Agent and local authorities.
- Public has been notified and kept up-to-date with the construction process.
- Ensure that all manholes, insertion and winching pits are adequately sized and conditioned to accommodate the necessary operations.
- Have confirmed arrangements with the relevant authorities for road closures, traffic deviations and traffic control.
- Confirm that all necessary safety equipment, safety measures and personnel are in place.
- Confirm that all flow deviations measures and over-pumping equipment are ready. The contractor shall confirm that all service connections have been identified, plugs provided and tested and owner's forewarned.
- All service connections have been identified, plugs provided and tested and owner's forewarned.
- Provide the Employer's Agent, with a detailed programme for the lining operation, including cleaning, CCTV inspections, profiling inspections of existing host pipe, over-pumping and the lining. process itself and showing time of commencement and time of completion.
- Provide details to the Employer's Agent of the curing schedule including the planned times. Temperatures, pressures and rates of application of the curing medium. Curing equipment and temperature monitoring system details.
- Make all necessary arrangement to obtain access to high residential buildings to install the liner.

Prior to the installation of the lining system in a given section of the pipeline, all preliminary preparation works shall have been completed including rectification of protruding service connections, sealing of major leaks, trenchless and excavated point repairs and preliner installation where required.

## **PS-TD-8.3 Construction**

### **PSA-TD-83.1 Lining**

The Contractor shall install the approved lining system in accordance with this specification and in accordance with the approved Standards, Specifications, Codes and/ or Method Statements of the manufacturer and installer. This would include the insertion of the liner, its pressurization using a hydrostatic head, air pressure or other approved method and curing. This shall include any necessary over-pumping of flows and all work necessary to fit and trim the linings through manholes. Care shall be taken to avoid over-stressing the fabric/liner.

The use of lubricant may be allowed to reduce friction during installation. The lubricant shall be a nontoxic, oil-based: product that has no detrimental effect on the liner, does not support bacterial growth or affect the general characteristics of the domestic sewer. Care should be exercised during filling and emptying of the pipeline, to avoid causing a vacuum that could damage the new liner. If the lining fails to make a tight seal at the manhole wall the Contractor shall apply a resin mixture seal at that point. The resin seal shall be compatible, with the resin mixture of the lining.

Following preparation of the site and pipeline installation, curing and cool-down of the CIPP lining shall be carried out in a continuous operation in single lengths between contiguous manholes. The Contractor shall make the necessary arrangements to ensure that no water circulates in the section of pipeline being relined during installation and curing. The installation, curing, cooling-down and testing procedures shall meet the requirements of ASTM F1216-09 for direct inversion lining technology. The Contractor shall be solely responsible for the suitability of the proprietary installation, curing and cooling down procedures to the particular characteristics and condition of each section of the pipeline.

Once a complete section of relining tube is installed it shall be cured through the use of circulating heated, water, introduction of steam or application of ultraviolet light, under carefully controlled conditions via installation of a temperature monitoring system. The Contractor shall be responsible for the post-installation cleaning of the entire section of relined pipe and safe disposal of any residual water from the installation, pressurizing and curing operations in accordance with its Construction Environmental Management Plan.

#### **PS-TD-8.3.2 Rehabilitation of Existing Manholes**

The Contractor must inspect each manhole for any leaks and structural damages and. report to the Employer's Agent for remedial action. The contractor shall:

- Remove the existing step irons and install new Copolymer Polypropylene covered step irons (Same Colour) in existing manhole chambers before cleaning or lining.
- Ensure that the surface is clean of any loose debris.
- Apply a 20mm thick (finished thickness) coat of 100% calcium aluminate mortar. The mortar shall be able to withstand biogenic corrosion.
- The manhole should have a smooth finished surface.

#### **PS-TD-8.3.3 Service Connections**

The Contractor shall reinstate all the house connections in each finished section of pipeline utilizing a remotely controlled cutting device, monitored by a CCTV. The cutting tool shall leave a smooth bevelled edge free of any protrusions that shall be flush with the inside surface of the branch sewer line. There shall be no discontinuity between the lining material at the cut hole and the branch sewer line. The services shall be restored to not less than 90% of their original capacity and shall be free of any sharp edges or protrusions, which could cause paper, rags or debris to accumulate.

The Contractor shall allow sufficient time for any movement of the installed lining relative to the host pipe before carrying out the cut outs. This shall include movements caused by shrinkage, thermal contraction, stress recovery, mechanical adjustment in material properties during curing, or any other action.

Following acceptance testing, the Contractor shall coordinate. with the Employer's Agent to notify the affected community that the service has been restored.

### **PS-TD-9 TESTING, INSPECTION AND ACCEPTANCE**

#### **PS-TD-9.1 Inspection**

The cured pipeline shall be inspected by CCTV and a DVD recording made in the presence of the Employer's Agent. The lining shall be continuous over the entire length lined and shall have no deformations (except in sympathy with defects in the existing pipe), twist, wrinkles, foreign inclusions, dry spots, lifts, pinholes or delamination's. The pipe shall be free of leaks and defects that will affect the integrity or strength of the lining. The contractor shall rectify



all defects before the lining is accepted. The Employer's Agent may instruct the Contractor to re-allow the flow through the pipe. This may be necessary before the Contractor shall rectify all defects. Any remedial work that the Contractor cannot perform immediately will have to be scheduled at another time. The Contractor shall perform any work required to remedy any defects in the lining at his own cost.

### PS-TD-9.2 Testing

Upon completion of each section of the pipeline the following inspection and testing procedures will be carried out:

- CCTV survey and reporting.
- Two samples per lining operation shall be fabricated from material taken from the actual lining used and prepared in accordance with Clause 8.1.2 of ASTM F1216. Five specimens from the sample will be used for the determination of Short-term Flexural (Bending) Properties in accordance with Clause 8.1.3.1 of ASTM F1316.
- CIPP wall thickness shall be measured in accordance with Clause 8.6 or Clause 8.6.1 of ASTM F1216. The Cured-in-Place-Pipe samples shall be prepared for each lining operation. The samples shall be from the actual lining installed.
- The samples shall be large enough to provide a minimum of five specimens for flexural testing.
- After curing, the samples shall be submitted to an independent testing laboratory to meet the requirements submitted in the tender document or agreed upon with the Employer's Agent.
- The independent laboratory shall also measure the wall thicknesses of the samples. The minimum wall thickness at any point shall be not less than 87.5% of the design thickness.

### PS-TD-9.3 Acceptance

Acceptance of each completed section of CIPP rehabilitation or CIPP Point repair rehabilitation will be conditional to compliance with the following requirements:

- Satisfactory compliance with minimum short-term flexural properties based on the results of tests established in Section PS-TD 9.1 of this specification.
- Thickness of finished lining not less than 87.5% of thickness nominated by the Contractor as the basis for structural calculations, based on results of measurements as per section PS-TD 9.1 of this specification.
- The finished relining system shall be free of defects that may be detrimental to its long term structural and/or hydraulic performance, including but not limited to:
  - Dry spots, bubbles, cracks or delamination
  - Wrinkling of the lining with height exceeding 2.5% of the internal diameter of the host pipe, where not attributable to defects on the host pipe.
  - Visible leakage through any part of the lining, including reinstated house connections.
  - Inadequate sealing of the lining at manholes or points of entry of house connections.
- In addition to the physical properties testing and post-installation CCTV survey, the Contractor shall deliver a certified copy of the curing report for each lined section, from the temperature monitoring system used of curing process.

In case of non-compliance with any of the above acceptance requirement, the Contractor shall undertake the necessary remedial actions to achieve compliance and will submit to the approval of the Employer's Agent the proposed methodology and program of works for the completion of the corrective actions.

### PS-TD-10 MEASUREMENT AND PAYMENT

The Cured-in-Place-Pipe lining method of pipe lining has been specified, whereby a resin impregnated flexible tube is inserted into the pipeline, pressurized and cured from to form a tight fit against the existing pipe. This is normally accomplished from existing manholes. During the installation of the liner, over-pumping of flows will be required. Prior to the

installation of the liner the pipeline shall be cleaned of all debris and shall be inspected by CCTV inspections.

#### PS-TD-10.1 Supply and Install Cured-in-Place-Pipe Liner

Item	Unit
Supply and Install Cured-in-Place-Pipe Liner	

Host pipe Nominal Diameter .....mm    Liner Thickness ..... mm    .....m

Those sections of pipeline to undergo cured-in-place-pipe lining are to be isolated using plugs or stoppers by the Contractor to the satisfaction of the Employer's Agent. The Contractor will have to deal with any infiltration of ground water into the isolated section of the pipeline. The cost of isolation sections of the pipeline and dealing with infiltration water is deemed to be included in the rates of cured-in-place-pipelining.

The Cured-in-Place-Pipe liner shall be measured on the actual length of lined pipe including manhole benching. Separate items shall be scheduled for each nominal diameter hose pipe and design thickness. The Price tendered and paid shall include full compensation for the cost of manufacturing, supply and installing the liner, curing, sealing at the, manholes, insertion pits, final cleaning of pipelines, CCTV inspections, testing, safety measures, all. supervision, labour materials, transport; equipment and incidentals required to reline the host pipe. Seventy five percent (75%) of the payment for Cured-in-Place-Pipe lining will be made once the liner has been successfully installed and inspected by CCTV. The remaining twenty five percent (25%) of the payment will be made once the liner has passed all tests and has been accepted and approved by the Employer's Agent. Service reconnection shall be, measured and paid for separately.

#### PS-TD-10.2 Service Reconnection

Item	Unit
Service Reconnection.....	No.

The service reconnection shall be paid for each pipe connection that is re-established by cutting a hole in the Cure-in-Place-Pipe liner. The rate shall include full compensation for the cost of establishment, de-establishment, providing and operating all equipment including robotic cutters and CCTV camera and including recovering of the waste material.

#### PS-TD-10.3 Rehabilitation of Existing Manholes

Item	Unit
20mm calcium aluminate mortar to internal faces.....	m <sup>2</sup>
Installation of Step irons.....	No.

The unit measured for step irons shall be the number of step irons installed.

The unit rate for plastering and sealing of the manhole chambers shall be per square meter of the chamber.

The tendered rate shall include full compensation for plastering and providing proper access to all manhole chambers in compliance with the OHS Regulations. In addition, the rate shall also cover the cost of cleaning and applying a 20mm 100% calcium aluminate mortar to all concrete surfaces within the manholes.

#### PS-TD-10.5 Extra-over items 2.1 to 2.2.7 for installation of CIPP liners in mid-blocks

Item	Unit
Extra-over items 2.1 to 2.2.7 for installation of CIPP liners in mid-blocks.....	m

The rate must cover all the associated costs and effort for installation of liners in a midblock sewer system

## PS-TD-11 ELECTRICAL REQUIREMENTS

### PS-TD-11.1 Introduction

By upgrading the sewage pumps, which has resulted in the existing sewerage pipes to experience blockages, the facility will operate more efficiently and hygienically. This upgrade enhances the overall safety and sanitary conditions for both staff and visitors and demonstrates the facility's commitment to maintaining high standards of health, safety and service delivery. Along with an upgrade of the pump systems, there must be an upgrade to the electrical infrastructure supplying it, if the current infrastructure is not suited to the new pump sizes.

### PS-TD-11.2 Block Diagrams

The site was investigated at a high level to determine the reticulation feeding both pump stations (PS-A and PS-B). Refer to the block diagrams below:

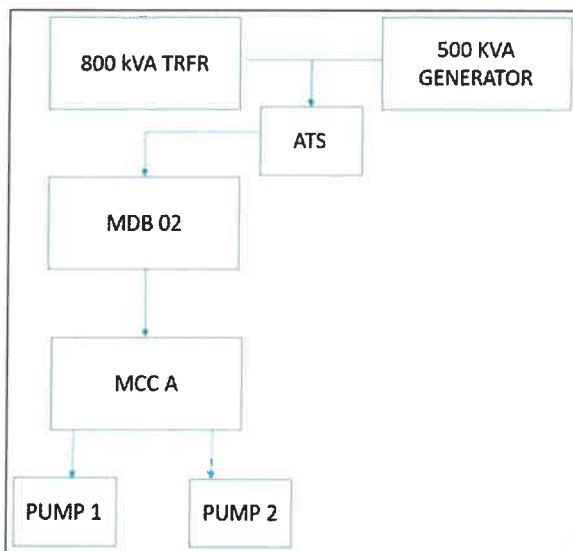


Figure 1: Pump Station A identified reticulation.  
To be verified on site.

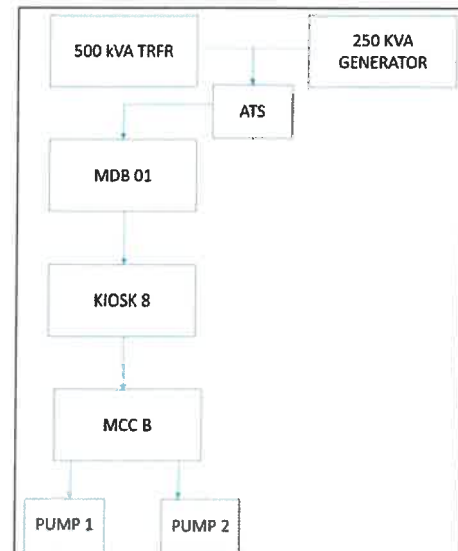


Figure 2: Pump Station B- identified reticulation.  
To be verified on site.

It was noted on site that the circuit reticulating to MCC B from MDB 01 was not clear from the panel itself, and hence further tracing may be required for PS-B to ensure the reticulation is within voltage drop limits and adheres to short circuit fault current ratings of equipment.

### PS-TD-11.3 Recommendations

Seeing as both pumps for each pump station are set to be upgraded, the electrical cables and protective devices too, must be checked for size appropriateness to supply power to the new pumps. The recommendations are as follows:

#### PS-A

- i. Protective devices and cables feeding from MCC A to be traced and checked for suitability to new pumps. Replace with appropriate sizes should the existing infrastructure prove inadequate.
- ii. Issue certificate of compliance for MCC-A or as required.

#### PS-B

- i. Protective devices and cables feeding from MCC B to be traced and checked for suitability to new pumps. Replace with appropriate sizes should the existing infrastructure prove inadequate.
- ii. Protective devices and cables feeding from Kiosk 8 to be traced and checked for suitability to MCC B. Replace with appropriate sizes should the existing infrastructure prove inadequate.



- iii. Protective devices and cables feeding from MDB-01 to be traced and checked for suitability to Kiosk 8. Replace with appropriate sizes should the existing infrastructure prove inadequate.
- iv. Issue certificate of compliance for MCC-B or as required.

### C3.5.3 PARTICULAR SPECIFICATIONS:

The following Additional Specifications for work not covered by the SANS 1200 Standardised Specifications or the Technical and Particular Specifications are bound in after the Technical and Particular Specifications:

SB	: Operational and maintenance manuals
SC	: General decommissioning and testing
SANS2001-BS SASTT-TS-TT2:2013	: Trenchless construction works
SD	: General training
SH	: HIV / AIDS Requirements
SI	: Occupational Health and Safety
SL	: Implementation of Expanded Public Works Programme (EPWP)
PS-TD	: Cured-In-Place-Pipes (CIPP) Resin Impregnated Felt Tube Inversion

### C3.6 STANDARD MINIMUM REQUIREMENTS

In terms of section 5(2) of the Construction Industry Development Board Act, 2000 (Act no. 38 of 2000) (the Act), the Construction Industry Development Board is empowered to establish and promote best practice standards, Standard Requirements and Guidelines which includes the following but not limited to:

- C3.6.1 cidb Best Practice: Green Building Certification, No. 34158 Government Gazette, 1 April 2011
- C3.6.2 cidb Standard for Developing Skills through Infrastructure Contracts, No. 36760 Government Gazette, 23 August 2013
- C3.6.3 cidb Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, No 36190 Government Gazette, 25 February 2013
- C3.6.4 Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017, No. 40553 Government Gazette, 20 January 2017
- C3.6.5 cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts, No. 41237 Government Gazette, 10 November 2017
- C3.6.6 cidb Standard for Minimum Requirements for Engaging Contractors and Sub-Contractors on Construction Works Contracts, No. 41237 Government Gazette, 10 November 2017
- C3.6.7 cidb Standard for Minimum Requirements for Engaging Contractors and Sub- Contractors on Construction Works Contracts, No. 42021 Government Gazette, 9 November 2018
- C3.6.8 cidb Standard for Developing Skills through Infrastructure Contracts, No 48491 Government Gazette, 23 April 2023

### C3.7 CONTRACT PARTICIPATION GOALS AND CIDB BUILD PROGRAMME

Provision has been made within the Contract Participation Goal section in the Bill of Quantities for the respective CPGs. Prescribed Profit and Attendance percentages have been stipulated, all inclusive of associated costs to the contractor for implementation and allowance for submitting reports to the Employer's Representative on a monthly basis in terms of monthly and accumulative targets achieved with audited supporting documentation.

Monthly progressive reports to be submitted to the Employer's representative indicating the percentage targets achieved which must be reconciled upon completion of the project and to form part of the final account.

The contractor shall achieve in the performance of this contract the following Contract Participation Goals (CPGs) as indicated below:

#### C3.7.1 Minimum Targeted Local Material Manufacturer Contract Participation Goal

**The Minimum Targeted Local Building Material Manufacturers CPG is NOT APPLICABLE to this project.**

It is the requirement of the employer that the contractor enhances the use of local Small, Micro and Medium Enterprise Local Material Manufacturers (SMME's) in executing this contract, irrespective whether a minimum percentage Participation Goals is applicable or not.

The Minimum Targeted Local Manufacturers of Material Contract Participation Goal, in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020.

A Targeted Local Material Manufacturer is a targeted enterprise that operates or maintains a factory or establishment that produces on its premises materials or goods required by the principal contractor for the performance of the contract.

Note: Adapted from SANS 10845-7:2015, definition 2.13

Preference shall be given to the Targeted Local Material Manufacturer where feasible in **NOT APPLICABLE**, and provided that:

- (a) Such materials comply in all respects with the specific requirements of PW371 and SANS specifications,
- (b) The non-availability of such materials shall not adversely affect the desired progress of the specific works,
- (c) The use of such suppliers shall not constitute grounds for any claim for increased cost in respect thereof,
- (d) Materials of at least **NOT APPLICABLE** of the total value of materials purchased excluding VAT to be sourced from within **NOT APPLICABLE** km radius of the project site,
- (e) Material of at least **NOT APPLICABLE** of the total value of materials purchased excluding VAT to be sourced from within **NOT APPLICABLE** km radius of the project site.

Failure to achieve the minimum specified value as indicated in the CPG Bill of Quantity Section for Targeted Local Material Manufacturer participation will result in a **thirty percent (30%)** penalty of the prorated targeted value of materials not complied with unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The contractor shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

### C3.7.2 Minimum Targeted-Local Building Material Suppliers Contract Participation Goal

The Minimum Targeted Local Building Material Suppliers CPG is **NOT APPLICABLE** to this project.

It is the requirement of the employer that the contractor enhances the use of local Small, Micro and Medium Enterprise Local Material Suppliers (SMME's) in executing this contract, irrespective whether a minimum percentage Participation Goals is applicable or not.

The Minimum Targeted Local Manufacturers of Material Contract Participation Goal shall be achieved in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 41237 of 10 November 2017, as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract..

A targeted supplier is a targeted enterprise that

- a) owns, operates or maintains a store, warehouse or other establishment in which goods are bought, kept in stock and regularly sold to wholesalers, retailers or the public in the usual course of business; and
- b) engages, as its principal business and in its own name, in the purchase and sale of goods.

Note: Adapted from SANS 10845-7:2015, definition 2.14

Preference shall be given to the local material suppliers where feasible in the **NOT APPLICABLE**, and provided that:

- (a) Such materials comply in all respects with the specific requirements of PW371 and SANS specifications,
- (b) The none availability of such materials shall not adversely affect the desired progress of the specific works,
- (c) The use of such suppliers shall not constitute grounds for any claim for increased cost in respect thereof,
- (d) Materials of at least **NOT APPLICABLE** of the total value of materials purchased excluding VAT to be sourced from within **NOT APPLICABLE** km of the project site,
- (e) Material of at least **NOT APPLICABLE** of the total value of materials purchased excluding VAT to be sourced from within **NOT APPLICABLE** km of the project site.

Failure to achieve the minimum specified value as indicated in the CPG Bill of Quantity Section for Targeted Local Material Manufacturer participation will result in a **thirty percent (30%)** penalty of the prorate targeted value of materials not complied with, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

### C3.7.3 Minimum Targeted Local Labour Skills Development Contract Participation Goal

The Minimum Targeted Local Labour Skills Development CPG is **NOT APPLICABLE** to this project.

It is the requirement of the employer that the contractor enhances the use of local labour in executing this contract. This is required to be done through the use of both traditional building techniques and labour-intensive construction techniques careful and considered construction planning and implemented in the project irrespective whether a minimum percentage Participation Goal is applicable or not.

The Minimum Targeted Local Skills Development Contract Participation Goal shall be achieved in accordance with the cidb Standard for Contract Participation Goals for Targeting Enterprises and Labour through Construction Works Contracts as published in the Government Gazette Notice No. 48491 of 28 April 2023 and the cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract..

Targeted labour: individuals who:

- a) are employed by the principal contractor, sub-contractor or targeted enterprises in the performance of the contract;
- b) are defined as the target group in the targeting data; and
- c) permanently reside in the target area or who are recognized as being residents of the target area on the basis of identification and association with and recognition by the residents of the target area.

Adapted from SANS 10845-7:2015, definition 2.12

Targeting of labour by skills categories is only permissible within categories of semi-skilled and unskilled labour.

Contract participation goals for semi-skilled and unskilled labour shall be limited to on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract and in a manner that does not compromise worker health and safety. In the case of targeted labour, the certification of records shall be in accordance with SANS 10845-8.

Beneficiaries will be sourced from the **NOT APPLICABLE** for the full duration of the Construction Period, employed by either the principal contractor, sub-contractors or targeted enterprises. The total number of working days to complete the Works amount to **NOT APPLICABLE** working days. The minimum CPG participation for Targeted Local Labour Skills Development is **NOT APPLICABLE**, expressed as a percentage of the total number of working days required to complete the Works. The contractor shall attain or exceed the CPG in the performance of the contract. Failure to achieve the minimum Targeted Local Labour Skills Development CPG will result in a payment reduction of **R5 000** (Excluding VAT), per working day which training has not been provided to the workforce in attendance, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.



### C3.7.4 CIBB BUILD PROGRAMME: Minimum Targeted Enterprise Development Contract Participation Goal

The Minimum Targeted Enterprise Development CPG is **NOT APPLICABLE** to this project.

The aim of this best practice standard for indirect targeting for enterprise development in accordance with the Standard for Indirect Targeting for Enterprise Development (published in Government Gazette 36190 of 25 February 2013), as amended in cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract, is to promote enterprise development by providing for a minimum Contract Participation Goal (CPG) of **NOT APPLICABLE** of the contract amount as defined in the Standard (Tender amount, excluding allowances and VAT) on selected contracts to be undertaken by joint-venture partners or to be sub-contracted to developing contractors that are also to be beneficiaries of enterprise development support from the main contractor.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

The lead partner or main contractor shall dedicate a **minimum NOT APPLICABLE** of the tender value at the time of award, excluding allowances and VAT, to provide developmental support to targeted subcontractor or joint venture partner applicable to contracts in Grades 7 to 9, General Building and Civil Engineering contracts. Preference will be given to **NOT APPLICABLE** Enterprises.

Failing to achieve the targeted Contract Skills Development Goal will result in A) a thirty percent (30%) penalty of the value of the portion not achieved, excluding VAT, and B) the issuing of completion certificates only after the completion certificate of achieving the skills development goal, counter-signed by the relevant individuals has been submitted, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The bidder shall submit monthly reports in terms of monthly achievement and accumulative targets achieved including audited supporting documentation to the Employer's Representative.

#### C3.7.4.1 Criteria

The main or lead partner of the successful bidder shall:

- (a) There must be a needs analysis for indirect targeting and development or skill standard and should be development in at least any two developmental areas namely;
  - Administrative and cost control systems
  - construction management systems and plans
  - planning, tendering and programming
  - business; technical; procurement skills
  - legal compliance
  - credit rating/history; financial loan capacity/history
  - contractual knowledge
- (b) The above needs analysis shall be mutually agreed upon between contractor and targeted enterprise
- (c) The contractor shall appoint an enterprise development coordinator to:
  - perform needs analysis on the targeted enterprise to identify developmental goals
  - develop a project specific enterprise development plan to improve the targeted enterprise/s performance in the identified developmental areas
  - provide internal mentorship support to improve the targeted enterprise/s performance
  - monitor and submit to the employer's representative a monthly enterprise development report thereby reporting on the progress of the agreed development areas with the targeted enterprise/s
  - submit a project completion report to the Employer's representative for each targeted enterprise.



#### C3.7.4.2 Management

The contractor shall provide a competent person/s to provide internal mentorship to the Targeted Enterprise/s in the two agreed developmental areas.

#### C3.7.4.3 Competence Criteria for an Enterprise Development Co-ordinator

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

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

#### C3.7.4.4 Format of Communications

The contractor shall submit to the Employer's Representative:

- *Project interim reports* in the specified format (**ED105P**) detailing interim values of the CPG that was achieved together with an assessment of the enterprise development support provided should be tabled and discussed at least monthly at progress meetings between employer's representative and the contractor;
- *Project completion report* in the specified format (**ED101P**) to the Employer's Representative for acceptance within 15 days of achieving practical completion. The report shall include the value of the CPG that was certified in accordance with the contract, cidb registration numbers of each and every targeted enterprise, and the value of the subcontracted works or of the joint venture entered into; and the participation parameter
- *Enterprise development declaration* (**ED104P**).

#### C3.7.4.5 The Key Personal

The contractor shall appoint an Enterprise Development Co-ordinator and a competent person/s to provide internal mentorship.

#### C3.7.4.6 Management Meetings

The contractor shall report to the Employer's Representative on the implementation and progress of the targeted enterprise development and CPG at monthly progress site meetings.

#### C3.7.4.7 Forms for contract administration

The contractor shall submit to the Employer's Representative the following proformas:

- Form ED 105P Project Interim Report
- Form ED 104P Enterprise Development Declaration
- Form ED 101P Project Completion Report

#### C3.7.4.8 Records

The contractor shall:

- keep records of the targeted enterprise development
- keep records of the payments made to the targeted enterprises in relation to the CPG.
- ensure all the documentation required in terms of the Standard is provided with each monthly progress payment certificate and according to a prescribed format where applicable.

#### C3.7.4.9 Payment Certificates

The contractor shall:

- achieve the measurable CPG and providing enterprise development support to the targeted enterprise/s as per the Standard.
- submit payment certificates to the Employer Representative at intervals determined in the Contract.

#### C3.7.4.10 Compliance requirements

##### **Non-compliance with the Best Practice Project Assessment Scheme**

The wording of regulation 27A of the cidb regulations makes provision for the Board to enforce the cidb code of conduct in the event of clients being found to be in breach of the best practice project assessment scheme.

- Not including the requirements of the cidb standards in the conditions of tender
- Not registering the award of contract on the cidb Register of Projects (RoP)
- Not reporting practical completion on the cidb Register of Projects (RoP)

#### 3.7.5 **CIDB BUILD PROGRAMME: Minimum Targeted Contract Skills Development Goal (CSDG)**

**The Minimum Targeted Contract Skills Development CPG is NOT APPLICABLE to this project.**

The contractor shall achieve or exceed in the performance of the contract the Contract Skills Development Goal (CSDG) established in the Standard for Developing Skills through Infrastructure Contracts (published in Government Gazette No 48491 of 23 April 2023 and the cidb Best Practice Project Assessment Scheme Notice No. 43726 of 18 September 2020 – Condition of Contract.

Failing to achieve the targeted Contract Skills Development Goal will result in A) a **thirty percent (30%)** penalty of the value of the portion not achieved, excluding VAT, and B) the issuing of completion certificates only after the completion certificate of achieving the skills development goal, counter-signed by the relevant individuals has been submitted, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

The contractor shall apportion the learners in the different construction activities based on the scope of work. The cost of accommodating learners will be determined by using Table 3 in the Standard and this cost will be used to determine the value in Rand and will be added to the provision for training as provided for in the Preliminary and General section in the Bill of Quantities/Pricing schedules/Activity schedule.

#### C3.7.5.1 Methodology

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

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

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

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

**Method 4:** structured workplace learning opportunities for candidates towards registration in a professional category by a statutory council.

The contract skills participation goals, expressed in Rand, shall not be less than the contract amount multiplied by a percentage (%) factor given in Table 1 in the Standard for the applicable class of construction works.

*Table 1: Contracting skills development goals for different classes of engineering and construction works contracts*

Class of construction works as identified in terms of Regulation 25 (3) of the Construction Industry Regulations 2004		Construction skills development goal (CSDG) (%)
Designation	Description	
CE	Civil Engineering	0.25
CE and GB	Civil engineering and General Building	0.375
EE	Electrical Engineering works (buildings)	0.25
EP	Electrical Engineering works (infrastructure)	0.25
GB	General Building	0.5
ME	Mechanical Engineering works	0.25
SB	Specialist	0.25

The contractor shall apportion the learners in the different construction activities based on the scope of work. The cost of accommodating learners will be determined by using Table 2 in the Standard and this cost will be used to determine the value in Rand and will be added to the provision for training as provided for in the Preliminary and General section in the Bill of Quantities/Pricing schedules/Activity schedule.

**Table 2: Notional Cost of Training per Headcount**

Source: cidb Standard for Skills Development

GCSE and A-Level (2015)

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

Note: the required CPG will be recalculated based on the awarded tender amount and "Contract amount" once the beneficiaries have been appointed and actual costs are known. The notional cost of providing training opportunities will increase by CPI on an annual basis based on April CPI. Should the rates increase after bid award or during construction the rates will be adjusted as a remeasuarble item.

- (a) (a) The successful contractor may employ part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates directly or through a Skills Development Agency (SDA), (A1 - List of cidb accredited SDAs).
- (b) The successful contractor must employ at least sixty percent (60%) of the learners from an FET / TVET college should the contractor select to have part/full occupational qualification learners and trade qualification learners contributing to the CSDG.
- (c) The successful contractor shall employ at least **NOT APPLICABLE** from eligible part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates in the employment of the employer.
- (d) The successful contractor shall ensure that no single method shall contribute more than seventy five percent (75%) of the CSDG for the contract.
- (e) The successful contractor may only place thirty three percent (33%) employed employees or that of his subcontractors contributing to the CSDG.
- (f) The contractor shall employ at least sixty percent (60%) of the learners from a Public FET / TVET college should the contractor select to have trade qualification learners (Method 2) contributing to the CSDG.
- (g) One of the objectives of the project is to train **NOT APPLICABLE** Occupational qualifications, trade qualification, work integrated learners – P1 and P2 learners, professional candidates.

#### C3.7.5.2 Management

- (a) The successful contractor must keep site records regarding the part/full occupational qualification learners', trade qualification learners', work integrated learners' or candidates' (delete that which is not applicable) progress, site attendance, hours worked and other relevant information as required by the Standard.
- (b) The successful contractor shall provide the required number of appropriately qualified mentors to the maximum number of part/full occupational qualification learners, trade qualification learners, work integrated learners in the proportion as specified in the Standard.

- (c) The successful contractor shall provide a supervisor to manage the training of the part/full occupational qualification learners, trade qualification learners, work integrated learners, candidates
- (d) The successful contractor shall submit to the employer's representative a baseline training plan in the specified format (Pro-forma A2) for the part/full occupational qualification learners, trade qualification learners, work integrated learners, candidates within 30 days of start of the contract.
- (e) The successful contractor shall submit to the employer's representative project interim report in the specified format (Pro-forma A3) on the progress of each of part/full occupational qualification learner, trade qualification learner, work integrated learner, every three months.
- (f) The successful contractor shall submit to the employer's representative the names and particulars in the specified format (Pro-forma A4) of the supervisor, mentors for the part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates within 30 days of start of the contract.
- (g) The successful contractor shall keep a daily record of all the part/full occupational qualification learners, trade qualification learners, work integrated learners, candidates on site and their daily activities and shall be made available to the employer's representative on request.
- (h) The successful contractor shall submit to the employer's representative the reports on the progress and status of the part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates with the monthly invoice for the payment certificate.
- (i) The successful contractor shall have health and safety inductions for all part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates
- (j) The successful contractor shall conduct entry and exit medical tests of all part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates.
- (k) The successful contractor shall provide personal protective equipment (PPE) to all part/full occupational qualification learners, trade qualification learners, work integrated learners or candidates at the start of their employment on site.
- (l) Based on the agreed skills methods the contractor may employ part/full Occupational Qualification Learners and /or Trade Qualification Learners and/or Work Integrated Learners and/or Candidates directly or through a Skills Development Agency (SDA), training provider or skills development facilitator (Form A1 - List of cidb accredited SDAs). The contractor shall ensure that no more than one Method shall be applied to any individual concurrently in the calculation of the CSDG for the contract.



### C3.7.6 NATIONAL YOUTH SERVICE TRAINING AND DEVELOPMENT PROGRAMME (NYS)

The National Youth Service Training and Development Programme is **NOT APPLICABLE** to this project.

The programme shall be implemented in terms of the Implementation of the National Youth Service Programme under the Expanded Public Works (EPWP) and shall be priced in the CPG section of the Bills of Quantities. Monthly reports are to be submitted to the Employer's Representative.

Failure by the contractors to achieve the specified number to be trained in the NYS section of the CPG section within the Bills of quantities will result in a payment reduction as per bill of quantities per person, excluding VAT unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

### C3.7.7 LABOUR-INTENSIVE WORKS

Labour Intensive Works is **NOT APPLICABLE** to this project.

Where labour intensive work is specified in the Bill of Qualities and indicated by "LI" the contractor must price for and include in rates. Contractors are expected to use their initiative to identify additional activities that can be done labour-intensively to comply with the set minimum labour intensity target. Allowance must be made for submitting monthly reports illustrating the value of the works executed under Labour Intensive Works.

Failure by the contractor to achieve the specified value of the Labour Intensive Participation Goal as stipulated within the Bills of Quantities will result in a **thirty percent (30%)** penalty of the value of the works not done by means of labour intensive methods, excluding VAT, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control.

#### Employer's objectives:

The employer's objectives are to deliver public infrastructure using labour-intensive methods in accordance with EPWP Guidelines.

#### Labour-intensive works:

Labour-intensive works shall be constructed/maintained using local workers who are temporarily employed in terms of the scope of work.

#### Labour-intensive competencies of supervisory and management staff:

Contractors shall only engage supervisory and management staff in labour-intensive works that have completed the skills programme including Foremen/ Supervisors at NQF level 4 "National Certificate: Supervision of Civil Engineering Construction Processes" and Site Agent/ Manager at NQF level 5 "Manage Labour-Intensive Construction Processes" or equivalent QCTO qualifications (See Appendix C) at NQF outlined in Table 1

### C3.7.7.1 GENERIC LABOUR-INTENSIVE SPECIFICATION

Contractors are referred to the Guidelines for the Implementation of Labour-intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP) for the generic labour-intensive specification applicable to the contract.

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

- trenches having a depth of less than 1.5 metres
- stormwater drainage
- roads
- sidewalks and non-motorised transport infrastructure
- water and sanitation

### **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

### **Hand excavateable material**

Hand excavateable material is:

#### **a) granular materials:**

- i) whose consistency when profiled may in terms of Table 3 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 3 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 is material with a particle size greater than 200mm, a cobble and gravel is material between 60 and 200mm.
- 2) A dynamic cone penetrometer is an instrument used to measure the in-situ 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.

<b>Table 3: Consistency of materials when profiled</b>			
<b>GRANULAR MATERIALS</b>		<b>COHESIVE MATERIALS</b>	
<b>CONSISTENCY</b>	<b>DESCRIPTION</b>	<b>CONSISTENCY</b>	<b>DESCRIPTION</b>
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 up to 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 a 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.

### **Trench excavation**

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

**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 ninety percent (90%) Mod AASHTO;
- 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 ten (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.

**Excavation**

All excavateable material including topsoil classified as hand excavateable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand. Any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

**Clearing and grubbing**

Grass and bushes shall be cleared by hand.

**Shaping**

All shaping shall be undertaken by hand.

**Loading**

All loading shall be done by hand. Haulage equipment should be selected in a manner that allows loading by hand to the greatest extent possible.

**Haul**

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

**Offloading**

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

**Spreading**

All material shall be spread by hand.

**Compaction**

Small areas may be compacted by hand provided that the specified compaction is achieved. Appropriate rollers should be used where higher (than can be achieved by hand) levels of compaction are required or for large areas.

**Grassing**

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

**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.

**Manufactured Elements**

Elements manufactured or supplied 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. Where the mass of an element exceeds 55 kg, consideration should be given to the size of the element relative to its total mass related to the number of workers who would be needed to lift such mass

### C3.8 Submission of Accrual Reports

The Contractor shall submit accrual reports to the client representative at the end of March and September each year for the duration of the Service Contract period from the date of appointment up to and including project closeout. This is to ensure that PMTE complies with the accounting framework GRAP, which requires that PMTE disclose all its accruals as at the end of each reporting date.

### C.3.9 Submission of Monthly Local Material Utilisation Report (Local Content)

**Submission of Monthly Local Material Utilisation Report (Local Content) is NOT APPLICABLE to this project.**

The contractors shall be responsible for record keeping, documenting and submission of monthly local material utilization report with supporting documentation to the Employer's representative within 7 working days of the beginning of the successive month, in terms of DTI&C designated industry/sector/sub-sector schedule as per the PA36 and Annexures C attached to the tender document. The final percentage achievement to be reconciled upon completion of the project and form part of the final account.

Failure by the contractors to achieve the specified percentage of local content per designated industry/sector/sub-sector as listed will result in a thirty percent thirty percent (30%) penalty of the value not achieved, excluding VAT, unless the contractor can prove to the Employer's satisfaction that the non-achievement was beyond his/her control. Allowance must be made for submitting monthly reports illustrating the value of local material utilisation report.



## **DEPARTMENT OF PUBLIC WORKS**

### **HIV/AIDS**

### **SPECIFICATION**

**OCTOBER 2004**



## **SECTION**

### **HIV/AIDS SPECIFICATION**

#### **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 Department of Public Works 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**

- 3.1 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 Representative/Agent, the Contractor shall make available a suitable venue that will be conducive to education and training.

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

- 3.2.1 The nature of the disease;
- 3.2.2 How it is transmitted;
- 3.2.3 Safe sexual behaviour;
- 3.2.4 Post exposure services such as voluntary counselling and testing (VCT) and nutritional plans for people living with HIV/AIDS;
- 3.2.5 Attitudes towards other people with HIV/AIDS;
- 3.2.6 Rights of the Worker in the workplace;
- 3.2.7 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;
- 3.2.8 How the Service Provider will support the Awareness Champion;
- 3.2.9 Location and contact numbers of the closest clinics, VCT facilities, counselling services and referral systems;
- 3.2.10 How the workshops will be presented, including frequency and duration;
- 3.2.11 How the workshops will fit in with the construction programme;
- 3.2.12 How the Service Provider will assess the knowledge and attitude levels of attendees to structure workshops accordingly;
- 3.2.13 How the video will be used;
- 3.2.14 How the Service Provider will elicit maximum participation from the Workers;
- 3.2.15 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 Regional Offices of the Department of Public Works, 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 Regional Offices of the Department of Public Works.

### **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 is 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 HI 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 counseling.

## 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.

4.2.3.7 UNIT 7: The rights and responsibilities of Workers in the workplace with regard to HIV/AIDS

After studying and understanding this unit, the Worker will be able to identify the rights and responsibilities of the Worker living with HIV/AIDS in the workplace. The Worker will recognise the importance of accepting colleagues living with HIV/AIDS and treating them in a non-discriminative way.

## Assessment Criteria:

1. Discuss the rights of a person living with HIV/AIDS in the workplace;
2. Discuss the responsibilities of a person living with HIV/AIDS in the workplace;
3. Report on why acceptance and non-discrimination of colleagues living with HIV/AIDS is important.

#### **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. The contractor should include the costs of posters and information booklets in his/her tender price.

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**

- 7.1 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 construction 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.



7.2 The Awareness Champion shall be responsible for:

- 7.2.1 Liaising with the Service Provider on organising awareness workshops;
- 7.2.2 Filling condom dispensers and monitoring condom distribution;
- 7.2.3 Handing out information booklets;
- 7.2.4 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.

The attached SITE CHECKLIST (SCHEDULE A) shall be completed and submitted at every construction progress inspection to the Representative/Agent.

The attached SERVICE PROVIDER REPORT (SCHEDULE B) shall be completed and submitted on a monthly basis to the Department's Project Manager, through the Representative/Agent.

The attached CONTRACTOR HIV/AIDS PROGRAMME REPORT (SCHEDULE C), a close out programme report, shall be completed by the Contractor at the end of the contract.

## SCHEDULE A

### HIV/AIDS PROGRAMME: SITE CHECKLIST

When did construction commence: \_\_\_\_\_

Name of Departmental Project Manager: \_\_\_\_\_

Please refer to HIV/AIDS Programme activities during the reporting period

*Tick the block if Contractor satisfactorily complied with specifications*

DATE	PI			PI			PI			PI			PI			PI		
	D	D	M	D	D	M	D	D	M	D	D	M	D	D	M	D	D	M
Programme implemented within 14 days of site handover																		
Awareness champion on site																		
HIV/AIDS awareness service provider report																		
Male condom dispenser																		
Sufficient male condoms available																		
Male condom dispenser in a highly trafficked area																		
Female condom dispenser																		
Sufficient female condoms available																		
Female condom dispenser in a highly trafficked area																		
All four types of posters displayed																		
Posters in a good condition																		
Posters in a highly trafficked area																		
Posters displayed on local support services: clinic & VCT centre																		
Support service poster/s in highly trafficked area																		
Support service poster/s in a good condition																		

SCHEDULE A

Please indicate the applicable number for the reporting period									
Workers on payroll (at PI)									
Sub-Contractors who will be on site for longer than 30 days (at PI)									
Workshop attendees									
Number of workshops held									
Scheduled workshops according to approved workshop plan									
Booklets distributed									
Male condoms distributed									
Female condoms distributed									

Representative/Agent

Date

Contractor

Date

Date of progress inspection: (ccyy/mm/dd)

Reporting period: (ccyy/mm/dd) \_\_\_\_\_ to (ccyy/mm/dd) \_\_\_\_\_

Deviations from HIV/AIDS awareness programme plan:

--

Corrective actions:

--

\_\_\_\_\_  
Representative/Agent

\_\_\_\_\_  
Departmental Project Manager

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date

## SCHEDULE B

### HIV/AIDS AWARENESS PROGRAMME: SERVICE PROVIDER REPORT

Reporting period: (ccyy/mm/dd) \_\_\_\_\_ to (ccyy/mm/dd) \_\_\_\_\_

Number of workshops conducted in reporting period: \_\_\_\_\_

Number of scheduled workshops according to approved workshop plan: \_\_\_\_\_

Deviations from workshop plan:

State reasons for deviating from workshop plan:

Corrective actions:

\_\_\_\_\_  
Service Provider

\_\_\_\_\_  
Date

\_\_\_\_\_  
Date



**HIV/AIDS AWARENESS PROGRAMME : WORKSHOP CONTENT ADDRESSED**

[illegible]

## HIV/AIDS AWARENESS PROGRAMME: ATTENDANCE REGISTER

[illegible]

**SCHEDULE C****CONTRACTOR HIV/AIDS PROGRAMME REPORT**

Project name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Contract value of project: R\_\_\_\_\_

Department of Public Works Project Manager: \_\_\_\_\_

HIV/AIDS Programme duration: (ccyy/mm/dd) \_\_\_\_\_ to (ccyy/mm/dd) \_\_\_\_\_

**AWARENESS MATERIAL**

Describe location of posters displayed during the programme: \_\_\_\_\_

\_\_\_\_\_

Comments on posters: \_\_\_\_\_

Indicate total number of booklets distributed: \_\_\_\_\_

Comments on booklets: \_\_\_\_\_

\_\_\_\_\_

**CONDOMS**

Indicate total number of male condoms distributed: \_\_\_\_\_

Indicate total number of female condoms distributed: \_\_\_\_\_

Describe where male condom dispenser was placed: \_\_\_\_\_

Describe where female condom dispenser was placed: \_\_\_\_\_

**HIV/AIDS WORKSHOPS**

Indicate the total number of HIV/AIDS workshops conducted: \_\_\_\_\_

Indicate the duration of workshops: \_\_\_\_\_

Indicate the total number of Workers that participated in the HIV/AIDS workshops: \_\_\_\_\_

Indicate the total number of Workers that were exposed to the video on HIV/AIDS in the Construction Industry: \_\_\_\_\_

Comments on HIV/AIDS workshops on site: \_\_\_\_\_

\_\_\_\_\_

**GENERAL**

Briefly describe programme activities and satisfaction with outcome: \_\_\_\_\_

\_\_\_\_\_

Additional comments, suggestions or needs with regard to the HIV/AIDS awareness programmes on site:

\_\_\_\_\_

\_\_\_\_\_

Please indicate if your company has a formal HIV/AIDS policy focussing on HIV/AIDS awareness raising and care and support of HIV/AIDS Workers:

Yes	No	Currently developing one
-----	----	--------------------------

Please indicate if, to your knowledge, you have lost any workers during the duration of the project to HIV/AIDS related sicknesses. One or more of the following might indicate an HIV/AIDS related death:

Excessive weight loss  
Reactive TB  
Hair loss  
Severe tiredness

Coughing or chest pain  
Pain when swallowing  
Persistent fever  
Diarrhoea

Vomiting  
Meningitis  
Memory loss  
Pneumonia

Number of HIV/AIDS-related deaths: \_\_\_\_\_

\_\_\_\_\_  
**Contractor**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Departmental Project Manager**

\_\_\_\_\_  
**Date**



## public works & infrastructure

Department:  
Public Works and Infrastructure  
**REPUBLIC OF SOUTH AFRICA**

**PUBLIC WORKS AND INFRASTRUCTURE**

**WESTERN CAPE PROVINCE**

**CAPE TOWN REGION**

**CAPE TOWN: STELLENBOSCH QUARANTINE STATION UPGRADING OF THE  
SEWERAGE SYSTEM**

## **Occupational Health and Safety Specification**

**OCCUPATIONAL HEALTH AND SAFETY ACT**

**AND**

**REGULATIONS**



## **PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION**

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INITIAL:

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Initial Hazard Identification and Risk Assessment

## 1. INTRODUCTION AND BACKGROUND

### 1.1 Background to the Pre-Construction Health and Safety Specification

- 1) The Construction Regulations of February 2014 in terms of Regulation 5(1)(b) places the onus on the Client to prepare a Pre-Construction Health and Safety Specification, highlighting all risks not successfully eliminated during design. Section 37.2 of the Act, Act 85 of 1993 requires the Department of Works as an Employer to enter into a written agreement with the Contractor (Mandatory) as far as arrangements and procedures are concerned to ensure that the Contractor complies with the requirements of the Act, Act 85 of 1993 and all its Regulations.
- 2) This document serves to address all the above mentioned requirements and by submission of his/her tender the Contractor undertakes to abide with the conditions as stipulated by the Department of Works hereinafter referred to as the Client throughout this document.
- 3) This documentation will give the Client or its duly appointed representative the required information to be able to evaluate the Contractors competency and resources as is required by Regulation 5(1)(h) of the Construction Regulations of February 2014 and to determine his/her suitability to perform such work in a safe and healthy manner.
- 4) When submitting his/her tender the Contractor must supply the Client with the following:
  - A detailed Site Safety Plan indicating how the contractor will manage all Safety, Health and Environmental aspects whilst working on the Clients premises or on premises under his/her control, which must be based on the contents of this document as is required by Regulation 7(1)(a) of the Construction Regulations of February 2014.
  - A cost breakdown of funds being allocated to make adequate provisions for Safety, Health and Environmental requirements as is required by Regulation 5 (1)(g) of the Construction Regulations of February 2014.
- 5) No approval or acceptance of any document required by this specification shall be construed by the Contractor as an absolver of the Contractor from achieving the required level of performance and compliance with legal requirements whatsoever.
- 6) The Contractor is an employer in his/her own right and therefore must assume all the responsibilities as required from any legal obligation imposed on him or her.

### 1.2 Purpose of the Pre-Construction Health and Safety Specification

To assist in achieving compliance with the Occupational Health and Safety Act 85/1993 and the now promulgated Construction Regulations of February 2014 in order to reduce incidents and injuries.

INITIAL:

The Pre-Construction Safety, Health and Environmental Specification sets out the requirements to be followed by the Principal Contractor and other Contractors so that the Health and Safety of all persons potentially at risk and the potential risk to the environment may receive the same priority as other facets of the project such as Scope, Time, Cost and Quality.

### **1.3 Implementation of the Pre-Construction Health and Safety Specification**

This specification forms an integral part of the contract, and the Contractor is required to use it at pre-tender phase when drawing up his/her project-specific Construction Phase Health and Safety Plan as indicated above. The Principal Contractor shall forward a copy of this specification to all Sub-Contractors at their bidding stage so that they can in turn prepare Health and Safety Plans relating to their operations.

## **2. PRE-CONSTRUCTION HEALTH AND SAFETY SPECIFICATION**

### **2.1 SCOPE**

This Specification covers the requirements for eliminating and mitigating incidents and injuries on the particular project.

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

### **2.2 Contractual Issues**

- 1) Due to fact that this document is based on legislative requirements the Client requires that all Contractors comply with the requirements of this document and all other relevant legislative requirements not covered by this document.
- 2) The Client or its duly appointed representative reserves the right to stop any contractor from working whenever Safety, Health or Environmental requirements are being violated. Any resultant costs of such work stoppages will be for the Contractors account.
- 3) The requirements as specified by the Client in this document must not be deemed to be exhaustive and the Client reserves the right to make changes as and if the Client deems fit.
- 4) The Client will not entertain any claim of any nature whatsoever which has come about as result of costs incurred or delays being experienced due to the Contractor not complying with the requirements of this document or any other applicable legislative requirements imposed on the Contractor.

INITIAL:

## **2.3      Safety, Health and Environmental Standards and Procedures**

- 1)      The Contractor will ensure that all work performed by him/her is executed in accordance with work procedures which comply with accepted safety practices and applicable safety, health and Environmental legislation.
- 2)      Procedures as indicated above may be the Contractors own procedures on condition that they comply with the conditions as stipulated above.
- 3)      Where procedures have been specified by this Client in the contents of this document such procedures must be adhered to unless otherwise agreed to with the Client or it's duly appointed representative.

## **2.4      Interpretations**

### **2.4.1      APPLICATION**

This specification is a compliance document drawn up in terms of South African legislation and is therefore binding. It must be read in conjunction with relevant legislation as noted previously.

### **2.4.2      DEFINITIONS**

- 1)      The definitions as listed in the Occupational Health and Safety Act 85/1993 and Construction Regulations of February 2014 shall apply unless otherwise stipulated.
- 2)      Any reference to "The Contractor" includes – the Principal and Sub - Contractor unless otherwise stipulated.

## **2.5      Minimum Administrative Requirements**

### **2.5.1      Notification of Intention to Commence Construction Work**

- 1)      The Contractor shall notify the Provincial Director of the Department of Labour in writing before construction work commences if required in the format of Annexure 2. A copy of this notification must be forwarded to the Client prior to the commencement of Construction work.
- 2)      Copies of such notification can be obtained from any Department of Labour Office.

### **2.5.2      Assignment of Contractor's Responsible Persons to Supervise Health and Safety on Site.**

- 1)      The Contractor shall submit in the format of Annexure B, proof of all supervisory as well as any other relevant appointments as is required by the OHS Act and the Construction Regulations.
- 2)      It is acknowledged that the Contractor may need to allocate more than one appointment to certain staff members. This practice may only take place if Safety, Health and Environmental Standards would not be negatively affected.

INITIAL:



- 3) Should the Client or its representative deem such practice as having a negative effect on Safety, Health and Environmental Standards, then alternative arrangements will have to be made.

### **2.5.3 Competency of Contractor's Appointed Competent Persons**

- 1) Contractors' competent persons for the various risk management portfolios shall fulfill the criteria as stipulated under the definition of "Competent Person" in accordance with the Construction Regulations of February 2014 and the Occupational Health and Safety Act, Act 85 of 1993.
- 2) The Client reserves the right to require levels of Competency, which exceeds the requirements as stipulated by the Act and or Construction Regulations.
- 3) In the event of the Client requiring additional levels of Competency, alternative arrangements will have to be made.

### **2.5.4 Compensation of Occupational Injuries and Diseases Act, Act 130 of 1993 (COID ACT)**

- 1) The Contractor warrants that his and all his workmen are fully covered in terms of the COID, Act 130 of 1993 and that such cover shall remain in force for the duration of his contractual relationship with the Client or whilst working on the Clients premises or premises under the Clients control.
- 2) The Contractor will supply proof of such insurance cover to the Client with his/her tender submission.
- 3) The Contractor undertakes to ensure that all Sub-Contractors appointed by him/her will be fully covered in terms of the COID Act, Act 130 of 1993 and that such cover shall remain in force for the duration of their contractual relationship with the Contractor
- 4) The Contractor must also ensure that he has additional insurance cover that will adequately make provisions for any losses and/or his employee's acts and/or omissions whilst working on the Clients premises or on premises under the client's control.

### **2.5.5 Occupational Health and Safety Policy**

- 1) The Contractor shall submit a Health and Safety Policy signed by the Chief Executive Officer.
- 2) The Policy must outline objectives and how they will be achieved and implemented by the Company / Contractor.
- 3) A copy of such policy must be included in the Site Safety Plan and the Site Safety File.

INITIAL:

## **2.5.6 Health and Safety Organogram**

- 1) The Contractor shall submit an Organogram, outlining the Health and Safety Site Management Structure including the relevant appointments / competent persons.
- 2) In cases where appointments have not been made, the organogram shall reflect the intended persons to be appointed to such positions.
- 3) The organogram shall be updated when there are any changes in the Site Management Structure.

## **2.5.7 Preliminary Hazard Identification and Risk Analysis and Progress Hazard Identification and Risk Analysis**

- 1) A Preliminary Hazard Identification and Risk Analysis was conducted and can be found in the format of Annexure D. This Hazard Identification and Risk Analysis was performed to make the Contractor aware of potential Hazards, which could be present on the site and may not be comprehensive.
- 2) The Contractor shall cause a Hazard Identification and Risk Analysis exercise to be performed by a Competent Person before commencement of construction work, and the assessed risks shall form part of the Construction phase Health and Safety Plan submitted for approval by the Client. The Risk Assessment must include:
  - a) A list of hazards identified as well as potentially hazardous tasks;
  - b) A documented risk assessment based on the list of hazards and tasks;
  - c) A set of safe working procedures to eliminate, reduce and/or control the risks assessed;
  - d) A monitoring and review procedure of the risks assessment as the risks change.
- 3) The Principal Contractor shall ensure that all Contractors are informed, instructed and trained by a Competent Person/s regarding hazards, risks and related safe work procedures before any work commences and thereafter at regular intervals as the risks change and as new risks develop.
- 4) The Contractor shall be responsible for ensuring that all persons who could be negatively affected by its operations are informed and trained according to the hazards and risks and are conversant with the Safe Work Procedures, control measures and other related rules (tool box talk strategy to be implemented and so on).
- 5) Should the Client or its duly appointed Representative identify alternative hazardous activities performed by the Contractor or its Sub-Contractors on site for which a Risk Assessment was not performed then the contractor will be required to perform such an exercise before continuing such work.

INITIAL:

## 2.5.8 Health and Safety Representative(s)

- 1) The Contractors shall ensure that Health and Safety Representative(s) are appointed under consultation and trained to carry out their functions.
- 2) The appointments must be in writing and the Health and Safety Representative shall carry out regular inspections, keep records and report all findings to the Responsible Person forthwith and at Health and Safety meetings.

## 2.5.9 Health and Safety Committees

The Principal Contractor shall ensure that project Health, Safety and Environmental meetings are held monthly or as deemed necessary by the project requirements.

- 1) Minutes must be kept on record and filled in the Site Health and Safety File.
- 2) Meetings must be organized and chaired by the Principal Contractors' Responsible Person.

## 2.5.10 Health and Safety Training

### 2.5.10.1 Induction

- 1) The Principal Contractor shall ensure that all site personnel undergo a site-specific Health and Safety Induction Training Session before starting work. A record of attendance shall be kept in the Health and Safety file. **A suitable venue must be supplied to provide this training.**
- 2) All visitors to the site must also be subjected to site-specific induction training highlighting items such as steps to follow in the event of an emergency, restricted areas and so on.

### 2.5.10.2 Awareness

The Principal Contractor shall ensure that, on site, periodic toolbox talks take place daily. These talks should deal with risks relevant to the construction work at hand. A record of attendance shall be kept in the Health and Safety File. All Contractors have to comply with these minimum requirements.

### 2.5.10.3 Competency

- 1) All competent persons shall have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control, and carry out.
- 2) The abovementioned competency requirements will be assessed on a regular basis by the Client, by means of Audits, Progress Meetings, and any other means deemed fit by the Client.

INITIAL:

- 3) The Principal Contractor is responsible to ensure that competent Contractors are appointed to carry out construction work and records should be kept of criteria used to determine competency.
- 4) The Client reserves the right to require competencies which may exceed the Contractors standards in which case alternative arrangements will have to be made to meet the Clients requirements.

#### **2.5.11 General Record Keeping**

- 1) The Contractors shall keep and maintain Health and Safety records to demonstrate compliance with this Specification, with the OHS Act 85/1993; and with the Construction Regulations of February 2014.
- 2) The Contractor shall ensure that all records of incidents/accidents, training, inspections, audits, and so on are kept in a Health and Safety file held in the Site Office.
- 3) The Principal Contractor must ensure that every Contractor opens his/her own Health and Safety file, maintains the file and makes it available on request by any duly authorized person.
- 4) The principal contractor or sub-contractor that has more than 5 staff members on site will be required to have the full version of Occupational Health and Safety Act and Regulations 85 of 1993 on site.

#### **2.5.12 Health and Safety Audits, Monitoring and Reporting**

- 1) The Client shall conduct monthly Health and Safety audits of the work operations including a full audit of physical site activities as well as an audit of the administration of Health and Safety.
- 2) The Principal contractor is obligated to conduct similar audits on all Contractors appointed by him/her.
- 3) Detailed reports of the audit findings and resultant corrective measures shall be reported on at all levels of project management meetings/forums.
- 4) Copies of the Clients audit reports will be forwarded to the Contractor and must be kept in the Site Health and Safety File.
- 5) The Principal Contractor must audit the activities and administration of all appointed Sub-Contractors, forward a copy to the Client or its representative within seven days of completion of the audit and file a copy on the Site Safety File.

#### **2.5.13 Emergency Procedures/Plans**

- 1) The Principal Contractor shall submit a detailed Emergency Procedure/Plan for approval by the Client prior to commencement of work

INITIAL:

on site. The procedure shall detail the response plan/s including the following key elements:

- List of key competent personnel;
  - Details of emergency services;
  - Actions or steps to be taken in the event of the specific types of emergencies;
  - Information on hazardous material/situations.
- 2) Emergency Procedures/Plans shall include, but shall not be limited to, fire, spills, use of hazardous substances, bomb threats, major incidents/accidents major and minor and any other anticipated emergencies.
  - 3) The Principal Contractor shall advise the Client in writing forthwith, of any emergencies, together with a record of action taken. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc) must be maintained and be available to site personnel.
  - 4) Emergency procedures/Plans must be developed by a competent person such as a Safety, Health and Environmental Officer or in the absence of a Safety, Health and Environmental Officer by the Construction Work Supervisor.
  - 5) Emergency Procedures/Plans must form part of the Agenda of monthly safety meetings as the Procedures/Plans would have to be revisited on a continuous basis due to the changing environment on construction sites.

#### **2.5.14 First Aid Boxes and First Aid Equipment**

- 1) All Contractors shall appoint in writing First Aider(s) in terms of legislative requirements.
- 2) The appointed First Aider(s) must be sent for accredited first aid training should they not have received such training prior to commencement of work on site.
- 3) Valid certificates to be kept on site in the Site Safety File.
- 4) The Principal Contractor shall provide an on-site First Aid Station with first aid facilities, where required, including first aid boxes adequately stocked at all times.
- 5) All Contractors with more than 5 employees shall supply their own first aid box
- 6) In the event of hazards chemical substances being present on site, first aiders must be trained to address any incidents of accidental exposure and their first aid kits stocked accordingly

#### **2.5.15 Accident / Incident Reporting and Investigation**

- 1) Injuries are to be categorized into the following categories:

INITIAL:



- 1) first aid;
  - 2) medical;
  - 3) disabling; and
  - 4) fatal injuries.
- 2) All Contractors have to report on the 4 categories of injuries to the Principal Contractor as soon as is reasonably practicable.
  - 3) The Principal Contractor must stipulate in his/her construction phase Health and Safety plan how he/she will handle each of these categories.
  - 4) When reporting injuries to the Client, these categories shall be used.
  - 5) All injuries will be investigated by the Principal Contractors or his/her Competent Person, with a report being forwarded to the Client forthwith.
  - 6) The Principal Contractor must report all injuries to the Client in the form of a detailed injury report at least monthly.
  - 7) All incidents taking place in terms of Section 24 of the Act must be reported in the prescribed period and manner to the Department of Labour.
  - 8) Copies of Section 24 reports, including WCL 1 & 2 forms must be forwarded to the Client immediately after completion.

#### **2.5.16 Hazards and Potential Situations**

- 1) The Principal Contractor shall immediately notify other Contractors as well as the Client of any hazardous or potentially hazardous situations that may arise during performance of construction activities.
- 2) Should a hazardous situation require work stoppages the work must be stopped and corrective steps taken such as written Safe Work Procedures and issuing of Personal Protective Equipment.

#### **2.5.17 Personal Protective Equipment (PPE) and Clothing**

- 1) The Contractor shall ensure that all workers are issued and wear Hard Hats, Safety Boots/Shoes and Overalls.
- 2) The Contractor and all Contractors shall make provision and keep adequate quantities of SABS approved PPE on site at all times.
- 3) The Contractor shall clearly outline procedures to be taken when PPE or Clothing is:
  - Lost or stolen;
  - Worn out or damaged.
- 4) The above procedure applies to Contractors and their Sub-Contractors.

INITIAL:

- 5) The Contractor must ensure that no person enters the Site without the required Personal Protective Equipment.
- 6) Visitors to the Site must be provided with the required PPE such as Hard Hats, Earmuffs and Eye Protection.
- 7) Records of all PPE issued to staff must be kept on site in the Site Safety File.
- 8) Employees are to be made conversant with the purpose of PPE and where and when it is required to be used by the employee.
- 9) Safety belts are not to be allowed on site due to its associated potential of injury to the user; only double lanyard safety harnesses are permitted.
- 11) Suitable eye protection must at all times be worn by the worker when performing grinding, chipping, chasing and other associated activities.
- 12) In the event that onlookers may be struck by flying objects as a result of work being performed, suitable screens must be erected.
- 13) Any person performing welding or brazing work will wear suitable eye protection, gloves, aprons, and spats. Suitable screens are to be provided to protect onlookers from the harmful rays associated with such activities.
- 14) Where employees are required to work with corrosive liquids, suitable eye protection, gloves and acid resistant overalls must be provided.
- 15) Ear protection must be worn in designated noise zone (in excess of 85dB)
- 16) Suitable respirators must be provided to all employees and visitors required working in or entering areas where toxic vapors could be present.
- 17) All staff working in an elevated position (2m or higher) or where the potential exists that such person may fall must be provided with a suitably secured safety harness.
- 18) Any person refusing to wear personal Protective Equipment must be instructed to wear such equipment and in the event of such person refusing to wear such equipment he/she must be removed from the premises.

#### **2.5.18 Occupational Health and Safety OHS Signage**

- 1) The Contractor shall provide adequate on-site OHS signage including but not limited to: "no unauthorized entry", "report to site office", "site office", "beware of overhead work", "hard hat area".
- 2) Signage shall be posted up at all entrances to the site as well as on site in strategic locations e.g. access routes, stairways, entrances to

INITIAL:

structures and buildings, scaffolding, and other potential risk areas/operations.

- 3) In the event where work is being performed on a premises displaying signage such as no-parking, speed limits and so on, the Contractor will abide by the requirements of such signage except if otherwise instructed.

#### **2.5.19 Permits**

- 1) The Contractor shall draft and implement where required permits which may include the following:
  - Use of Explosives and Blasting;
  - Work for which a fall prevention plan is required;
  - Use of cradles, and
  - Electrical work
  - Hot works
- 2) The Contractor will ensure that where permits are required that it is used and adhered to.

### **2.6 Physical Requirements**

#### **2.6.1 Demolition Work**

- 1) Prior to any demolition work being carried out, the Principal Contractor shall submit a safe working procedure and a detailed engineering survey for approval by the Client.
- 2) Such Safe Work Procedures' must where possible be submitted with the Site SHE Plan
- 3) Acceptance will then be issued to the Principal Contractor to proceed with the demolition work.
- 4) The Principal Contractor shall ensure that demolition work complies with the Construction Regulations of February 2014.
- 5) In the event where a structure identified for demolition includes substances such as lead or asbestos it must be performed within the requirements of the applicable legislative.
- 6) It is the Principal Contractor responsibility to locate and determine where all underground services are and make safe before any excavating, digging etc. is done

#### **2.6.2 Excavations, Shoring, Dewatering or Drainage**

- 1) All excavation work must be performed under the supervision of a Competent Person as specified in Annexure B of this document and the Construction Regulations of July 2003.

INITIAL:

- 2) Adequate Shoring and Bracing must be provided where required to ensure that the health and safety of the employees working in such excavations are not put at risk.
- 3) Adequate provisions must be made to ensure that water is drained from excavations which may enter such excavations as a result of seepage or rain.
- 4) All excavation made by the Contractor must be clearly demarcated and protected to prevent accidental access.
- 5) Barricading tape may only be used to make solid barricading more visible and may not be used as a means of barricading.
- 6) In addition to the abovementioned the requirements of Regulation 11 of the Construction Regulations of July 2003 must be adhered to.

#### **2.6.3 Edge Protection**

- 1) All open edges posing the risk of resulting in injuries or damage to equipment must be adequately guarded fenced or barricaded or other similar suitable means used to prevent injuries or damage to equipment.
- 2) Barricading tape is not deemed to be suitable and may only be used in addition to other suitable means as indicated above.

#### **2.6.4 Explosives and Blasting**

- 1) All explosives must be transported or stored according to the requirements of SANS 0228.
- 2) Written approval must be obtained from the Chief Inspector Occupational, Health and Safety prior to any blasting activities taking place.
- 3) A copy of such permission from the Chief Inspector Occupational, Health and Safety must be supplied to the client prior to Blasting.
- 4) Prior to blasting a siren must be sounded, warning flags posted and guards placed at strategic locations points to prevent accidental entry to the blasting area.

#### **2.6.5 Stacking of Materials**

- 1) Stacking and storage of materials must be performed under the Supervision of a Competent Person whom has been appointed in writing as required by Annexure B.
- 2) Storage areas must be designated, kept neat and under control. In addition to the abovementioned the requirements of General Safety Regulations as promulgated by Government Notice No R1031 dated 30 May 1986 as amended must be complied with.

INITIAL:

- 3) In the event that unauthorized persons may enter an area where materials are stacked such area must be barricaded off to prevent access to such area.

#### **2.6.6 Speed Restrictions and Protections**

- 1) Unless otherwise stipulated the speed limit on site to be adhered to is 10 Km/h.
- 2) Vehicle movement routes on site must be clearly indicated where applicable.
- 3) Signage to ensure the safe movement of vehicles on site as well as to ensure the health and safety of all employees and visitors on site must be displayed in strategic locations.

#### **2.6.7 Hazardous Chemical Substances (HCS)**

- 1) All employees required to use Hazardous Chemical Substances or products containing Hazardous Chemical Substances must be adequately and comprehensively trained with regard to the requirements of the Hazardous Chemical Substances Regulations as amended in Government Gazette No 25130 of June 2003, the potential sources of exposure and the potential risks to their health caused by exposure.
- 2) In addition to the abovementioned, Material Safety Data Sheets must be kept on site for all materials, which may contain hazardous chemical substances.

#### **2.6.8 Asbestos**

- 1) Asbestos work may only be performed subject to prior notification of the Provincial Director, Occupational Health and Safety, Department of Labour, in writing.
- 2) Every employer or self-employed person must as far as is reasonably practicable ensure that all asbestos-containing material at the workplace are identified by a competent person.
- 3) Proof of such notification must be supplied to the Client prior to work proceeding.
- 4) All asbestos work shall be carried out as per the Asbestos Abatement Regulations by an approved Asbestos Contractor.
- 5) All employees must be informed and receive training on aspects such as the contents and scope of the Asbestos Abatement Regulations as published in Government Gazette 23108 of November 2020, the potential risks of exposure to asbestos, precautionary measures employees have to take and all other requirements deemed necessary to provide a safe and healthy environment for all employees as specified by the Asbestos Abatement Regulations as indicated above.

INITIAL:

- 5) All asbestos will be removed from site by an approved asbestos contractor to an approved asbestos dump site. Certificate must be issued on completion on removal of all asbestos on site indicating that the site is clear of all asbestos.

## **2.7 Plant and Machinery**

### **2.7.1 Construction Plant**

- 3) All Construction Plant must comply with and be used in conjunction with the requirements of Section 23 of the Construction Regulations and in specific that all records of inspections rendering such plant safe must be kept on site.
- 4) Operators will be competent and trained and copies of training certificates shall be placed on the health and safety file on site.
- 5) Operators shall be in possession of medical certificate declaring that they are physically and psychologically fit to operate such construction vehicle and plant and copy of medical certificate shall be on the file.
- 6) Original operating and medical certificates shall be kept by the operators and shall be on site in-possession of the operators at all times.

### **2.7.2 Vessels under Pressure (VUP)**

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

- Providing competency and awareness training to the operators;
- Providing PPE or clothing;
- Inspecting equipment regularly and keeping records of inspections;
- Providing appropriate firefighting equipment.

### **2.7.3 Fire Extinguishers and Fire Fighting Equipment**

- 1) The Principal Contractor and Sub Contractors shall provide or ensure adequate provision of regularly serviced firefighting equipment located at strategic points on site, specific to the classes of fire likely to occur.
- 2) The appropriate notices and signs must be posted up as required.
- 3) Contractors may not utilize fire protection equipment belonging to the client without prior consent.

### **2.7.4 Hired Plant and Machinery**

- 1) The Contractor shall ensure that any hired plant and machinery used on site is safe for use.
- 2) The requirements as stipulated by the OHS Act 85/1993 and Construction Regulations of February 2014 shall apply.

INITIAL:



- 3) The Principal Contractor shall ensure that operators hired with machinery are competent and that certificates are kept on site in the Site Health and Safety File. All relevant Contractors must ensure the same.

#### **2.7.5 Scaffolding / Working at Heights**

- 1) Working at heights includes any work that takes place in an elevated position in excess of 2m.
- 2) The Contractor must submit a risk-specific fall prevention plan and include a rescue plan in accordance with the Construction Regulations of February 2014 before this work is undertaken.
- 3) The fall prevention plan must be approved by the Client before work may commence.

#### **2.7.6 Formwork and Support Work for Structures**

- 1) The Principal Contractor shall ensure that the provisions of Section 10 of the Construction Regulations of February 2014 are adhered to.
- 2) These provisions must include but not be limited to ensuring that all equipment used is examined for suitability before use; that all Formwork and Support Work is inspected by a competent person immediately before, during and after placement of concrete or any other imposed load and thereafter on a daily basis until the Formwork and Support Work has been removed.
- 3) Records of all inspections must be kept in a register on site.

#### **2.7.7 Lifting Machines and Tackle**

- 1) The Contractor shall ensure that lifting machinery and tackle is inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations (Section 20).
- 2) There must be a competent appointed lifting Machinery and Tackle Inspector on site who must inspect the equipment daily or before use, taking into account that:
  - All lifting machinery and tackle has a safe working load clearly indicated;
  - Regular inspection and servicing is carried out;
  - Records are kept of inspections and of service certificates;
  - There is proper supervision in terms of guiding the loads that includes a trained banksman to direct lifting operations and check lifting tackle;
  - The tower crane bases have been approved by an engineer;
  - The operators are competent as well as physically and psychologically fit to work and be in possession of a medical certificate of fitness which must be available on site.

#### **2.7.8 Ladders and Ladder Work**

INITIAL:

- 1) The Contractor shall ensure that all ladders are inspected at least monthly, are in a good safe working order, are the correct height for the task, extend at least 1m above the landing, fastened and secured, and at a safe angle.
- 2) Records of inspections must be kept in a register on site.

#### **2.7.9 General Machinery**

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

#### **2.7.10 Portable Electrical Tools and Explosive Powered Tools**

- 1) The Contractor shall ensure that use and storage of all explosive powered tools and portable electrical tools are in compliance with relevant legislation.
- 2) The Contractor shall ensure that all electrical tools, electrical distribution boards, extension leads, and plugs are kept in a safe working order.
- 3) The Contractor shall apply the following:
  - A competent person undertakes routine inspections and records are kept.
  - Only authorized trained persons use the tools.
  - The safe working procedures apply.
  - Awareness training is carried out and compliance is enforced at all times.
  - PPE and clothing is provided and maintained.
  - A register indicating the issue and return of all explosive rounds is implemented and maintained, and
  - That signs are posted up in the areas where explosive powered tools are being used.

#### **2.7.11 High Voltage Electrical Equipment**

- 1) All contractors must be made aware of the presence and location of High Voltage Equipment such as underground cables and overhead lines, and that the necessary precautionary steps are taken where work has to be executed in the vicinity of such equipment.
- 2) Precautionary measures such as Isolation and Lock-Out of electrical systems or the use of electrically isolated tools must be used.

#### **2.7.12 Public and Site Visitor Health and Safety**

- 1) The Contractor shall ensure that every person working on or visiting the site, as well as the public in general, shall be made aware of the dangers likely to arise from site activities, including the precautions to be taken to avoid or minimize those dangers.

INITIAL:

- 2) Appropriate Health and Safety Notices and signs shall be posted up, but shall not be the only measure taken.

#### **2.7.13 Night Work**

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

#### **2.7.14 Transportation of Workers**

- 1) The Contractor and shall not:
  - Transport persons together with goods or tools unless there is an appropriate area or section to store such goods.
  - Transport persons on the back of trucks except if a proper canopy (properly covering the sides and top) has been provided with suitable seating areas.
  - Permit workers to stand or sit on the edge of the transporting vehicle.
  - Transport workers in LDV's unless they are closed/covered and have the correct number of seats for the passengers.
- 2) No driver will transport more than six people on the back of a 1 Ton LDV and more than four passengers on the back of a ½ Ton LDV.
- 3) The driver of any LDV will not permit more than 2 passengers to occupy the cab of any single cab LDV and 4 passengers of any double cab LDV.
- 4) All vehicles operated on the site will in all aspects comply with the requirements of the Road Traffic Ordinance Act
- 5) Drivers of such vehicles will have a valid license for the code of vehicle being driven by them.
- 6) No servicing of vehicles will be permitted on a Construction Site, which is occupied by staff working for the Client.
- 7) Servicing or repairs of vehicles on site may only take place if such activities are performed with the necessary procedures in place to prevent any harmful effects to the environment.
- 8) All waste generated from servicing vehicles must be disposed off in accordance with relevant Environmental legislation.
- 9) In the event where Earth Moving Equipment is present on site the following must be adhered to:
  - Drivers of vehicles must be instructed to avoid parking behind earth moving vehicles to ensure that their vehicles are visible to the operator of earth moving vehicles.
  - Right of way must be afforded to earth moving machinery at all times.
  - Vehicles must only be permitted to park where possible in designated areas

INITIAL:

## **2.8 Occupational Health and Environmental Management.**

### **2.8.1 Occupational Hygiene**

- 1) Exposure of workers to occupational health hazards and risks is very common in any work environment, especially in construction.
- 2) Occupational exposure is a major problem and all Contractors must ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards.
- 3) Contractors must prevent inhalation, ingestion, absorption, and noise induction.
- 4) Site-specific health risks are tabled in Annexure D such as cement -dust, wood-dust, noise and so on but is not limited to these items.
- 5) Water to be utilized for drinking purposes may only be drawn from taps designated for drinking water purposes. Fire hydrants and fire hose reels may not be utilized for drinking water purposes.
- 6) In the event where staff is required to be away from home due to the work they have to perform on behalf of the Contractor, the Contractor will provide suitable clean dry and hygienic accommodation, the cost thereof shall be borne by the Contractor.

### **2.8.2 Environmental Management**

- 1) The Contractor shall take all precautionary steps to prevent any pollution of the Environment.
- 2) Any material, which may pose a harmful effect when disposed of by normal means, must be disposed of in an appropriate manner to eliminate its harmful effect on the environment after disposal.
- 3) The Contractor will ensure that adequate procedures are implemented and maintained to ensure that all waste generated including asbestos waste is placed in suitable receptacles and removed from the site promptly.
- 4) Plans to deal with spillages must be in place and maintained.
- 5) No waste materials liquid or solid may be disposed of in drains.
- 6) No burning of waste material may take place where such material being burned may result in pollution of the air or give off toxic vapors which could be harmful to the health of employees or any other person present on site.

### **2.8.3 Welfare Facilities**

INITIAL:

- 1) Contractors will supply sufficient toilets (1 toilet per 30 workers). Toilets will be so positioned that it is in close proximity of the workers. If more toilets are required contractors must make provision for this.
- 2) Showers (1 for every 15 workers).
- 3) Changing facilities.
- 4) Hand washing facilities, soap, toilet paper, and hand drying materials.
- 5) Waste bins must be strategically placed and emptied regularly.
- 6) Safe, clean storage areas must be provided for workers to store personal belongings and personal protective equipment.
- 7) Workers must not be exposed to hazardous materials/substances while eating and must be provided with sheltered eating areas.

#### **2.8.4 Alcohol and other Drugs**

- 1) No alcohol and other drugs will be allowed on site without the express permission of the Principal Contractor.
- 2) No person may be under the influence of alcohol or any other drugs while on the construction site.
- 3) Any person on prescription drugs must inform his/her Employer, who shall in turn report this to the Principal Contractor forthwith.
- 4) Any person suffering from any illness/condition that may have a negative effect on his/her safety performance must report this to his/her Employer, who in turn must report this to the Principal Contractor forthwith.
- 5) Any person suspected of being under the influence of alcohol or other drugs must be sent home immediately, to report back the next day for a preliminary inquiry. A full disciplinary procedure must be followed by the Contractor concerned and a copy of the disciplinary action must be forwarded to the Principal Contractor for his records.

#### **2.9 Electrical fencing.**

- 1) Contractor must comply with regulation 12, 13 and 14 of the Electrical Machinery Regulations.

#### **2.10 Hazardous Biological Agent**

- 1) Every employer or self-employed person must ensure that he or she or any person who in any manner assist him or her in the carrying out or conducting of business duties has the necessary information and has undergone instruction and training in order for him or her to identify potential risks and the precautions that should be taken.

INITIAL:

## ANNEUXRE A

The Contractor must submit proof of compliance with Annexure A with the construction phase H&S plan where applicable.

HSS Item No.	Requirement	OHS Act Requirement	Submission Date
2.3.1	Notification of Intention to Commence Construction/Building Work	Complete Annexure 2 (Construction Regulations)	Before commencement on site
2.3.2	Assignment of Responsible Persons	All relevant appointments as per OHS Act, Construction Regulation and Annexure B	Together with SHE Plan
2.3.3	Competence of Responsible Persons	Client Requirement & OHS Act	Together with SHE Plan
2.3.4	Compensation of Occupational Injuries and Diseases Act (COIDA) 130 of 1993	Construction Regulation and Client Requirement	Together with SHE Plan
2.3.5	Occupational Health and Safety Policy (This must include SARS-COV-2 policy)	OHS Act	Together with SHE Plan
2.3.6	Health and Safety Organogram	Client Requirement	Together with SHE Plan
2.3.7	Initial Hazard Identification and Risk Assessment: <ul style="list-style-type: none"> <li>• Baseline risk assessment</li> <li>• Asbestos Identification risk assessment (if applicable)</li> <li>• SARS-Cov-2 risk assessment</li> </ul>	Construction Regulation	Together with SHE Plan

INITIAL:



## ASSIGNMENT OF CONTRACTOR'S RESPONSIBLE PERSONS

### ANNEXURE B

The Principal Contractor shall make the following appointments according to the initial risk assessment or as deemed necessary: (further appointments could become necessary as the project progresses)

Appointment	OHSA Reference	Requirement abbreviated
CEO Assignee	Section 16(2)	A competent person to assist with the on-site H&S, overall responsibility – Contractor's Responsible Person
Construction Manager	CR 8(1)	A competent person(s) to supervise and be responsible of Health & Safety related issues on site. The person is appointed to assist the CEO with his/her overall duties.
Construction Work Supervisor	CR 8(7)	A competent person(s) to supervise and be responsible of Health & Safety related issues on site. The person is appointed to assist the CEO with his/her overall duties.
Subordinate Construction Work Supervisors	CR 8(8)	A competent person to assist with daily supervision of construction work. The person assists the Construction Work Supervisor.
Health and Safety Officer	CR 8(5)	A competent Health and Safety officer in the control of all safety related aspects on site for the duration of the repair phase of this project.
Health & Safety	Section 17	A competent person(s) to inspect H&S in reference to plant, machinery and Health & Safety of persons in the workplace.
Health & Safety Committee Member(s)	Section 19	A competent person(s) representing the employer to assist with the on site Health & Safety matters.
Incident /Accident Investigator	GAR 8	A competent person(s) to investigate incidents/accidents on site and could be: <ul style="list-style-type: none"> <li>• The employer</li> <li>• H&amp;S Representative</li> <li>• Designated person</li> <li>• Members of the H&amp;S Committee</li> </ul>
Risk Assessment coordinator	CR 9	A competent person(s) to co-ordinate all risk assessments on behalf of the Principal Contractor. The same applies to Contractors.
Fall Protection Plan coordinator	CR 10	A competent person(s) to prepare & amend the fall protection plan.
First Aiders	GSR 3	A qualified person(s) to address all on site first aid cases.
Lifting Machine & Equipment inspector	DMR 18	A competent person(s) to inspect lifting machines, equipment & tackle.

INITIAL:

Scaffolding Erector	CR 16.1	A competent person(s) to erect scaffolding
Scaffolding Inspector	CR 16.2	A competent person(s) to inspect scaffolding before use and every time after bad weather etc
Temporary Works	CR 12	A competent person(s) to inspect formwork & support work
Excavation Inspector	CR 13	A competent person(s) to inspect excavation work and ensure that approved safe working procedures, are followed at all times
Ladder Inspector	GSR 13A	A competent person(s) to inspect monthly and ensure they are safe for use, keeping monthly record
Stacking Supervisor	CR 28	A competent person(s) to supervise all stacking and storage operations
Demolition Supervisor	CR 14(1)	A competent person(s) to supervise all demolition work
Explosive Powered Tools Inspector/Supervisor	CR 21	A competent person(s) to inspect & clean the tool daily and controlling all operations thereof.
Temporary Electrical Installations Supervisor	CR 24	A competent person(s) to control all temporary electrical installations.
Construction vehicles and Mobile Plant Supervisor.	CR 23(1)(k)	A competent person to inspect vehicles and plant on a daily basis prior to use and record such finding in register.
Fire-Fighting Equipment Inspector	CR 29	A competent person(s) to inspect fire-fighting equipment with required training certificate.

INITIAL:

## OTHER REQUIREMENTS

### ANNEXURE C

The Principal Contractor shall comply but not be limited to the following requirements: report on these to the Client at progress meetings or at least monthly whichever is sooner.

What	When	Output	Accepted by Client & date
Induction training	Every worker before he/she starts work.	Attendance registers	
Awareness Training (Tool Box Talks)	At least weekly	Attendance registers	
Health & Safety Reports	Monthly	Report covering: <ul style="list-style-type: none"> <li>Incidents/accidents and investigations</li> <li>Non conformances by employees &amp; External H&amp;S audit reports</li> </ul>	
Emergency procedures	Ongoing evaluation of procedure	Table procedure in writing as well as tel. Numbers	
Risk assessment	Continuous	Documented risk assessment	
Safe work procedures	Drawn up before workers are exposed to new risks	Documented set of safe work procedures (method statements) updated and signed off.	
General Inspections	Weekly & daily	Report OHS Act compliance: <ul style="list-style-type: none"> <li>Scaffolding</li> <li>Excavations</li> <li>Formwork &amp; support work</li> <li>Explosive tools</li> </ul>	
General Inspections	Monthly	<ul style="list-style-type: none"> <li>Fire-fighting equipment</li> <li>Portable electrical equipment</li> <li>Ladders</li> <li>Lifting equipment/slings</li> </ul>	

INITIAL:

What	When	Output	Accepted by Client & date
List of contractors	List to be updated weekly	Table list, number of workers and Company tel. Numbers	
Workmen's Compensation	Ongoing	Table a list of Contractors' Workman's Compensation proof of good standing	
Construction site rules & Section 37.2 Mandatory Agreement	Ongoing	Table a report of all signed up Mandatory's	

## ANNEXURE D

### Project/site Specific Requirements

The following is a list of generic activities and considerations that have been identified for the project and site and for which the **Risk Assessment, Standard Working Procedures (SWP), management and control measures and Method Statements (where necessary)** have to be developed by the Principal Contractor.

- Demolition work
- Brick work
- Concrete work
- Creating openings in walls
- Preparation of paint surfaces
- Painting of walls
- Working with cement products
- Dust
- Metal/Steel work
- Exposure to noise
- Establishment of site office
- Locating of existing services
- Loading and offloading of trucks
- Aggregate/sand and other material delivery
- Protection against dehydration and heat exhaustion
- Manual and mechanical handling
- Lifting and lowering operations.
- Use of Potable electrical Equipment
  - Angle grinder
  - Electric Drilling Machine
  - Skill Saw
- Use and storage of flammable liquids and other Hazardous substances
- Site works
- Electrical installation work
- Mechanical works
- Working in the vicinity of the public and staff of the client
- Working at heights
- Working with construction machinery and plant
- Persons working in close vicinity of construction machinery and plant.
- Hot works i.e. Welding, flame cutting etc.

### NOTE:

The above list is by no means exhaustive and should not be limited to these activities but must cover all activities that forms part of the said construction work. Each activity must be split down to individual tasks and all associated hazards identified and listed in the risk assessment. This ensures that the critical tasks and subsequent critical hazards are not missed. It is contractor's duty to identify all applicable hazards and apply necessary mitigation factors. **The contractor should, during tender process make provision for any statutory requirement which may arise due to its scope of work.**

INITIAL:

## **EXPANDED PUBLIC WORKS SPECIFICATION**

The following Specification is divided into the following compliance categories that must be fulfilled:-

1. EPWP NYS Specification
2. DPW Projects Branding

## **CONTENTS**

SL 01	APPLICABLE LABOUR LAWS
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SL 03	PAYMENTS
SL 04	EPWP REPORTING SYSTEM REQUIREMENTS
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SL 06	PROJECT BRANDING

### **SL 01. APPLICABLE LABOUR LAWS**

In line with the Expanded Public Works Programme (EPWP) policies, the Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of labour in government Notice No. R63 of 25 January 2002, of which extracts have been reproduced below, shall apply to works described in the scope of work and which are undertaken by unskilled or semi-skilled Participants.

The Code of Good Practise for Employment and Conditions of Work for Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. R64 of 25 January 2002 shall apply to works described in the scope of work and which unskilled or semi-skilled Participants undertake

### **SL 02. KEEPING RECORDS**

- a) Every employer must keep a written record of at least the following –
  - i. The Participant/s employment contract;
  - ii. Payments (proof of payments) made to each Participant.
  - iii. Certified copy of an Identity Document
  - iv. Signed monthly attendance registers
  - v. in the case of a task-rated Participant, the number of tasks completed by the Participant;
  - vi. in the case of a time-rated Participant, the time worked by the Participant;
- b) The employer must keep this record for a period of at least three years after the completion of the SPWP.

### **SL 03. PAYMENTS**

- a) The Participants shall be remunerated monthly in terms of the amount agreed upon by Ministerial Determination 4 and paid monthly on the day agreed upon with the contractor.
- b) Payment must be made through electronic fund transfer (EFT) into Participant bank account.
- c) An employer must give a Participant the following information in writing –
  - i. the period for which payment is made;
  - ii. the number of tasks completed or hours worked;
  - iii. the Participants earnings;
  - iv. any money deducted from the payment;
  - v. the actual amount paid to the Participant.
- d) After the Participant is paid s/he must acknowledge receipt of payment by signing payment register.
- e) If a Participants employment is terminated, the employer must pay all monies owing to that Participant within one month of the termination of employment.



**SL 04. EPWP REPORTING REQUIREMENTS**

The Project must be registered on the NDPW EPWP reporting system by the public Body and report on:-

1. Certified copy of participants' id (not later than 3 months at the time of system enrolment),
2. Beneficiary contract need to be uploaded on the system when registering a project for EPWP compliance.
3. The contractor is required to submit monthly beneficiary reports (Annexure B), which are to be attached to payment certificates and invoices as per attached Reporting Templates.
4. The contractor needs to ensure that participants are registered under workman's compensation and that UIF is deducted for EPWP beneficiaries.
5. Payment shall only be processed once compliance with EPWP and other Reporting requirements have been proven.
6. The reported information must be accompanied by:-
  - 6.1. Copies of ID (once off) when participants contracted,
  - 6.2. Beneficiary Contract of Employment (once off),
  - 6.3. Attendance registers (monthly) and
  - 6.4. Proof of Payment (monthly)
7. All copies of these documents should be kept safe on site for the duration of the contract for Audit purpose.

**SL 05. CONTRACT CLAUSE INSERT INTO TENDER DOCUMENT****IMPLEMENTATION OF LABOUR-INTENSIVE INFRASTRUCTURE PROJECTS UNDER THE EXPANDED PUBLIC WORKS PROGRAMME (EPWP)**

The Contractor shall comply with all the "Code of Good Practise for Employment and Conditions of Work for Special Public Works Programme" issued in terms of the "Basic Conditions of Employment Act, 1997 (Act No 75 of 1997)" and the related "Ministerial Determination", for the employment of locally employed and or temporary workers on a labour-intensive infrastructure project under the Expanded Public Works Programme (EPWP).

The contractor shall maintain daily records with regards to workers employed and shall, on a monthly basis, submit a report to the principal agent in the prescribed format. Compulsory indicators such as project budget, actual project expenditure, number of job opportunities created, demographic characteristics of workers employed, minimum daily wage rate, number of person-days of employment created and number of training person-days, shall be included in said report, all as defined in the guidelines for the implementation of Labour-intensive Infrastructure Projects under the Expanded Public Works Programme (EPWP)

Provision for pricing of compliance with the aforementioned is made under this clause and it is explicitly pointed out that all requirements in respect of the aforementioned are deemed to be priced hereunder and no additional claims in this regard shall be entertained.

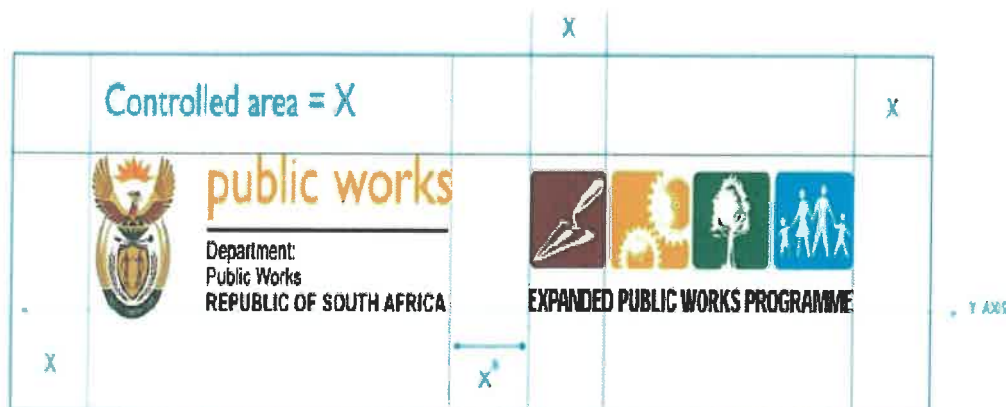
**SL 06 ANNEXURE A.1 – EPWP BRANDING REQUIREMENTS**

(Please note that the new Public Works and Infrastructure logo should be used instead of the Public Works Logo)

## The EPWP identity construction

The logo spacing guide is used to check relationship of the Public Works Logo and Expanded Public Works Programme logo.

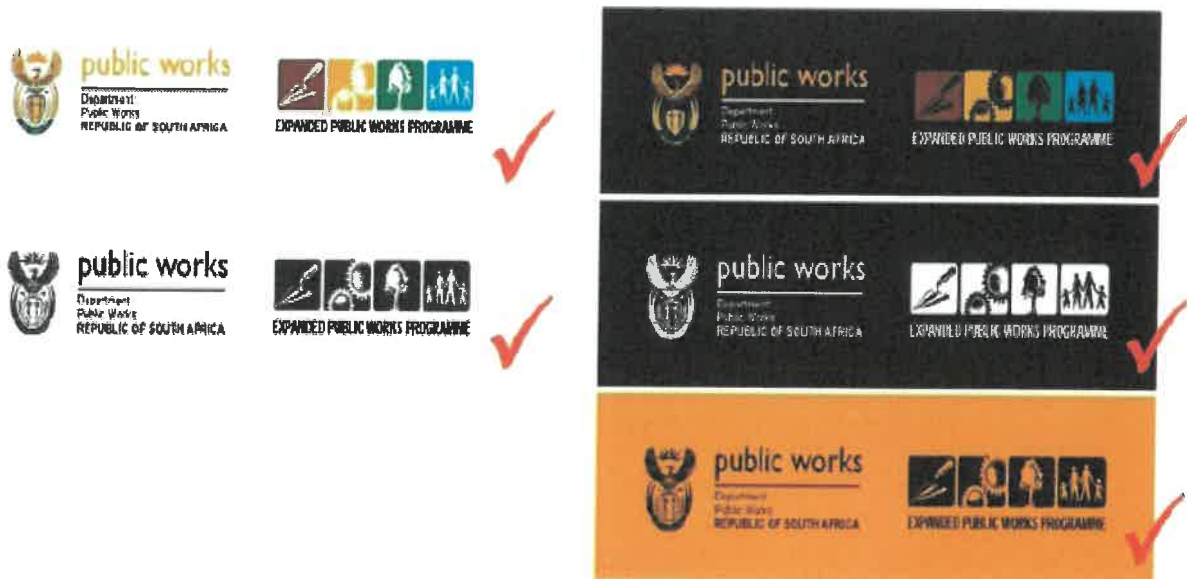
### HORIZONTAL RELATIONSHIP



In the horizontal relationship the DPW logo always appears on the left and EPWP logo on right.

\* NOTE The space between the public works logo and EPWP logo may increase but never decrease less than X width. The logos must always bottom align with Y axis.

## The EPWP identity - Acceptable colour application



## The EPWP identity - Typography

The fonts chosen for the EPWP identity is Gill Sans and Arial. The following versions of the Gill Sans and Arial family can be used.

Primary descriptor: Gill Sans Regular

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890 \*&!/?@

Primary descriptor: Gill Sans Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890 \*&!/?@

Secondary typography: Arial Bold

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890 \*&!/?@

Secondary descriptor (EPWP): Arial Narrow

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890 \*&!/?@

Secondary typography: Arial Regular

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
abcdefghijklmnopqrstuvwxyz  
1234567890 \*&!/?@

# The EPWP identity - Colour palette

The Primary colour palette for the EPWP identity is Black and Yellow.  
The Secondary colour palette appear in the logo and is an integral part of the EPWP identity.

## PRIMARY COLOUR PALETTE



## SECONDARY COLOUR PALETTE



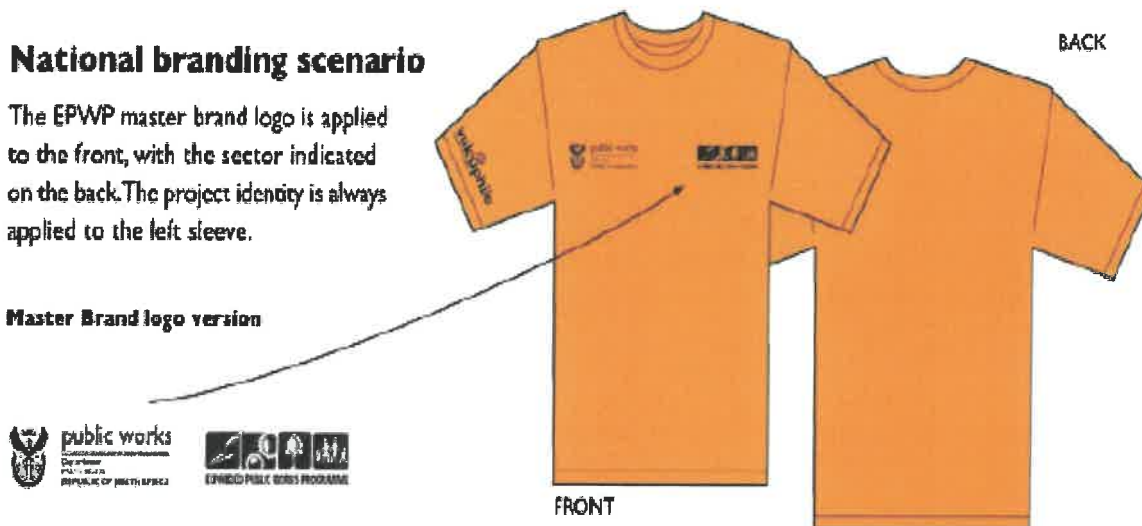
# The EPWP co-branding in promotional material

The Expanded Public Works Programme corporate identity is likely to be applied in conjunction with many other role players. When using the horizontal version of the EPWP identity the following scenarios applies.

## National branding scenario

The EPWP master brand logo is applied to the front, with the sector indicated on the back. The project identity is always applied to the left sleeve.

### Master Brand logo version



ANNEXURE B.1 – EPWP BENEFICIARY REPORTING TEMPLATE



**BENEFICIARY INFORMATION**  
PLEASE PROVIDE BENEFICIARY INFORMATION ON THIS SHEET

[illegible]

- 044\_EPWPNYS - Specification SL April20218rev2 SL



## PROGRESS REPORT DATA

		2011					
		TOTAL up to JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
Financial Report							
Expenditure (Total monthly for Project)							
EPWP Certified Contractors							
Number of contractors							
Amount Spent (by Contractor)							
SMME Contractors							
Number of contractors							
Amount Spent							
Milestones		If milestones has been achieved provide the achievement date, otherwise indicate "NO" for each milestones not achieved.					
Project approved							
Consultant appointed							
Detailed Design specifications approved							
Tender report approved							
Construction started							
Implementation complete							
Actual Outputs							
Type of output							
Quantity achieved							
Date achieved							



public works  
& infrastructure

Department:  
Public Works and Infrastructure  
REPUBLIC OF SOUTH AFRICA

# STELLENBOSCH QUARANTINE STATION: UPGRADING OF THE SEWERAGE SYSTEM

## C4: SITE INFORMATION

Sub-Heading:	Form no.:
Site Information	Project specific. PG-03.1 (EC)
List of Drawings	

## PG-03.1 (EC) SITE INFORMATION – GCC 3<sup>rd</sup> Edition (2015)

Project title:	Stellenbosch Quarantine Station: Upgrading of Sewerage System				
Tender no:	CPT1001/25	WCS no:		Reference no:	6522/5981/5/6

### C4 Site Information

*The location of the facility is briefly described below:*

- The site, Farm Nr: (17/183, 8/283 & RE/283), is located on Polkadraai Road/ Adam Tas Road (R310) as one enters Stellenbosch. The site is located between Kuils River and Stellenbosch. The Stellenbosch Quarantine Station is located  $\pm 3$ km West from the Stellenbosch town centre and South of the R310 Road.
- The site is bounded with the existing Light Industrial Development in the North including the Stellenbosch Waste Water Treatment Works (WWTW) and West are neighbouring farm areas. The site location is shown in the Figure below.

***It must be emphasised that all buildings will remain occupied and will only be accessible during office hours. Special arrangements will have to be made with the Engineer and User Client to obtain access to residential units/ office buildings or workshops.***

*The Contractor is to allow for the above in his programme.*



## LIST OF DRAWINGS

The following drawings shall be issued during the tender period to form part of tender documentation. Where applicable, drawings could be re-issued to the Contractor at commencement of the construction phase. These drawings are for information purposes only.

DRAWING NO.	DESCRIPTION
Surv-3386:	DETAILED (BLOCK A) CIVIL SERVICES SURVEY: PORTION 17 OF FARM 183, STELLENBOSCH
C2C241/CIV/01:	EXISTING FOUL SEWER SYSTEM WITH INDICATED ISSUES
C2C241/CIV/02:	BLOCK B SEWER AND RISING MAIN
C2C241/CIV/03:	EMERGENCY OVERFLOW TANKS
GEN063	SITE NAME BOARD



No.	DESCRIPTION	DATE
A	ISSUED FOR TENDER	13/09/2021

DESIGNED BY:	BV
DRAWN BY:	BV
CHECKED BY:	EVA
APPROVED BY:	EVA
DATE:	August 2021
SCALE:	NTS

PROJECT NAME  
**STELLENBOSCH QUARANTINE  
STATION SEWER UPGRADE**

DRAWING NAME:  
**BLOCK B SEWER & RISING  
MAIN**

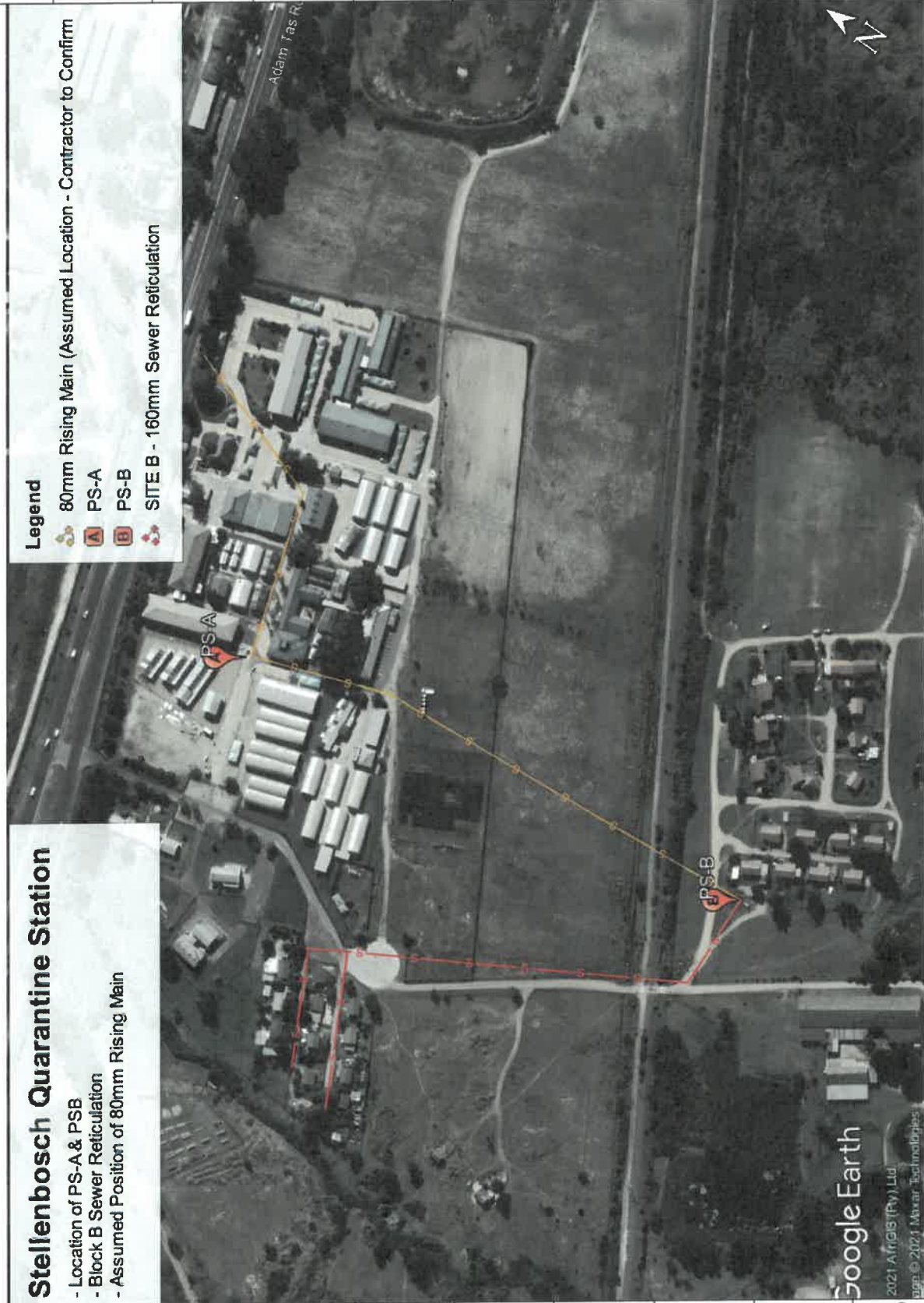
DWG No.: **C2C241/CIV/02**

PLANS APPROVAL



- Location of PS-A & PSB
- Block B Sewer Reticulation
- Assumed Position of 80mm Rising Main

80mm Rising Main (Assumed Location)  
PS-A  
PS-B  
SITE B - 160mm Sewer Reticulation







**csc consulting engineers**  
27 KILN STREET,  
DAN, PAULS RIDGE  
7150  
TEL: +27 021 903 3077  
FAX: +27 021 903 8911  
info@csceng.co.za

## REVISIONS

No.	DESCRIPTION	DATE
A	ISSUED FOR TENDER	13/04/2021

## DRAWING INFORMATION

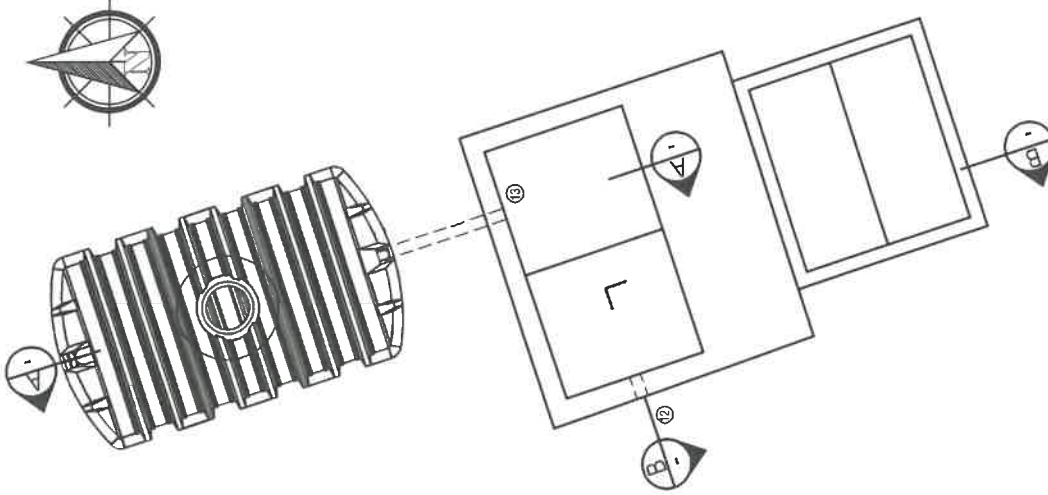
DESIGNED BY:	BV
DRAWN BY:	CJ
CHECKED BY:	BV
APPROVED BY:	EVA
DATE:	28 MAY 2021
SCALE:	NOT TO SCALE

PROJECT NAME  
**STELLENBOSCH QUARANTINE  
STATION UPGRADE**

DRAWING NAME:  
**EMERGENCY OVERFLOW  
TANKS**

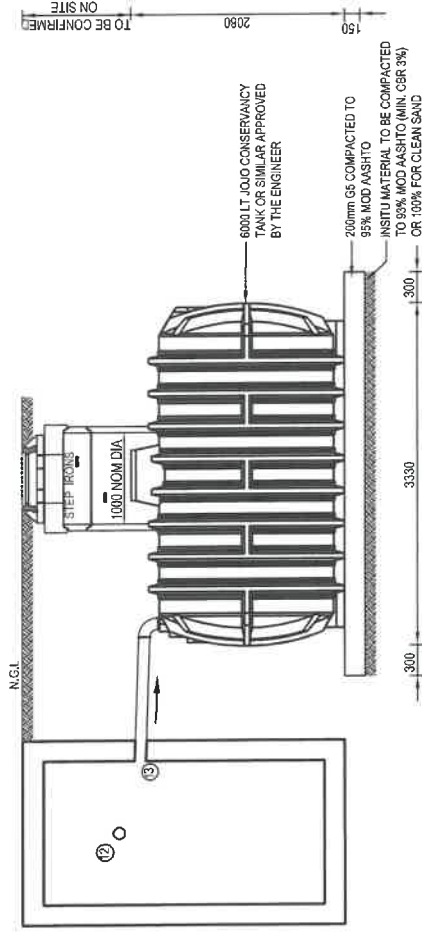
DWG No.:  
**C2C241/CIV/03**

PLANS APPROVAL

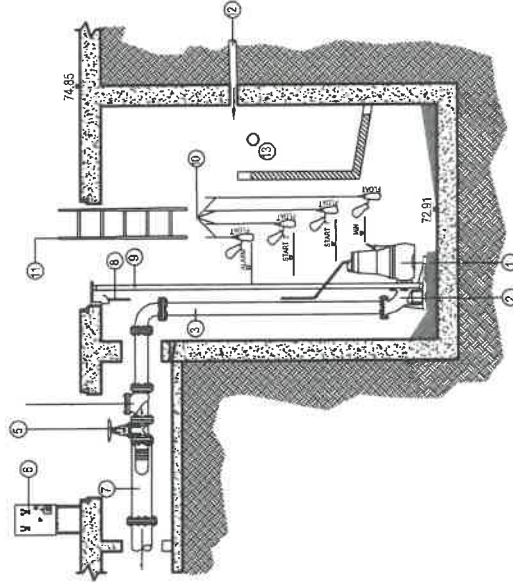


## LAYOUT OF SUMP

- NOTES:
- THIS DRAWING IS TO INDICATE THE CONNECTION FROM THE SUMP TO EMERGENCY OVERFLOW TANK.
  - PS-A REQUIRES 2 EMERGENCY OVERFLOW TANKS CONNECTED IN SERIES.
  - PS-B REQUIRES 1 EMERGENCY OVERFLOW TANK.
  - INSTALLATION OF THE UNDERGROUND OVERFLOW TANK BY A REGISTERED INSTALLER AND AS PER MANUFACTURERS GUIDELINES.



## SECTION A



## SECTION B

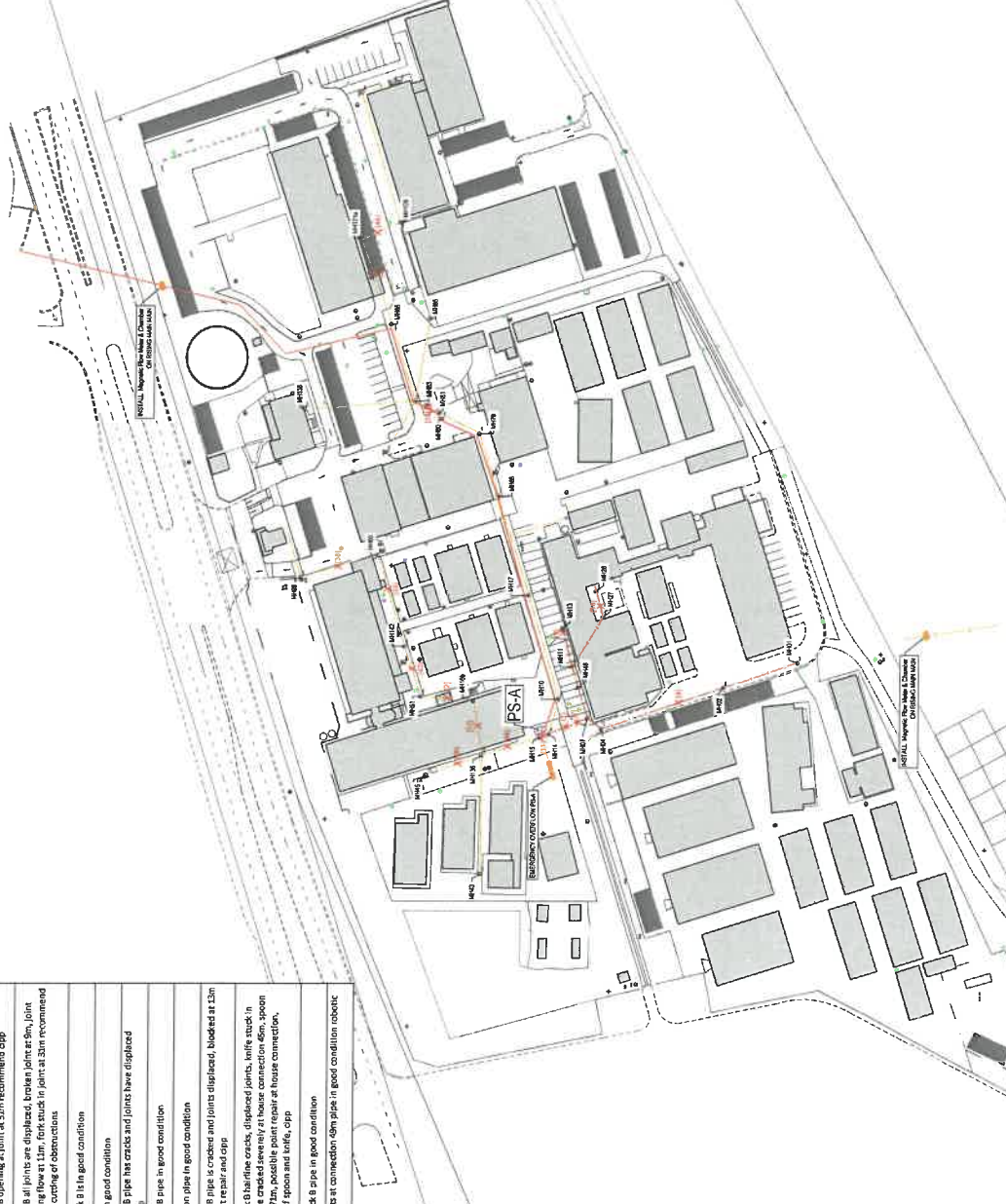
### IDENTIFICATION OF PIPES AND FITTINGS

- SUBMERSIBLE PUMPS
- BASE ELBOW
- DISCHARGE PIPE
- BALL CHECK VALVE
- GATE VALVE
- CONTROL PANEL
- MANIFOLD
- DROP PIPE
- LEVEL SWITCHES
- SUMP INSPECTION LADDER
- INTAKE PIPE
- OVERFLOW PIPE



Nr.	IDENTIFICATION
1	MH1-MH2: 100mm PVC good condition
2	MH2-MH3: 150mm PVC good condition
3	MH2-MH3: 150mm PVC good condition
4	MH2-MH3: 150mm PVC deformed at invert of pipe at 3m recommend point repair
5	MH3-MH4: 150mm PVC deformed at invert of pipe at 3m recommend point repair
6	MH4-MH5: 150mm PVC good condition
7	MH7-MH8: 150mm PVC pipe fractures at 4m, open joint at 5m were material charges to PVC recommend dpp
8	MH10-MH11: pipe alignment at 0.5m and roots at joints recommend joint repair and dpp
9	MH12-MH13: PVC pipe deformed at 0.5m recommend point repair
10	MH14-MH15: PVC pipe porous recommend dpp
11	MH16-MH17: PVC pipe porous recommend dpp
12	MH18-MH19: roots coming in at joints recommend dpp
13	MH19-MH20: good condition
14	MH21-MH22: concrete in line 12.5m recommend point repair
15	MH23-MH24: good condition
16	MH25-MH26: pipe reduced at 6m
17	MH27-MH28: pipe in good condition
18	MH29-MH30: pipe in good condition
19	MH31-MH32: roots at joints and at connection recommend dpp
20	MH33-MH34: pipe in good condition
21	MH35-MH36: pipe in good condition
22	MH37-MH38: cast iron pipe very porous recommend dpp
23	MH39-MH40: displaced joints, cracked pipe, roots at connections recommend dpp
24	MH41-MH42: pipe in good condition
25	MH43-MH44: roots at all connections recommend dpp
26	MH45-MH46: pipe cracked, roots at joints and connections recommend dpp
27	MH47-MH48: roots at connection
28	MH49-MH50: deformed pipe at 4m, hole in the pipe and roots at joints recommend joint repair and dpp
29	MH51-MH52: rubber obstructing flow at joint 3m robotic cutting and dpp
30	MH53-MH54: pipe broken recommend dpp
31	MH55-MH56: pipe in good condition
32	MH57-MH58: pipe in good condition
33	MH59-MH60: pipe in good condition
34	MH61-MH62: pipe in good condition
35	MH63-MH64: pipe in good condition
36	MH65-MH66: pipe in good condition
37	MH67-MH68: pipe broken recommend dpp
38	MH69-MH70: pipe route change with no manholes recommend to build manhole at bend
39	MH71-MH72: pipe cracked and hole in the pipe recommend dpp
40	MH73-MH74: pipe in good condition

41	MH135-MH136: pipe in good condition
42	MH138-MH139: pipe in good condition
43	MH140-MH141: every joint displaced, broken pipe recommend point repair and dpp
44	MH142-MH143: hidden manhole at 5m excavate to expose and replace
45	MH144-MH145: pipe in good condition
46	MH146-MH147: pipe broken and has holes recommend dpp
47	MH148-MH149: pipe in good condition
48	MH150-MH151: opening at joint recommend dpp
49	MH152-MH153: block 8 is in good condition
50	MH154-MH155: block 8 is in good condition
51	MH156-MH157: block 8 opening at joint at 3.5m recommend dpp
52	MH158-MH159: all joints are displaced, broken joints at 5m, joint rubber obstructing flow at 1.5m, fork studs in joints at 3.5m recommend dpp and robotic cutting of obstructions
53	MH160-MH161: block 8 is in good condition
54	MH162-MH163: pipe in good condition
55	MH164-MH165: pipe has cracks and joints have displaced recommend dpp
56	MH166-MH167: block 8 pipe in good condition
57	MH168-MH169: pipe in good condition
58	MH170-MH171: block 8 pipe is cracked and joints displaced, blocked at 2.5m with debris point repair and dpp
59	MH172-MH173: block 8 pipe in good condition, displaced joints, knife stuck in joint at 2.5m, positive point repair at house connection, robotic cutting of spoon and knife, dpp
60	MH174-MH175: block 8 pipe in good condition
61	MH176-MH177: roots at connection 0.5m pipe in good condition robotic cutting of roots



NOTES:

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SANS 10400 SERIES.
2. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SANS 10400 SERIES.
3. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SANS 10400 SERIES.
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19. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SANS 10400 SERIES.
20. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE SANS 10400 SERIES.

LEGEND:



REVISIONS

DRAWING INFORMATION

STELLENBOSCH QUARANTINE STATION

EXISTING FOUR SEWER SYSTEM WITH INDICATED ISSUES

DATE: 24 JULY 2019

SCALE: 1:1000

PROJECT: 1000

CLIENT: 1000

1000



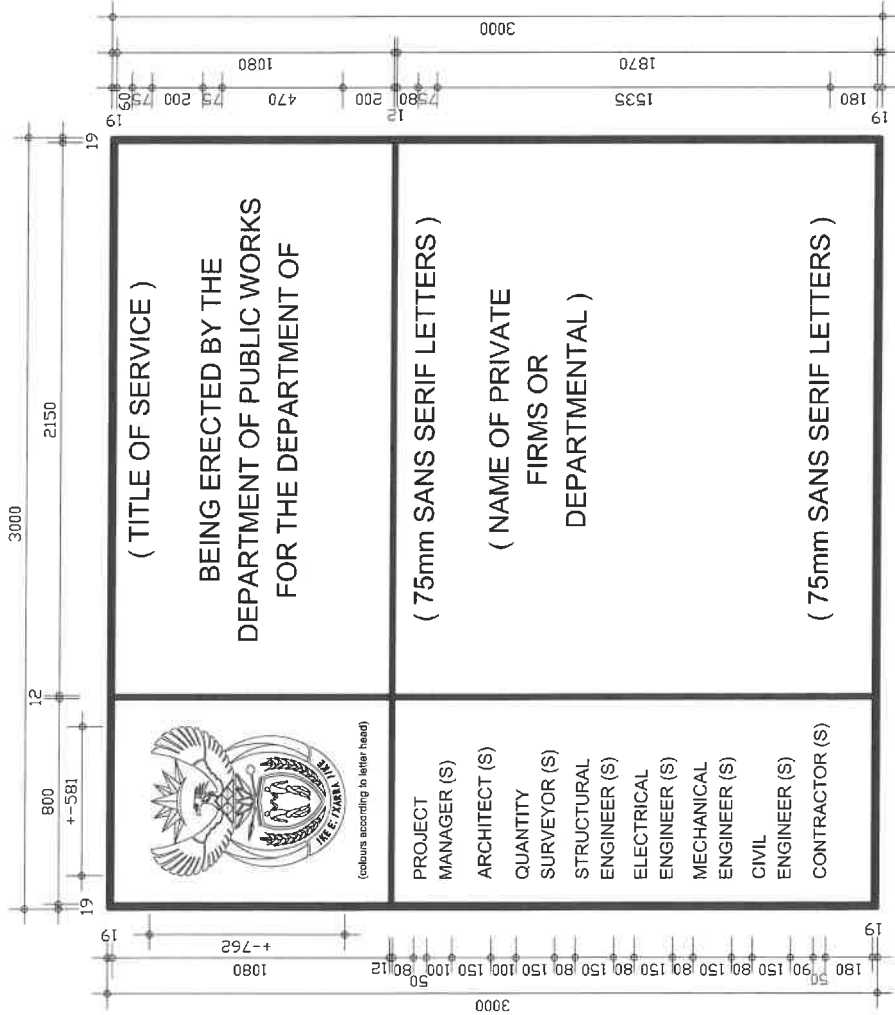
NOTE

BOARD TO BE PAINTED IVORY  
WHITE WITH STANDARD GREEN  
(as on letterhead) LETTERING,  
LINES AND SURROUNDING.

19mm THICK SURROUNDING LINE.  
12mm THICK DIVISION LINES.

OMIT LETTERING AS REQUIRED.  
BOARD TO REMAIN 3000mm HIGH.

DIMENSIONS SHOWN IN mm



SITE NAME BOARD  
Scale 1:5

No.	DATE	AMENDMENT
1	FEB 2011	-CHANGE SCALE FROM 1:10 TO 1:5 (AS PER TYPE) -ADD DIMENSION LINE -CAD FILE NAME REPLACES DRAWING NUMBER -THE WORDING "(IN COLLABORATION WITH PWD)" WAS REMOVED

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page type  
A 3



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Department  
of Public Works  
REPUBLIC OF SOUTH AFRICA  
DIRECTOR GENERAL  
MR. MZIMONKE DUBABANTU

Departmental  
DEPARTMENT  
PROFESSIONAL  
SERVICES

discipline  
ARCHITECTURAL SERVICES  
service  
**TYPE DRAWING**

type number  
GEN 063  
drawing title  
**SITE NAME BOARD**

ref no. gen063  
scale 1:5  
date FEB 2011  
cad file name  
gen063\_site name board\_rdpw2011

designed UNKNOWN  
drawn DEPT.  
checked DEPT.