

PROVINCIAL ADMINISTRATION OF KWAZULU-NATAL DEPARTMENT OF PUBLIC WORKS & INFRASTRUCTURE



KWAZULU-NATAL PROVINCE

PUBLIC WORKS & INFRASTRUCTURE
REPUBLIC OF SOUTH AFRICA

BILLS OF QUANTITIES

with GCC for Construction Works - Second Edition 2010

CONTRACTUAL SECTION

ONE VOLUME APPROACH

SECTION 2 - PART B

KWAZULU NATAL: DEPARTMENT OF COGTA: ETHEKWINI REGIONS: QADI TAC - REHABILITATION, REFURBISHMENT AND MAINTENANCE - (COMPLETION CONTRACT)

Project Manager

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Quantity Surveyor

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Region:

Regional Manager
KZN Department of Public Works & Infrastructure
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Tel Number: 031-203 2210

Tender Number: ZNTD 06154W

CIDB Grading: 4GB or Higher

ECDP Number:

Project Code: 064162

Document Date: As Per Tender Advert

Contracting Party: _____

CIDB Registration number: _____

Central Suppliers Database Registration Number: _____



KWAZULU-NATAL PROVINCE
PUBLIC WORKS & INFRASTRUCTURE
REPUBLIC OF SOUTH AFRICA

**KWAZULU NATAL: DEPARTMENT OF COGTA: ETHEKWINI REGIONS: QADI TAC -
REHABILITATION, REFURBISHMENT AND MAINTENANCE - (COMPLETION CONTRACT)**

PART C3. SCOPE OF WORKS

C3.1 SCOPE OF WORKS
GCC FOR CONSTRUCTION WORKS (Edition 2 of 2010)

Scope of Works complied in accordance with SANS 10403 where reference is made to this part of SANS 1921-1:2004

Project title:		KWAZULU NATAL: DEPARTMENT OF COGTA: ETHEKWINI REGIONS: QADI TAC - REHABILITATION, REFURBISHMENT AND MAINTENANCE - (COMPLETION CONTRACT)	
Tender no:		ZNTD 06154W	Project Code: 064162
1	<u>SECTION 1</u>		
	<u>EXTENT OF THE WORKS</u>		
	1.1	EMPLOYERS OBJECTIVES Rehabilitation, refurbishment and Maintenance works to the facility	
	1.2	OVERVIEW OF THE WORKS To restore damages to building structures that was caused by floods in April 2022	
	1.3	EXTENT OF THE WORKS Demolish remaining clinic rooms. Construct a new clinic with ablutions. Replace roofing structures, floors, windows, doors etc. Repair to existing cracked walls, plastering and repainting all walls. Install new electrical works. Construct new stormwater channels and retaining walls. Backfill to erroded grounds to makeup level site.	
	1.4	LOCATION OF THE WORKS Co-ordinates for the site are 29°40'05.6"S and 30°54'06.1"E and is situated at Inanda, Mzunjani drive, Iqadi.	
	1.5	TEMPORARY WORKS All temporary work to comply with the Occupational Health and safety Act (Act 85 of 1993)	
	2	<u>ENGINEERING</u>	
	2.1	EMPLOYER'S DESIGN Not applicable	
	2.2	DESIGN BRIEF Not applicable	
2.3	DRAWINGS See list of drawings/Annexure's attached to this document.		

2.4	DESIGN PROCEDURES Shop drawings needs to be approved by the Architect before manufacture.
3	<u>PROCUREMENT</u> 3.1 PREFERENTIAL PROCUREMENT PROCEDURES This tender will be subject to the implementation of the Preferential Procurement Regulations, 2022, pertaining to the Preferential Procurement Policy Framework Act, Act Number 5 of 2000 and the relevant Supply Chain Management Legislation and the KwaZulu-Natal Supply Chain Management Policy Framework published by the KwaZulu-Natal Provincial Treasury. Tenderders are referred to www.kzntreasury.gov.za for access to the relevant documents. Tenderders are advised to familiarize themselves with the contents of the KwaZulu-Natal Supply Chain Management Policy Framework regarding Preference Point Systems, evaluation of tenders appeals and other matters. 3.2 RESOURCE STANDARD PERTAINING TO TARGETED PROCUREMENT NOTE : This project will be adjudicated as not exceeding R 50,000 000,00 3.3 SCOPE OF MANDATORY SUBCONTRACT WORK Not applicable 3.4 PREFERRED SUBCONTRACTORS/SUPPLIERS Not applicable 3.5 SUBCONTRACTING PROCEDURES Not applicable
4	<u>CONSTRUCTION</u> 4.1 APPLICABLE SANS 2001 STANDARDS FOR CONSTRUCTION WORKS The Contractor is referred to the "Model Preambles to Trades - 2008", any "Supplementary Preambles" and the Electrical Specifications for full descriptions of materials and methods referred to in these Bills of Quantities/Lump Sum documents, insofar as they apply. The Contractor is advised to study the "Standard Preambles to all Trades", any "Supplementary Preambles", the Electrical Specifications before pricing Bills of Quantities/Lump Sum documents. Where the description in the Bills of Quantities/Lump Sum documents differ from those in the Standard Electrical Specifications, the descriptions in the Bills of Quantities/Lump Sum documents are to apply. No claim whatsoever will be allowed in respect of errors in pricing due to brevity of description of items in the Bills of Quantities/Lump Sum documents which are fully described when read in conjunction with the relevant Preambles and/or Specifications. Suppliers of materials and the like, whose quality systems apply with one or more of the SABS/SANS ISO 9000 Series should be used whenever possible in the absence of a particular SABS/SANS Specification Standard Mark. Wherever the words "shall be deemed to be included in the description", "shall be stated" or other words having the same effect, appear in the Standard System, it shall be deemed that all descriptions in these Bills of Quantities/Lump Sum documents incorporated such inclusions and statements whether specifically stated or not. The Contractor is hereby informed that where SABS/SANS Specifications are referred to in these Bills of Quantities/Lump Sums documents and Specifications thereto, then ONLY the Specification of Work Clauses will apply. The method of measurement and payment clauses will NOT apply to this Contract. Whenever reference is made to "Sub-Contractor", "Nominated Sub-Contractor" or the like in the specifications included or referred to in these Bills of Quantities/Lump Sums documents, it shall be deemed to mean "Contractor" as defined.

4.2	APPLICABLE NATIONAL AND INTERNATIONAL STANDARDS See above 4.1										
4.3	PARTICULAR / GENERIC SPECIFICATIONS The Contractor is referred to the following documents whether attached to this document or not: <table border="0"> <thead> <tr> <th><u>SPECIFICATION</u></th><th><u>PAGES</u></th></tr> </thead> <tbody> <tr> <td>Specification for HIV/AIDS Awareness (CIDB)</td><td>HIV1 TO HIV3</td></tr> <tr> <td>Specific Construction, Safety, Health and Environmental Plan</td><td>1 to 46</td></tr> <tr> <td>Model Preambles for Trades 2008</td><td>1 to 49</td></tr> <tr> <td>General Electrical Specification</td><td>1 to 9</td></tr> </tbody> </table>	<u>SPECIFICATION</u>	<u>PAGES</u>	Specification for HIV/AIDS Awareness (CIDB)	HIV1 TO HIV3	Specific Construction, Safety, Health and Environmental Plan	1 to 46	Model Preambles for Trades 2008	1 to 49	General Electrical Specification	1 to 9
<u>SPECIFICATION</u>	<u>PAGES</u>										
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Model Preambles for Trades 2008	1 to 49										
General Electrical Specification	1 to 9										
4.4	CERTIFICATION BY RECOGNIZED BODIES Only contractors registered with the Electrical Contracting Board of South Africa in accordance with the Regulations of the Occupational Health and Safety Act will be accepted and permitted to do work under this contract.										
4.5	AGRÉMENT CERTIFICATES Not applicable										
4.6	PLANT AND MATERIAL PROVIDED BY THE EMPLOYER Not applicable										
4.7	SERVICES AND FACILITIES PROVIDED BY THE EMPLOYER Not applicable										
4.8	OTHER SERVICES AND FACILITIES The Contractor shall provide any artificial lighting which may be necessary or required for the proper execution of the works, and provide electric power and water required by all Sub-Contractors, Nominated Sub-Contractors and Sub-Contractors appointed directly by the Administration. The Contractor shall give all notices and pay all fees in connection with temporary electrical and water connections and shall connect temporary Electrical and Water meters for and pay for all current and water consumed. The Contractor is advised that the permanent light fittings and water points of any kind installed in the Works are not to be used to provide temporary lighting and supplement water requirements for construction purposes.										
5	<u>MANAGEMENT</u>										
5.1	APPLICABLE SANS 1921 STANDARDS Tenderders are referred to SECTION 2 : SPECIFICATION DATA ASSOCIATED WITH SANS 1921-1:2004 IN THIS DOCUMENT										
5.2	RECORDING OF WEATHER The Contractor shall keep record of abnormal climatic conditions to facilitate the adjudication of claims for extension of the contract period.										

The Contractor shall allow in his programme for the following number of days for rain days (rain > 10mm per day) as per the table below:

CURRENT YEAR		YEAR + 1	YEAR + 2
January	w/days	3	3
February	w/days	3	3
March	w/days	3	3
April	w/days	3	3
May	w/days	3	3
June	w/days	3	3
July	w/days	3	3
August	w/days	3	3
September	w/days	3	3
October	w/days	3	3
November	w/days	3	3
December	w/days	3	3

5.3 MANAGEMENT MEETINGS

In order to facilitate the smooth functioning of the Works and to ensure the closest co-operation between all the parties concerned, the Employer will call for regular meetings to be held on the site, at which a senior member of the Contracting firm and the General Foreman of the Works will always be required to be present. In addition to the above, other persons will be required to attend these meetings as and when their presence is necessary, e.g., Consultants in all disciplines, representatives of the various Sub-Contractors, etc. Proper minutes of these meetings will be kept by the Employer/Principal Agent and copies will be circulated to all persons attending the meetings and to others who need to be kept informed.

5.4 FORMS FOR CONTRACT ADMINISTRATION

The Employer shall provide all necessary forms.

5.5 ELECTRONIC PAYMENTS

The Contractor shall provide all required information to the Employer to facilitate electronic payments upon request.

5.6 DAILY RECORDS

The Contractor shall keep daily records of people and equipment employed as well as a site diary in respect of work performed on the site.

At the end of each week the Contractor shall provide the Principal Agent with a written record, in schedule form, reflecting the number and description of tradesmen and labourers employed by him and all Sub-Contractors on the works each day.

At the end of each week the Contractor shall provide the Principal Agent with a written record, in schedule form, reflecting the number, type and capacity of all plant, excluding hand tools, currently used on the works.

5.7 BONDS AND GUARANTEES

The Contractor shall within 10 calendar days after receiving notice from the Engineer and prior to receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the Employer's agent (whose details are given in the contract data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the Contract Data.

5.8 PAYMENT CERTIFICATES

Requirements will be in accordance with the Employers prescriptions.

5.9	PERMITS The Contractor is advised that, in the case of an existing building or institution, all security measures in force will remain in operation and he must acquaint himself and his Employees with them as he and his Employees will at all times be subject to these measures. The Contractor will on no account extend his operations beyond the confines of the building site as indicated by the Employer and must ensure that all his Employees are made aware of these limits. Any Employee disregarding this instruction and found outside the limit of the building site without authority, shall be redeployed immediately and shall not again be employed on this Contract. The Contractor will be responsible for ensuring that this instruction is strictly enforced and must provide and remove upon completion or when directed, such other necessary temporary barriers, fences, etc., as may be required and is to allow opposite this item for any charges he may wish to make in this connection. The Employer will accept no responsibility whatsoever for damage to or the loss of plant, materials, etc., from the site.
5.10	PROOF OF COMPLIANCE WITH THE LAW The following certificates must be provided before first delivery is taken: - HIV/STI Report (Bound into this document) - Electrical Compliance Certificate - Plumbing Compliance Certificate - Lightning Certificate - Soil Protection Certificate - Concrete test and cube certificates - Waterproofing Guarantee certificates - TR1 and TR2 prefabricated roof truss certificates - Soil compaction certificates - Electrical and Mechanical test certificates - Plumbing and drainage pressure test certificates - Fire Compliance Certificate - Entomology Certificate - SANS 10400-A:2010 compliance certificates - Latest National Building Regulation
5.11	INSURANCE PROVIDED BY THE EMPLOYER Not Applicable <u>SECTION 2</u> <u>SPECIFICATION DATA ASSOCIATED WITH SANS 1921-2004</u> Clause Numbers 4.1.7 The requirements for drawings, information and calculations for which the Contractor is responsible are: Flush glazing and cladding to structural steel shaft 4.2.1 The responsibility strategy assigned to the Contractor for the works is: Strategy A 4.2.2 The structural engineer is: Department of Public Works and Infrastructure 4.2.3 Drawings & other info are to be submitted in accordance with the contractors programme Drawings are complete 4.3 The planning, programme and method statement are to comply with the following: 5 month programme

4.12.1	Samples of materials The work is to be executed with materials of the best specified and in the most substantial and workmanlike manner under the inspection of the Employer and to his satisfaction. The Contractor shall furnish, without delay, such samples as called for or may be called for by the Employer, who may reject all materials or workmanship not corresponding with the approved sample. The samples of materials, workmanship and finishes that the Contractor is to provide and deliver to the employer are: - Tile sample. - Brick sample. - Light fitting sample. - Screed panel 2m x 2m impact test. - Tested trial mix to be approved by the Engineer.
4.12.2	Fabrication drawings that the contractor is to provide to the employer are: None
4.12.3	Office accommodation, equipment, accommodation for site meetings and other facilities for use by the employer and his agents are: OFFICE FOR FOREMAN Provide, erect, maintain and remove at completion a suitable temporary office for the Contractor or his Foreman, perfectly secured, lighted and ventilated and having a desk with drawers. TELEPHONE The Contractor shall provide a telephone on the site for the use of the Contractor and all Sub-Contractors for the duration of the Contract, and must make the necessary application for connection, give all notices and pay all fees, rentals and charges for the service and also for all calls. OFFICE FOR INSPECTOR OF WORKS Not required TELEPHONE IN OFFICE FOR INSPECTOR OF WORKS Not required

	SHED Provide, erect, maintain and remove at completion, ample temporary sheds for the proper storage of materials and for the use of the workmen, and remove when no longer required.
4.14.6	The requirement for provision and erection of signboards are: Supply, erect, maintain and remove at completion a painted notice board, size overall 2800 x 2345 mm high sign written to detail as Drawing No. T9506 which drawing is available from offices of the Department of Public Works. Only the official notice board is to be displayed on the site and no Sub-Contractor's boards will be permitted. The Contractor, at his own cost, may provide a board on which all sub-contract firms' names may be sign written. The notice board is to be to the approval of the Employer and is to be maintained in first class condition and placed where directed at the entrance to the site and remain there for the duration of the Contract.
4.17.1	Requirement for the termination, diversion or maintenance of existing services: Should the Contractor come in contact with any underground cables or pipes during excavations, immediate notification must be made to the Employer and all work in the vicinity of such cables, pipes, etc., shall cease until authority to proceed has been obtained from the Employer. Should the Contractor damage underground cables or pipes resulting in a disruption of services to an existing institution such damage shall be repaired immediately.
4.17.3	Services which are known to exist on the site: None
4.17.4	Requirement for detection apparatus None
4.18	ADDITIONAL HEALTH AND SAFETY REQUIREMENTS ARE: By the submission of a tender, any Tenderer will, if awarded the contract to which this tender document relates, be deemed to be the mandatory as envisaged by Section 37 (2) of the Act. As a mandatory the successful Tenderer will be deemed to be the "principal contractor" and an employer in his/her/their own right with duties as prescribed in the Act and accordingly will be deemed to have agreed to be solely responsible for ensuring that in connection with the service to which this tender document relates, all work will be performed and machinery and plant used in accordance with the Act. Should the Contractor, for whatever reason be unable to perform as required by the Act, the Contractor undertakes to inform the Employer accordingly. Tenderers are advised that it is a Condition of this Tender that a 'Construction Phase Safety, Health and Environmental Plan' specifically relates to the project for which tenders are being submitted and must be prepared by the Tenderer and submitted with the other tender documents at the time of tender. Failure to do so Tenderers are therefore advised to study the 'Construction Safety, Health and Environmental Specification' which is issued as part of this tender document, the Model Preambles to Trades - 2008, any project Specification included in this tender document and any and all drawings which are referred to and issued as part of this tender document before preparing their own project specific 'Construction Phase Safety, Health and Environmental Plan'. Tenderers are also advised that such a plan which is submitted with a tender but is incomplete or considered inadequate by the Employer or his Representative will invalidate the tender. The Contractor will be deemed to have satisfied himself with his obligations in terms of the Act and to have allowed for all costs arising from compliance with the Act as no claim for extra costs arising from compliance with, and obligations in terms of the Act will be entertained.
4.22	WORK BY NOMINATED AND SELECTED SUBCONTRACTORS COMPRISE: N/A

C3.2 - SPECIFICATION FOR HIV/AIDS AWARENESS

1 Scope

This generic specification contains requirements applicable to the reduction of the risk of transfer of the HIV virus between and among construction workers and the local community through the following four strategies:

- a) raising awareness about HIV/AIDS;
- b) providing construction workers with access to condoms;
- c) HIV counselling, testing and referral services; and
- d) Sexually Transmitted Infection diagnosis and treatment.

2 Normative references:

The following standard contains provisions that, through reference in this text, constitute provisions of this standard:

SANS 4074 ISO 4074, *Condom Rubbers*

3 Definitions and Abbreviations

3.1 Definitions

Construction Worker: all persons in the employ of the contractor or in the employ of any of the subcontractors contracted by the contractor.

Local Community: the communities local to the site which are most likely to have contact with the construction worker and, in particular, sex workers in those communities.

Service provider: the natural or juristic person recognised by the South African Department of Health as specialist in conducting Aids Awareness Programmes.

3.2 Abbreviations

STI: Sexually transmitted infection

HIV: Human Immunodeficiency Virus

AIDS: Acquired Immune Deficiency Syndrome

4 Objectives

The objectives are to:

- a) reduce the risk of transfer of the HIV virus between and among construction workers and the local community;
- b) raise awareness amongst construction workers and the local community of the risk of infection with the HIV virus;
- c) promote early diagnosis; and
- d) assist affected individuals to access care and counselling.

5 Requirements

5.1 General requirement

The contractor shall, in order to satisfy the objectives stated in 4:

- a) make condoms complying with the requirements of SABS ISO 4074 available to all construction workers at readily accessible points on the site, suitably protected from the elements, for the duration of the contract;
- b) either place and maintain HIV/AIDS awareness posters of size of not less than A1 in areas which are highly trafficked by construction workers, or provide construction workers with a pamphlet, in languages largely understood by construction workers, which
- c) encourage voluntary HIV/STI testing;
- d) provide information concerning counselling, support and care of those that are infected services; and
- e) comply with the requirements of 5.2.

The provisions of 5.1 c) and d) do not apply to this contract.

5.2 HIV awareness programme

5.2.1 The contractor shall:

- a) engage a qualified service provider as described in the scope of works to conduct an HIV Awareness Programme which is structured to achieve the outcomes stated in 5.2.3 for contract workers as soon as a construction workers camp is established and populated or, where no such camp is established, within two weeks of the commencement of a significant portion of the works and at subsequent intervals, if any, provided for in the scope of works; and
- b) arrange for, provide a suitable venue, and instruct all construction workers to attend the HIV Awareness Programme and notify the Employer's Representative of the date, time and venue whenever a session with construction workers is conducted.

Note: The National Department of Public Works maintains a list of qualified service providers.

5.2.2 The contractor shall do nothing to dissuade construction workers from attending such an HIV Awareness Programme and shall take all reasonable steps to ensure that a minimum of 90% of construction workers engaged in the works attend such a programme, when it is conducted.

5.2.3 The outcomes of the HIV Awareness Programme shall as a minimum, result in contract workers exposed to such a programme being able to:

- a) communicate the existence of problems of HIV and be able to outline the consequences of transmission of HIV to or from the local community;
- b) recall and communicate the mode of HIV transmission and preventative measures including the proper use of the condom.

The HIV/ Aids awareness programme described in 5.2 is to be repeated at four month intervals throughout the duration of the contract. (Four times in total, including the initial one at the start of the contract)

5.3 Reporting

- 5.3.1** The contractor shall prepare and attach to his claims for payment a brief report which outlines how the actions taken by the contractor in the period for which payment is claimed satisfy the requirements and a schedule which lists the names, identity numbers, trade / occupation and name of employer of all construction workers exposed to the programme (see **HIV/STI Compliance Report**).
- 5.3.2** The employer's representative shall certify the report and schedule described in 5.3.1 whenever a claim for payment is issued to the employer.

Note: In the event that the contractor fails to satisfy the requirements of this specification, the employer (Head: Public Works) may apply any of the sanctions provided for in the contract. Sanctions may include the application of a financial penalty of .04% of the Contract Sum.

The HIV /Aids awareness programme described in 5.2 shall in addition be conducted for the benefit of the local community on two occasions in the community centre nearest to the building site. The contractor shall be responsible for inviting identifiable community-based institutions and organisations, churches, and schools to participate in the programme.

C3.3 - HIV/STI COMPLIANCE REPORT

Pro-forma reporting format in terms of the SPECIFICATION FOR HIV/AIDS AWARENESS

Project Code:

064162

Payment Claim number:

Period covered by payment claim:

1. Distribution of condoms (briefly describe where and how condoms are distributed).

2. Posters / pamphlets (briefly describe where posters were placed / how pamphlets were distributed).

3. Voluntary testing (briefly describe the actions taken / information provided to promote testing).

4. Counselling, support and care (summarise information provided).

5. HIV awareness programme (briefly describe action).

[illegible]

For Contractor:

Signature: _____

Employer's representative:

Signature: _____

Date: _____



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PART C4. SITE INFORMATION

C4.1 SITE INFORMATION GCC FOR CONSTRUCTION WORKS (2 Edition of 2010)			
Project title:	KWAZULU NATAL: DEPARTMENT OF COGTA: ETHEKWINI REGIONS: QADI TAC - REHABILITATION, REFURBISHMENT AND MAINTENANCE - (COMPLETION CONTRACT)		
Tender No.	ZNTD 06154W	Project Code:	064162
C4.1 Site Information			
C4.1	GENERAL		
(a)	The earth is deemed pickable with possible soft rock.		
(b)	Access to the site will be through the main entrance gate and the site will be handed over to the contractor for their site establishment and storage.		
(c)	The existing building will not be occupied during the entire duration of the contract and the contractor is to ensure that the building is kept secure at all times and disturbance is kept to a minimum.		
C4.2	GEOTECHNICAL INVESTIGATION REPORT		
(a)	N/A		



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REHABILITATION, REFURBISHMENT AND MAINTENANCE - (COMPLETION CONTRACT)**

PART C5 - DRAWINGS / ANNEXURES

C5.1 - LIST OF DRAWINGS/ANNEXURES

KWAZULU NATAL: DEPARTMENT OF COGTA: ETHEKWINI REGIONS: QADI TAC - REHABILITATION, REFURBISHMENT AND MAINTENANCE - (COMPLETION CONTRACT)

Tender No.:	ZNTD 06154W	Project Code:	064162
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(Where drawings/annexure's are issued, document compilers must insert the following paragraph and list the applicable drawings/annexure's below.)

The following drawings/annexure's shall be issued during the Tender period to form part of the tender documentation. Where applicable, drawings/annexure's could be re-issued to the Contractor at commencement of the construction phase.

DRAWING NO

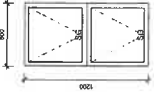
DESCRIPTION

Architect's Drawings:	
DPW-T-QA-1000	Floor plan, Elevations and sections
DPW-T-QA-1001	Floor plan, Ceiling plan & Elevations
A-202	Window schedule 01
A-204	Window schedule 02
A-201	Door schedule
Structural Engineer's Drawings:	
QADI-STR-2000	Structural works
Civil Engineering Drawings	
QADI-CIV-1000	Extended Civil works

ANNEXURES	
Annexure 1	Model Preambles for Trades 2008
Annexure 2	Electrical Part 1 - Installation Detailed Specification
Annexure 3	Electrical Part 2 - Schedules of Information and Drawings
Annexure 4	Map of Tender submission location
Annexure 5	Joint Venture Agreement
Annexure 6	Occupational Health and Safety Specification
Annexure 7	The EPWP Conditions and Specifications
Annexure 8	Waiver of Contractor's Lien

[illegible][illegible]

W10
1:25



WINDOW TYPE NO. REQ.	W10 3
DESCRIPTION	600 x 1200 mm Aluminium window suitable for coastal conditions complying with AAMASA performance criteria A2, able to meet the mechanical performance requirements of the relevant standard, has 100gpa with surface to receive 60-80 um powder coating supplied by manufacturer complying with SANS 1579 and applied in grazing, shall be executed in accordance with glass manufacturer's recommendations and SANS 10137:2011 plugged and screwed to brickwork according to manufacturer's specifications.
FINISH	Natural anodized finish
GLAZING	6.38mm Laminated safety glass
SECURITY	Aluminium burglar bars fixed to
REMARKS	Frames to be stored away from moisture on site and protected from paint and mortar once built into the works. All work to be undertaken by AAMASA member and to NRP Manufacturer to take design responsibility for units and installation.
PROJECT TITLE	Coastal TAC Conditional Assessment, Qad
ISSUED TITLE	
PROJECT NUMBER	291701040578 (L-49)
COMPANY NUMBER	A-204
REVISED	
DATE	02/03/23
SCALE	1:25

WINDOW TYPE NO. REQ.	
DESCRIPTION	
FINISH	
GLAZING	
SECURITY	
REMARKS	Frames to be stored away from moisture on site and protected from paint and mortar once built into the works. All work to be undertaken by AAMASA member and to NRP Manufacturer to take design responsibility for units and installation.
PROJECT TITLE	Coastal TAC Conditional Assessment, Qad
ISSUED TITLE	
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FINISH	
GLAZING	
SECURITY	
REMARKS	Frames to be stored away from moisture on site and protected from paint and mortar once built into the works. All work to be undertaken by AAMASA member and to NRP Manufacturer to take design responsibility for units and installation.
PROJECT TITLE	Coastal TAC Conditional Assessment, Qad
ISSUED TITLE	
PROJECT NUMBER	291701040578 (L-49)
COMPANY NUMBER	A-204
REVISED	
DATE	02/03/23
SCALE	1:25

WINDOW TYPE NO. REQ.	
DESCRIPTION	
FINISH	
GLAZING	
SECURITY	
REMARKS	Frames to be stored away from moisture on site and protected from paint and mortar once built into the works. All work to be undertaken by AAMASA member and to NRP Manufacturer to take design responsibility for units and installation.
PROJECT TITLE	Coastal TAC Conditional Assessment, Qad
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REVISED	
DATE	02/03/23
SCALE	1:25

ISSUED FOR INFORMATION ONLY	
No.	Description

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as-built drawing	
checked as-built drawing is as per Contract Drawing Number 125	
NAME	
DATE	
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Page 109	



QAD TAC - REHABILITATION,
REFURBISHMENT AND
MAINTENANCE -
(COMPLETION CONTRACT)

State	For Tender
Project Number	WINS 064182
Drawing No.	Window schedule 02
Scale	1:25
Date	11/03/2023
Drawn by	
Checked by	
Approved by	
Signature	
Stamp	

DRAWING FOR INFORMATION PURPOSES
ONLY - NOT FOR CONSTRUCTION

NOTES: GENERAL

- [illegible]

DRAWING REVISION DETAILS			
Rev.	Date	Description	Rev by
A	2005-06-20	For Information	AJB

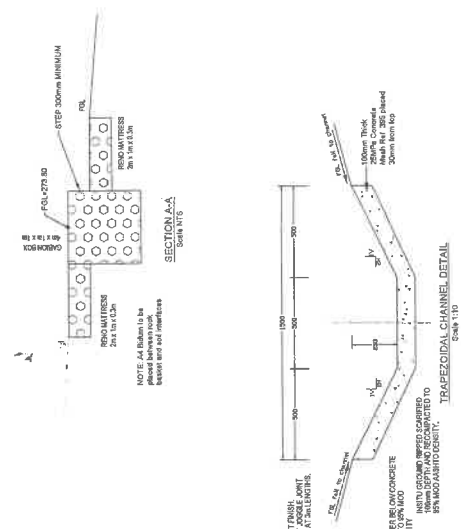
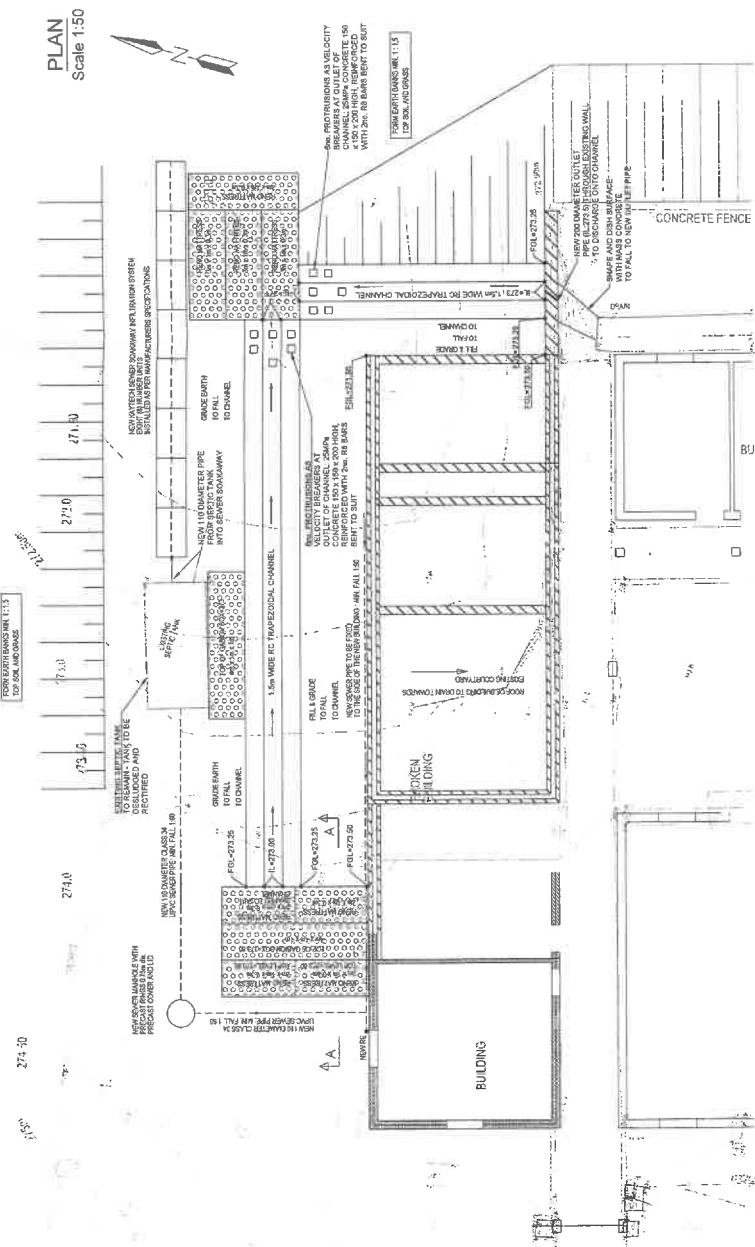
INFORMATION ONLY

Approved by Professionals	
Name	Prof. Reg. Details
Signature	Date
Implementing Agent	

 KWAZULU-NATAL PROVINCE EDUCATION REPUBLIC OF SOUTH AFRICA	Professional Services Enrichment
 KWAZULU-NATAL PROVINCE EDUCATION REPUBLIC OF SOUTH AFRICA	Class Department

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Project	QADI TAG - RENOVATIONS AND UPGRADES			
Drawing description	EXTERNAL CIVIL WORKS			
Drawn	Adi Ball	Date	2023-09-10	Revision
Revised	Adi Bhowan	Sheet Size	A0	A
Drawing number	QADI-CIV-1000			



NOTES: GABION BASKETS AND STONES

GENERAL NOTES:

1. GABIONS BASKETS SHALL BE CONSTRUCTED IN ACCORDANCE WITH:
SANS 12020K:1955 DOUBLE TWIST HEXAGONAL WIRE MESH TO SANS 15820:2004
2. THE GABIONS SHALL HAVE A MINIMUM LENGTH OF 3000MM WITH A MINIMUM OF 100MM OF PVC COATING TO THE GABION WALLS. THICKNESS OF 8MM
3. THE GABIONS SHALL BE CLEAN, UNDEFORMED, AND FREE FROM RESIDUES AND SLAMING. IT SHALL HAVE A RELATIVE DENSITY OF AT LEAST 4.0 WHEN THE GABION IS SUBJECTED TO VIBRATING TESTING. THE LOSS OF MASS SHALL NOT EXCEED 5%.
4. THE STONE SIZE SHALL BE WITHIN THE FOLLOWING RANGE - LARGEST DIMENSION - 100MM (MINIMUM) AND 250MM (MAXIMUM)
5. THE PERMISSIBLE DEVIATION FOR THE GABION WALL CONSTRUCTION SHALL BE 0.05% OF ACCURACY IT.
6. THE EMBANKING AND CONNECTING WIRE LACING OF GABIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATION.
7. THE BED ON WHICH THE GABIONS ARE TO BE Laid DOWN BEFORE THEY ARE FILLED WITH ROCK SHALL BE A MINIMUM OF 200MM THICK AND CONSISTED USING A SLOTTED TYPE MACHINE TO MATCH A COMPACTION OF 95% AND SHOULD DENSITY AT MINIMUM MODULUS CORRELATION.
- A. BEDDING
SANS 4810:2001 to be placed between rock basket and soil interfaces
- B. GROUNDING
Gabions are treated with a hexagonal woven wire mesh. Type M16, commonly referred to as double twist wire mesh as per SANS 1580. Zinc coating equivalent to SANS 875, PVC coating to SANS 1580.
- C. RENO MATRESS
The gabions are to be constructed from SANS 1580 hexagonal woven wire mesh with a minimum twist of 16.
- D. GROUND ROCK
The gabions shall be constructed from SANS 1580 hexagonal woven wire mesh with a minimum twist of 16. The gabions shall be constructed from SANS 875, PVC coating to SANS 1580.
- E. GROUND ROCK
Gabions must also be constructed from SANS 1580 hexagonal woven wire mesh with a minimum twist of 16. The gabions shall be constructed from SANS 875, PVC coating to SANS 1580.
- F. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- G. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- H. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- I. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- J. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- K. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- L. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- M. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- N. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- O. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- P. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- Q. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- R. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- S. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- T. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- U. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- V. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- W. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- X. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- Y. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.
- Z. EMBANKING
The gabions shall be placed on a minimum specific gravity of 2.5.

7. THE BED ON WHICH THE GABIONS ARE TO BE LAID BEFORE THEY ARE FILLED WITH ROCK SHALL BE LEVELLED AS TO PRESENT AN EVEN SURFACE AT THE DEPTH SHOWN ON THE TYPICAL SECTIONS.



**KWAZULU NATAL: DEPARTMENT OF COGTA: ETHEKWINI REGIONS: QADI TAC -
REHABILITATION, REFURBISHMENT AND MAINTENANCE - (COMPLETION CONTRACT)**

ANNEXURES



KWAZULU-NATAL PROVINCE
PUBLIC WORKS & INFRASTRUCTURE
REPUBLIC OF SOUTH AFRICA

**KWAZULU NATAL: DEPARTMENT OF COGTA: ETHEKWINI REGIONS: QADI TAC -
REHABILITATION, REFURBISHMENT AND MAINTENANCE - (COMPLETION CONTRACT)**

ANNEXURE 1

Please refer Model Preambles for all Trades 2017

GENERAL ELECTRICAL SPECIFICATION

(ALL IN CONTRACTS)

1. CONDUIT AND CONDUIT ACCESSORIES

1.1 Conduit

Conduit shall be of steel galvanised internally and externally, either solid drawn, or welded and not less than 20 mm diameter, with all rough edges removed. All tube ends removed. All tube ends are to be reamed. With screwed conduit one threaded end is to be fitted with a coupling and the other end is to be protected against damage.

UPVC conduit may only be used if permitted by the Head : Works and only in those areas which he may specify. In this case this conduit shall be according to SABS 950.

Conduit accessories, which are secured to the conduit by means of lugs, screws or setscrews, are not acceptable.

General requirements of conduiting to SABS IEC 60614 (1).

Metal conduits shall be fully in accordance with SABS 1065 PART I.

1.2 Conduit Accessories

All conduit accessories shall be galvanised both internally and externally and comply with SABS 1065 – PART II.

All screwed conduit fittings shall be of malleable cast iron.

Where fittings are fitted with covers, the covers shall be of galvanised pressed steel secured with brass screws.

1.3 Flexible Conduit

Flexible conduit shall be of the plastic covered metal type complete with brass connectors to the approval of the Head : Works.

2. INSTALLATION OF CONDUIT

2.1 General

Except where cables are specified for certain circuits, the installation(s) shall be tubed throughout in steel conduit. Split conduit is not permitted. All conduits shall, wherever possible, or unless otherwise specified or agreed, be concealed in the structural work.

Except where agreed or otherwise specified or indicated on the drawings, all conduit to points shall run via the ceiling and floor slabs or roof space. In damp situations and where exposed to the weather, the conduits shall be so installed as to avoid, as far as possible, the condensation of moisture within them. All running joints are to be painted with an approved metal primer.



Mechanical and Electrical continuity must be maintained throughout the installation. Each length of conduit and every conduit fitting must be inspected for defects and all sharp edges or burrs must be removed before it is installed. All joints are to be tightly fitted together.

Running joints with long threads, where used, are to be fitted with a lock nut and the running thread shall not be longer in length than a coupling and lock unit.

In conduits smaller than 32 mm elbows and normal bends are not to be used but conduits are to be set to the required angles.

Flexible connections between conduit and appliance or other equipment shall be by means of flexible tubing (see Par 1.3).

No wiring shall be drawn into conduits until the conduits have been installed.

Where more than one socket outlet is connected on a circuit, the conduit shall be looped from the one outlet box to the following outlet box.

All switch-boxes, socket outlet boxes and any other purpose made metal box including distribution board trays shall be suitable treated against corrosion before installation with "Rustodian" or other approved metal primer.

All conduits shall be securely fixed into chases, and all flush switch and socket outlet boxes must be firmly embedded in cement mortar.

The Contractor shall make himself familiar with the positions of all fittings, such as blackboards, pinning boards, cupboards, shelving, worktops, etc, before commencing the conduit installation. The position of switches and socket outlets as indicated on the drawings are approximate only. The Contractor must verify that the final position of these will not be covered by the installation of the fittings referred to above, or come midway between the junction of any dados and upper wall finishes.

No extras will be entertained for moving switches or socket outlets as a result of the Contractor's failure to verify the final positions of the fittings or type of wall finish.

2.2 In Roof Spaces

The conduit in roof spaces shall be installed parallel or at right angles to the roof truss members and shall be secured at centers not exceeding 1,2 m by means of galvanised saddles nailed to the timbers with galvanised clout nails. Crampets will not be allowed.

Crossing of conduits is to be avoided wherever possible. Where unavoidable, one conduit must be neatly set over the other. Where a number of conduits have to run back to the distribution board or switchboard, they shall run parallel to the distribution board or switchboard, and at saddle distance to each other wherever possible.

Conduit runs from distribution boards shall terminate in fabricated sheet steel draw boxes installed in the roof above the distribution boards. Each draw box shall be fabricated from 1,6 mm galvanised sheet steel with welded corners and

suitably treated against corrosion with “Rustodian” or other approved primer and finished in aluminium paint.



Each draw box is to be fitted with slip-on lid with a 13 mm skirt. The box shall be 75 mm deep, shall be rectangular in shape and the size of conduits entering or leaving the box. Conduits shall be fixed to the box by means of couplings and brass male bushes or lock nuts and brass bush-nuts.

Conduit droppers shall be neatly cut into timber wall plates and set to face the right direction. All sets must be uniform. Conduits may be set at angles only where droppers or ceiling points are within 230 mm of roof members.

No conduits are to be run over the top of gangplanks or trapdoors.

Draw-in boxes with metal covers shall be provided where required and shall be installed near the gangplanks, if any. All inspection conduit fittings in open roof spaces shall face upwards to facilitate wiring and to permit easy inspection. Three-way conduit boxes shall be used for tee-off purposed in open roof spaces. Inspection tees are not to be used except where otherwise agreed or specified.

All conduits extended into a roof space with a roof clearance of more than 900 mm shall be set onto the beam and extended into the roof for a distance where there is sufficient clearance. Under flat roofs or where there is less than 900 mm clearance, the conduit shall be installed as specified for tubing in concrete slabs, right angle bends should be kept to a minimum and the shortest route taken.

Where false ceilings occur they shall be tubed as called for in the detailed specification. Conduits in restricted spaces and run as for concrete slabs must however, be installed in a neat and orderly manner.

Conduits to ceiling points for all types of fittings must be firmly supported and shall terminate in a back entry conduit box. The conduit box shall be taken through to the face of the ceiling and finish flush. Where the ceiling brandering interferes with the installation of the ceiling point specified, the Contractor must trim the brandering to allow the conduit box to be taken through to the face of the ceiling as specified. Luminaires must be bonded to the conduit box by means of metal threaded screws.

2.3 **In Concrete Slabs**

In order not to delay building operations, the Contractor must ensure that all conduits and conduit fittings, which are to be cast in concrete, are laid in good time. The Contractor shall have a competent Electrical Artisan standing by during casting of concrete, etc, to ensure that the conduit boxes are not damaged during casting of concrete.

Draw boxes, expansion joints boxes and round conduit boxes are to be provided where necessary.

Deep type conduit boxes shall be used for side entering conduits and normal shallow boxes may be used for back entry conduits. No elbows, bends or sharp sets will be allowed in concrete slabs except in cases of conduits of 40 mm diameter or when larger sweeping bends will be permitted.

Common drawn and/or inspection boxes shall be used where there is more than one circuit involved. They shall be installed in lavatories, storerooms, or other



inconspicuous places. Covers shall be of hardboard neatly finished to match the finished ceiling or wall surface, and shall be fitted parallel to the wall or ceiling.

All boxes, etc. are to be securely fixed to the shuttering to prevent displacement when concrete is cast. All conduits must be laid off the deck, supported and secured at regular intervals and installed as close as possible to the neutral axis of concrete beams and slabs.

Expansion joints shall be shown on layout drawings and shall consist of a metal box in which one conduit is fixed and the other capable of movement with the building's expansion and contraction. Earth continuity of these joints shall be maintained by means of stranded copper conductors bonded to the conduits in the box as shown on the drawing.

Earth conductors and clamps buried in concrete are not permitted.

Conduits must be spaced sufficiently apart to allow for proper concreting. All joints shall be painted with an approved metal primer after completion of the tubing installation, prior to the concreting. All exposed parts of the conduit installation shall be suitably, protected against corrosion at the discretion of the Head : Works.

Before any concrete slab is cast, all conduit droppers to switchboards shall be neatly spaced and rigidly fixed.

2.4 **Surface Work**

All conduit must be plumbed and leveled and only straight lengths shall be used.

In cases where doorframes are out of plumb, or fittings, beams etc, are out of level, the conduit shall be run parallel with the doorframes, fittings, beams etc.

No threads shall be visible when the conduit installation is complete, except on running couplings.

Running couplings shall only be used where unavoidable and shall be fitted with a sliced coupling as a lock nut.

No inspection or normal bends are to be used on surface work, except with the approval of the Works Inspector and where conduits of 32 mm diameter or larger are used. Conduits shall be set uniformly and inspection couplings shall be used where necessary.

Fittings, tees, boxes, couplings, etc, are to be cut into the surface to allow the conduit to fit flush against the surface or alternatively spacer bar saddles may be used. Conduit is to be bedded into any irregularities to avoid gaps between the surface and the conduit.

Double sets, where used, shall be parallel with no twists and shall be as short as possible. All conduits, which terminate at metal trays, boxes, industrial switches and plugs shall do so by means of couplings and male bushes. No couplings will be permitted in droppers of lengths less than 3.6 m.

Where crossings of conduits is unavoidable, purpose made metal boxes shall be used. The length of the box is to be 8 times the diameter of the largest conduit, the width one and half times the sum of the diameter of all the conduits, and the depth one and half times the diameter of the largest conduit with a minimum

depth of 50 mm. The box shall be fitted with a neatly fitting cover and the finish shall be in keeping with the general layout.

Where a number of conduits are to be installed in parallel they shall be evenly spaced and grouped under one purpose made saddle. Conduit spacing shall not exceed 10 mm. The purpose made saddle shall be made of 25 x 2 mm galvanised steel strip or other approved material, formed to suit the curvature of the various conduits and shall be drilled and fixed by means of screws between. Saddles shall be spaced at intervals not exceeding 1.8 m, except for conduit droppers, which shall be saddled centrally between ceiling and accessory box. All saddles are to be secured to the wall by means of black japan or brass rounded head screws. Distribution boards, draw boxes, industrial switches and plugs, etc, shall be neatly recessed into the surface of plastered walls to avoid double sets or alternatively spacer bar saddles may be used. On face brick walls the conduit shall be tightly set into the switch or plug.

In situations where there are not ceilings, the conduits are to be run along the wall plates and tie beams.

No wiring is to be carried out until the tubing has been inspected and approved.

Where spacer bar saddles are used, these shall be installed at centers of 1 m for horizontal and 1.5 m for vertical runs.

All conduits shall be painted with an approved enamel paint to match the background colour.

2.5 **Future Extensions**

In roof spaces with a minimum clearance of 900 mm, switch and plug drips for future use are to be set 300 mm in the correct direction and shall be threaded and fitted with plugged couplings. Where the roof over a slab is to be removed for future expansions, conduits for future use are to terminate 40 mm above tie beams and shall be threaded and fitted with plugged couplings.

Where future extensions are to be below slabs, all switch, socket outlet and other conduit droppers are to terminate 130 mm below slabs or beams with conduit ends threaded and fitted with plugged couplings.

Where provision is made for future extensions to a concrete slab, all conduits required for future use are to project 130 mm from the slab. Conduit projections are to be painted with an approved anti-corrosive paint and must be fitted with plugged couplings.

All switch, plug and other outlet boxes required for future use shall be fitted with approved blank cover plates.

Unused lighting outlet boxes are to be fitted with round hardboard or plastic covers with brass cover screws, which shall fit flat on the finished ceiling.

2.6 **Fixing of Conduits**

Conduits shall be fixed to switch and socket outlet boxes by means of couplings and brass male bushes or lock nuts and brass bush nuts. Couplings and male bushes to be used on all surface work.



2.7 **Chases and Building Work**

Except where otherwise specified conduits, switch boxes, plug boxes and distribution boards are to be built into the brick walls by the Contractor. It will, however, remain the responsibility of the Contractor to ensure that the above-mentioned boxes and distribution boards are correctly built in and are firmly bedded and cemented into the walls, plumb and square.

The Contractor shall, unless otherwise specified, do all necessary chasing and cutting of bricks. All electrical materials (e.g. conduits up to 40 mm for UG cables, conduits, conduit boxes, distribution boards etc) must be supplied by the Contractor who must arrange to have these on site, and positioned when required for the building work. A competent Electrical Artisan must be in attendance and ensure that the conduits etc are correctly installed and positioned.

The Contractor is to ensure that tubing installed in chases is securely nailed and covered by a layer of 5:1 mixture of coarse sand and cement, finished flush with brickwork and that switch and plug boxes finish flush with the finished wall surface.

The Contractor is to ensure that below distribution boards connected by means of under-ground cables, a 230 mm wide by 115 mm deep cavity in the wall from the cable pipe to the distribution board is to be provided by the Contractor, or alternatively, cable sleeves as specified.

3. **PLUGGING OF WALLS**

Only approved plastic plugs shall be used to secure conduit or equipment up to 5kg mass. The use of round-headed screws only will be permitted.

Heavier equipment shall be secured by means of approved expansion bolts.

Wood plugs and any plugs in the joints in brick walls are not permitted.

4. **FIXING TO CONCRETE CEILINGS**

Ceilings mounted equipment other than luminaires shall be secured to concrete ceilings by means of expansion bolts, shot bolts or "Robot" tools bolts or as expressly specified for the service.

5. **WIRING**

5.1 **PVC Insulated Single Core Medium Voltage Conductor**

The conductor is to be of high conductivity copper wire insulated with Polyvinyl Chloride. The cable shall be finished in the required colours and shall be in accordance with SABS 1507 and 1574.

Circuit wiring shall be of the Loop-in system and no wiring joints in the conduit or conduit fittings will be permitted. Not more than two conductors of a kind will be allowed at any outlet point. the end strands of cables, whether single or looped which have to be connected to terminals of switched, plugs, lamp-holders, fittings and distribution boards, etc, are to be tightly twisted together. Cutting away of

wire strands of any cable will not be allowed. Only one circuit in any one conduit will be permitted unless otherwise specified.

Conductor sizes shall be as follows except where otherwise specified:

Lighting circuits	1,5 mm ²	
Bells circuits	1,5 mm ²	
Clock circuits	1,5 mm ²	
Incinerator circuits	2,5 mm ²	
Ironing circuits	2,5 mm ²	with 2,5 mm ² insulated earth wire
Plug circuits	4,0 mm ²	with 2,5 mm ² insulated earth wire
Geyser circuits	4,0 mm ²	with 2,5 mm ² insulated earth wire
Heater circuits	4,0 mm ²	with 2,5 mm ² insulated earth wire
Stove	10 mm ²	with 6,0 mm ² insulated earth wire
Motor circuits		
Up to 4kW single phase	4,0 mm ²	with 2,5 mm ² insulated earth wire
Up to 11kW three phase	4,0 mm ²	with 2,5 mm ² insulated earth wire

To avoid deformation of PVC insulated cables at temperatures in excess of 57° C, they shall not be brought directly on to the terminals of appliances such as electric heaters, or any other electrical appliances or apparatus (including luminaires) which have a temperature in excess of 57° C. They shall terminate in a suitable terminal box as near to the appliance or fittings as possible and connect up from thereon, with heat resistant conductor.

6. **MOUNTING AND POSITIONING OF LUMINAIRES**

Luminaires and installation to comply with SABS 1464 Parts 1 to 22 and IEC 598-1 and IEC 60598 as applicable.

The contractor shall, in the case of board and acoustic tile ceilings (i.e. as opposed to concrete slabs), ensure that the luminaires are symmetrically positioned with regard to the ceiling pattern.

The layout of the luminaires as indicated on the drawings shall be adhered to as far as possible. The exact positions must be confirmed on site with the Head : Works.

Except where otherwise specified, pendant luminaires are to be mounted with the bottom of the fittings 2,5 m above finished floor level, mounted on either metal discs or wood blocks.

Under no circumstances shall cover strips be cut to accommodate wood blocks. Wood blocks must be neatly slotted to fit over cover strips and are to be secured by a minimum of two screws, which shall penetrate at least 25 mm into solid wood. Ceiling cover strips shall be neatly cut to accommodate fluorescent luminaires.

Where ceilings are raked, all incandescent luminaires are to be mounted on shaped leveling wood blocks securely fixed to the ceiling. Batten holders shall be secured to woodblocks by suitable brass screws. Fluorescent luminaires are to be mounted direct on raked ceiling without leveling blocks.



Fluorescent luminaires to be mounted on concrete ceilings shall be screwed to the outlet boxes and additionally supported by means of 50 x 6 mm expansion bolts. The bolts are to be $\frac{3}{4}$ of the length of luminaires apart.

Where a number of luminaires are installed end to end, outlet points must be provided after every second luminaire unless otherwise indicated on the drawing.



The luminaires are to be joined together by means of 20 mm conduit nipples, lock nuts and male brass bushes, and the wiring led through the channels of the luminaires. The Contractor shall ensure that all such rows are correctly lined up and that the rows are parallel with the relevant building line.

The luminaires are to be jointed together by means of 20 mm conduit nipples, lock nuts and male brass bushes, and the wiring led through the channels of the luminaires. The Contractor shall ensure that all such rows are correctly lined up and that the rows are parallel with the relevant building line.

Incandescent luminaires are to be screwed directly to outlet boxes in concrete slabs and in board ceilings. In board ceilings the conduit box and the conduit shall be secured to the timberwork of the ceiling in such a manner that it shall support any incandescent luminaire, which is designed to be fixed to a normal conduit box.

Fluorescent luminaires shall be secured to board ceilings by means of the conduit box and 6 mm bolts passing through the boards and brandering.

7. **BATTEN HOLDERS**

B.C. batten holders shall be of brass or moulded plastic reinforced type complete with shade ring. The batten holders shall comply with SABS IEC 60238 and SABS IEC 61184. All lamp holders are to have brass terminals with screw type connection.

8. **LAMP HOLDERS**

Edison screw lamp holders	:	SABS IEC 60238
Bayonet lamp holders	:	SABS IEC 61184
Lamp holders for tubular fluorescent lamps	:	SABS IEC 60400

B.C. screwed lamp holders shall be of brass 20 mm E.T. complete with shade ring and shall comply with SABS IEC 60238 and SABS IEC 61184 with screw type connection terminals.

9. **SWITCHES AND SOCKET OUTLETS**

Switches SABS IEC 60669 as applicable and socket outlets SABS IEC 60884 as applicable shall be of the most modern manufacture and bear the SABS mark.

Flush switch and plug cover plates shall, unless otherwise specified, be of anodized aluminium of thickness not less than 0,9 mm, satin or other approved finish as directed and otherwise to be fully in accordance with SABS IEC 1084 for cover plates and SABS 1085 for wall boxes.

10. **POSITIONS OF SWITCHES AND SOCKET OUTLETS**

Except where otherwise specified, lighting switches and socket outlets are to be installed 1,4 m above finished floor level.

All mounting heights specified are to be measured from finished floor level to the bottom of the outlet box.



Where the lower portion of the wall consists of face brickwork and the upper portion of plastered finish, switches and socket outlets are to be mounted in the plastered surface, provided that the lower edge of the plasterwork does not exceed a height of 1,5 m above finished floor level in which case the switches or socket outlets are to be installed in the face brick dado.

Where socket outlet and switch boxes have been installed with fixing lugs below finished wall surface, only approved distance pieces required to compensate for the recess shall be used. The lengths of distance pieces are not to exceed 15 mm.

Unless otherwise approved, light switches adjacent to doors are to be installed at the lock side of the door. Where the lock position is not indicated on the drawings, its position shall be ascertained before the switch box is installed. Switches are to be installed 150 mm from the reveal, or centrally if there is a fitting near the door.

All switch and socket outlet boxes shall be installed plumb, and built into the wall with a 1:1 mixture of cement and sand.

Industrial type switches and socket outlets shall be neatly recessed into the surface of plastered walls to avoid sets or alternatively spacer bar saddles may be used.

Deep type boxes may be used where switches or socket outlets are back to back, but where one side only is to be utilized at the time and the other is for future use, the side for future use shall be suitably covered with a metal cover plate.

11. **LOW TENSION SWITCHBOARDS**

Low Voltage switch gear and control gear to comply with SABS 1473 and SABS IEC 60947 and SABS 60349.

Where switchboards are to be installed in switch rooms or switch cupboards, the Contractor must ensure that the boards are manufactured to suit the dimensions of the rooms or cupboards.

Low tension switchboards shall be specified in detail for each service, but shall generally conform to the following:

They are to be of strong and rigid construction, with suitable angle, channel or folded steel framework. They are to be flush fronted and totally enclosed with sheet steel panels suitably formed at the edges and reinforced to prevent distortion. Unless otherwise directed, all front panels must be at least 2 mm thick and all other panels at least 1.6 mm thick. Panels are to be secured to the framework with studs and chromium plated dome nuts (self-tapping and similar screws are not permitted).

Switches, etc, are to be mounted on metal frames within the boards to give flush front panels. Equipment of normally surface mounted types such as energy meters, time switches and contractors, are to be mounted on inner metal trays behind hinged front panels. In the case of supply authority meters the hinged front panels must have transparent inserts.

All metal work of the boards must be thoroughly degreased, primed with PA 10 self etching primer and finished with one coat of undercoat and two coats of electrical orange high gloss enamel, unless otherwise specified.



All accessible current carrying parts, bus-bars, connecting strips, collector bars, etc, are to be adequately insulated in phase colours and suitably braced to withstand projected fault currents.

Connecting strips and collector bars must be of sufficient cross sectional area to carry full rated current of the switches served, irrespective of the fuse or trip rating.

The complete distribution board including bus-bars must be suitably constructed to withstand fault currents specified.

Connections to bus-bars are to be made by means of lugs suitably bolted and locked with high tensile bolts and connections to lugs must be effected by means of a crimping tools.

Incoming and outgoing bus-bar studs, where required, must be suitably insulated where they pass through panels of the board, and firmly supported within the board.

Where applicable, incoming and outgoing collector bars for cables in parallel must so arrange that the multiple cable ends can be connected to the bars with reasonably short tails which do not have to cross.
Cable supports must be placed at suitable heights having regard to the bending radius of the cables concerned and convenience in making off.

Wall-mounting and floor-standing back to wall type boards must be provided with full easy access to all equipment and wiring without any necessity of disconnecting or removing of any of the equipment mounted in the board.

Clear visible indication of all switch positions must be provided and the switches must be clearly labeled as directed by the Head : Works.

The details of construction proposed, and the Head : Works must approve all equipment of switchboards: Works before manufacture is commenced.

12. **DISTRIBUTION BOARDS**

12.1 **Approval**

The Head : Works must approve the details of construction proposed and all equipment within distribution boards: Works before manufacture is commenced.

12.2 **Flush Mounting Distribution Boards**

These shall be generally manufactured in accordance with SABS 1765. The board shall consist of two panels fitted side by side with common bonding tray and attached to a common architrave. One panel shall accommodate all single phase MCB's and the second panel shall accommodate the main isolator, main bus-bars and the triple pole MCB's. Chassis shall be of rigid channel section rust proofed steel with clip-on trays for the single pole MCB's. The main isolator is to be mounted at the bottom of the second panel with the triple pole circuit breakers above.

12.3 **Surface Mounting Distribution Boards**

These shall be generally manufactured in accordance with SABS 1765, with two panels as for flush boards.



12.4 **Single Phase Distribution Boards**

Single Phased boards shall be generally constructed as three phase boards except they shall have a single panel. Single phase boards shall be mounted with the bottom of the architrave 1,5 m above finished floor level unless specifically directed otherwise.

12.5 **Distribution Board – In Roof Spaces**

Where distribution boards are installed below a roof space, a minimum of 2 x 20 mm and 1 x 25 mm spare conduits are to be run from the distribution board into the roof space.

13. **METER BOXES**

The meter box shall be mounted with the top 1,7 m above finished ground level. Surface mounted meter boxes shall be secured by at least 4 x 10 mm expansion bolts.

Service cables entering the meter box shall be protected by means of a suitably sized galvanised pipe extended 450 mm below the ground surface and securely saddled to the wall and bonded to the meter box.

14. **CONNECTIONS TO OUTLETS**

14.1 **General**

Where connectors are used to connect to the wiring of luminaires and other appliances, the connectors shall comply with SABS Specification 1239.

14.2 **Connection to Stoves**

14.2.1 **General**

The connection to an electric stove, unless otherwise specified shall consist of 2 x 10 mm² conductors and a 6 mm² insulated earth wire in 25 mm conduit. The stove shall be controlled by a 60 Amp micro gap switch of approved make and the connection shall be by means of a 45 Amp 3 pin stove plug of the "Cape Town" type. Cable ends, which are to be connected to the stove, shall be equipped with suitable soldered or crimped lugs. The connection between the stove plug and stove shall be by means of flexible conduit.

Except for high school domestic science unit kitchens (see Clause 14.2.2), the conduit shall be chased into the wall and fitted with a switchbox for housing the micro gap switch and a 25 mm circular conduit box over which the stove plug will be mounted. The stove plug shall be fitted with an adaptor plate and shall be screwed directly to the conduit box by means of round head metal screws. The plug outlet shall face downward.

The stove plug and switch shall be mounted 430 mm and 1,4 m respectively above finished floor level unless otherwise specified or indicated on the drawings.



14.2.2 **Stove Connections in High School Domestic Science Unit Kitchens**

Connections to stoves in High School Domestic Science Unit Kitchens, where the stoves are situated in front of a fitting, shall be generally as specified in Clause 14.2.1 except that the 25 mm diameter conduit shall be run in the floor slab, from the distribution board to a position to the right of the stove. A pedestal, which is complete with a 45 Amp 3 pin "Cape Town" type cooker plug, mounted on the back, shall be fitted over the conduit and securely bolted to the floor by means of expansion bolts. The plug circuit, which passes through the pedestal, is to be on a separate circuit.

14.3 **Connections to Hot-water Cylinders**

The connections to hot-water cylinders not exceeding 3kW loading shall consist of 2 x 4 mm² PVC conductors and 1 x 2,5 mm² earth wire in a 20 mm diameter conduit from the distribution board. The conduits shall be chased in the wall and shall terminate at the side of the cylinder in a box over which is to be mounted a double pole isolator with pilot light.

The final connection between the isolator and cylinder shall be by means of silicone heat resistant conductors in 20 mm diameter flexible conduit.

Connections to roof mounted hot-water cylinders shall generally be as specified above with an isolator with pilot light mounted adjacent.

14.4 **Connections to Power Points**

Connections to electric motors and fixed apparatus to vibration shall, unless otherwise specified or indicated on the drawings, have final connections consisting of conduit and flexible tubing or reinforced hose in accordance with Clause 1.3 of this specification and PVC cables and earth wire of the required size.

An isolator shall protect all fixed apparatus and where necessary a starter fitted with a no-volt coil and overload protection adjacent to such apparatus.

Power points for connection of fixed apparatus to be installed by others, shall terminate in an approved type wall mounted switch unless otherwise specified.

The minimum conductor size for all power points shall be 4 mm² unless otherwise specified.

14.5 **Underground Service Connection**

This clause refers to underground service connections not provided by the Supply Authority.

The service cable and earth wire to be connected at the supply point in accordance with Clause 15.8 of this specification, and unless otherwise specified, shall be laid 600 mm below ground level throughout and otherwise fully in accordance with Clause 15 and all applicable sub-clauses thereof. Cable entries to meter boxes shall be in accordance with Clause 13 and other entries shall be by pipe or duct as directed.

14.6 **Connections to Outbuildings**

Connections to outbuildings shall be made by means of underground cable only, laid in accordance with Clause 15 and all applicable sub-clauses.

Where the cable is run from the roof space of the main building, it shall be enclosed in suitably sized galvanised pipe built into the wall or run surface as directed. Surface run pipes shall be securely saddled at 1,8 m centers. Where the cable connects to the conduit in the roof space, a suitable joint box shall be provided or alternatively the cable may be taken through the roof space, a suitable joint box shall be provided or alternatively the cable may be taken through the roof space with fixings at regular intervals, and down to the main board. At the outbuildings, the cable shall be enclosed in a suitably sized galvanised sleeve pipe built into the wall or run surface and terminated in the distribution board tray.

14.7 **Connection and Mounting of Cable Fed Street/Site Lighting**

Street/site lights shall in all cases, except where otherwise specified, be fed by underground cable. Unless otherwise directed, a suitable terminal board shall be provided in the base of the lighting pole for the connection of the incoming and outgoing cables, the feeds from the terminal board to the fitting shall be as specified.

"Surfix" cable and compression glands shall be installed between terminal board and cross arm/bracket mounted luminaires. The terminal board shall also accommodate a miniature circuit-breaker in the phase connection to the fitting. Poles intended for mounting directly in ground are to be provided with a 300 x 300 mm base plate.

15. **UNDERGROUND CABLES**

1000 volt PVC SWA and 110 Volt PILCA cable and accessories shall be in accordance with the relevant SABS specifications to SABS 1507.

The storage, transportation, handling and laying of underground cables shall be according to the manufacturer's requirements and the Contractor shall have adequate and suitable equipment and labour to ensure that no damage is done to cables during such operation. All cable pipes and ducts entering buildings are to be sealed against the ingress of vermin, water, etc.

15.1 **Trenching**

Cables, unless otherwise specifically directed, shall be laid at a depth of 600 mm below ground level. Trenches shall not be less than 300 mm wide for one to three cables, and the width shall be increased where more than three cables are to be laid together so that the cables may be placed at least 75 mm throughout the run.

The Contractor shall take all necessary precautions to prevent trenching work being in any way a hazard to the public and to safeguard all structures, roads, sewer works, or other property from risk of subsidence and damage.

15.2 **Cable Joints**

Joints in underground cable runs will not be permitted unless unavoidable and at the discretion of the Head : Works. Where cable joints are unavoidable, the cable jointer is to work efficiently and cleanly and so that each end of the cables to be joined may have a minimum of 0,9 m of slack disposed in a loop without stress. Back-filling under joints must be firmly tamped to prevent any subsequent settling.

15.3 **Bedding**

In trenches made in intermediate, hard rock, or boulder material, the cables shall be laid on a 75 mm thick bed of earth and be covered with a 150 mm layer of earth before the trench is filled in. The Contractor to supply all earth required for trench filling.

15.4 **Laying**

Cables shall be removed from the cable drum in such a way that no twisting, tension or mechanical damage is caused, and must be adequately supported at short intervals during the whole operation. Particular care must be exercised where it is necessary to draw cables through pipes and ducts, to avoid abrasion, elongation or distortion of any kind. The ends of such pipes and ducts shall be sealed to approval after the drawing in of the cables.

15.5 **Back Filling**

Back filling after bedding (see Clause 15.3) is to be carried out with a proper grading of the material to ensure settling without voids, and the material is to be tamped down after the addition of every 150 mm. The surface is to be made good as required.

Back filling of cable trenches must not be commenced until after the cable trenches and laid cable(s) have been inspected by the Head : Works. Where a Contractor fails to observe this requirement he may, at the discretion of the Head : Works, be required to re-open such cable trenches for inspection at his own expense.

15.6 **Protection of Cables**

Where so directed by the Head : Works, concrete or other warning covers shall be placed over cables above the top bedding layer. Cable pipes when directed are to be installed at road and other crossings.

15.7 **Marking of Cables**

Cable marking tape is to be supplied by the Contractor and is to be laid 150 mm below ground over a cable run and as may be directed by the Head : Works to give early indication of underground cable runs.

15.8 **Joints and Termination of Cables**

Joints in underground cables and terminations shall be made by means of "Scotch Cast" or other approved epoxy-resin pressure type jointing kits. Low tension PVC cables are to be made off with sealing glands and materials designed for this purpose, which must be of approved make.

15.9 Sealing of Paper Insulated Cable Ends

Where cables are cut and not immediately made off, the ends must be sealed without delay. If cables are cut and the ends not immediately made off or sealed, the cable may be rejected and the Contractor will be required to replace it at his own expense.

15.10 Earth Wires

Except where specifically directed otherwise, earth continuity conductors are to be run with all underground cables constituting part of a low tension distribution system. Such earth continuity conductors shall be bare copper wire of a cross sectional area in accordance with the Code of Practice 0142 but shall not be less than 4 mm² nor more than 70 mm². The earth continuity conductor is to be bonded to the cable armouring, and to the lead sheath if any, at each termination, as well as to the local earth bard. The earth wire must be secured to the cable at 1,8 m centers.

15.11 Opening Up of Existing Cables

Where it is necessary to expose existing buried cables for any purpose, or to excavate in the vicinity of existing buried cables, pipes, etc, every care is to be exercised and only labourers experienced in such work, and duly warned by the Contractor, shall be employed thereon.

15.12 Definitions for Classifying of Excavation

- (a) Soft Excavation – shall be excavation in material that can be efficiently removed by a back-acting excavator of flywheel power approximately 0,10kW per millimeter of tinned-bucket width, without the assistance of pneumatic tools such as paving breakers, or that can be efficiently loaded without prior ripping or stockpiling by a rubber tyred front-end loader approximately 15T mass and a flywheel power of approximately 100kW.
- (b) Intermediate Excavation – shall be excavation in material that requires a back-acting excavator of flywheel power exceeding 0,10kW per millimeter of tinned-bucket width and the assistance of pneumatic tools prior to removal by equipment equivalent to that specified in (a) above.
- (c) Hard Rock Excavation – shall be excavation in material that cannot be efficiently removed without blasting or without wedging and splitting prior to removal.
- (d) Class A Boulder Excavation – shall be excavation in materials containing more than 40% by volume of boulders of sizes between 0,03 cubic meter and 20 cubic meter in a matrix of softer material or smaller boulders.

Note: (1) Excavation of solid boulders or lumps of size exceeding 20 cubic meter will be classified as hard rock excavation.

(2) Excavation of fissured or fractured rock will not be classed as boulder excavation but as hard rock intermediate excavation according to the nature of the material.

- (e) Class B Boulder Excavation – shall be excavation of boulders only in a material containing 40% or less by volume of boulders of size between 0,03 cubic meter and 20 cubic meter in a matrix of softer material or smaller boulders.

Note: Those boulders that required individual drilling and blasting in order to be loaded by a back-acting excavator as specified in (a) above, or by a track type front-end loader, will each be separately classed as Class B Boulder Excavation.

16. EARTHING

16.1 Main Earthing

The type of main earthing shall be as required by the Supply Authority, if other than the Head : Works and in any case as directed by the Head : Works who may require additional earthing to meet test standards.

Where required, an earth mat is to be provided, the minimum size, unless otherwise specified, being constructed from copper straps 950 x 25 x 3 mm at 230 mm centers and braced at all intersections. Alternatively or additionally earth rods or trench earths may be required, as the Head : Works may direct, and installed according to his instructions.

All earth electrodes and connections thereto must be approved "in-situ" by the Head : Works before back-filling.

The electrical installation shall not be earthed by means of the lightning arrester earth electrode, if such is included in the installation, but may be bonded thereto.

16.2 Earthing in Installations

The installation shall be effectively earthed in accordance with the relevant sections of the Code of Practice 0142 and the requirements of the Supply Authority.

All hot and cold water and waste pipes are to be effectively bonded by means of 12 x 1,5 mm solid copper tape (perforated tape or wire will not be permitted), clamped by means of brass bolts and nuts. Bonding tapes exceeding 75 mm in length must be fixed to the wall by means of No. 6 x 20 mm brass screws and plastic plugs not exceeding 150 mm centers. Main earth copper tapes where installed less than 2,5 m from ground level, must be run in 20 mm diameter conduit securely saddled to the wall.

Gutters and down pipes are to be bonded by means of 6 mm round headed brass bolts, with nuts and washers. Self-tapping screws are not permitted.

Connections from the earth bar or terminal on the main board must be made to a visible cold water main, the incoming service conductor, if any, and the earth mat or plate (where such is required) by means of either 12 x 1,5 mm solid copper tape or bare 25 mm² copper wire, or such larger conductor as the Head : Works may direct. From each distribution board separate earth conductors are to be taken to the main earth bar or terminal on the main board. Each conductor shall consist to stranded copper conductors drawn into the conduit together with the distribution

board feeders. The size of the earth conductors to be in accordance with the requirements of the Code of Practice 0142 or as specified.

Earthing clips shall be made of not less than 0,9 mm thick copper strips not less than 12 mm wide. They are to be complete with 25 x 7,7 mm brass bolts, washers and nuts and must be constructed so that the clips will fit firmly to the conduit without any additional packing.

Adjustable earth clips are not permitted.

17. **EXISTING BUILDINGS**

17.1 **Occupied Buildings**

Where work is to be carried out in occupied buildings the Contractor must arrange to carry out the installation with as little interruption to services and discomfort to the occupants as possible.

17.2 **Temporary Connections**

Temporary connections shall be provided where necessary for continuity of services, and as directed by the Head : Works. The contractor must ensure that such connections are both electrically safe and free from physical hazard.

17.3 **Old Materials**

Unless otherwise specified all existing materials removed by the Contractor shall remain the property of the Head : Works and are to be handed to the Head : Works.

17.4 **Making Good**

Any damage which may be done to the plaster work, floors, ceilings, wood and paint work, furniture and other equipment in the building, etc, during the progress of the electrical installation shall be repaired and made good by the Contractor to the satisfaction of the Head : Works.

18. **COMPLETION**

18.1 **Balancing of Load**

The Contractor is required to balance the load as equally as possible over multi-phase supplies.

18.2 **Tests**

The installation shall be tested by the Contractor as the service progresses or as required by the Head : Works and upon completion, for earth continuity and insulation. The final test before the taking over of the installation shall be made in the presence of the Head : Works.

The mandatory "Certificate of Compliance" shall be issued by the Contractor to the Supply Authority, with a copy to the Head : Works prior to first delivery being taken.

18.3 **Labelling**

All circuits and apparatus on switchboards shall be suitably correctly labeled by means of engraved plastic labels (white lettering on black), which are to be either bolted or screwed to the equipment panel, or fitted in channeling provided below the switch gear.

Sub-circuits are to be numbered and a legend detailing the circuits is to be framed and fitted to the door of the distribution board.

All other equipment is to be individually labeled to indicate the function.

All switchboards are to be fitted with a label on which the designation of the board is clearly indicated.

A separate engraved label depicting the origin and cable/conductor size shall be fixed below the main switch.

18.4 **Finishes**

Covers for all boxes, expansion boxes, etc, shall be finished to match the paint work of the ceiling or wall surface or as specified.

18.5 **Site Drawing**

On all completed new work or where specifically called for in the Tender Document, the Contractor shall, on completion of the works, submit to the Head : Works, a marked up site plan indicating the exact underground cable reticulation.

19. **POWER DUCTING FOR SCHOOL SCIENCE LABORATORIES**

The ducting shall be "Ductline 3" supplied by Messrs. Lascon Lighting, 102 Malbourne Road, P.O. Box 2479, Durban 4000: Telephone 031-2075081 or other approved.

20. **SPEAKER AND MICROPHONE OUTLETS**

Speaker and microphone outlets are to conform to the following details:

1. Speaker outlet – To have one flat and one round pin.
2. Microphone outlet – To have one round pin only.

Both female and male parts to be supplied and installed by the Contractor.

21. **BELLS AND BUZZERS**

21.1 **Bells**

Bells for schools and hostels shall be 220 Volt AC or 24 Volt DC as specified for the service. They are to be of robust construction encased in a sturdy cast metal weather-proof case. They are to operate on the frequency of the supply. They shall have an adjustable stabilizing spring, gold-silver contact points and 150 mm gongs.

21.2 **Doorbells, Buzzers and Bell Transformers**

These will be as specified for each service.

21.3 **Bell Pushes**

Except where otherwise specified, bell pushes shall be of the flush type suitable for mounting in a standard 100 x 50 mm box. They shall be clearly marked as a bell push and shall be fitted with satin finished anodized aluminium cover plates.

22. **SIGNAL TIMERS**

22.1 **Primary Schools**

The timer shall be designed to automatically signal the start and finish of school periods by the switching of a bell circuit and is to comply with the following specification:

1. The mechanism may be synchronous motor or quartz movement driven with a 24 hour dial or digital time read-out suitable for operation on a 220V 50Hz supply and is to be provided with a spring or battery reserve of a least 24 (twenty four) hours.
2. The unit is preferably to have minute to minute timing for a 24 (twenty four) hour period although 5 (five) minute intervals are acceptable, and is to be provided with Weekend lockout. Signal periods shall be adjustable from 5 – 45 seconds.
3. The unit shall be housed in a metal or plastic case with detachable front cover suitable for wall mounting.
4. Timers with punch tape programming are not acceptable.

22.2 **High Schools and Colleges**

Timers for these institutions shall generally be as for Primary Schools but are to have at least 3 (three) separate programmes and be fitted with three push buttons for independent manual operations for testing of each programme, plus an on/off switch for each programme, which does not affect the running of the clock.

23. **CLOCKS**

Electric clocks shall be of the quartz electronic battery operated type, with a dial of 250 mm diameter. The dial shall be white, with distinctive minute markings and chapters shall be black Arabic figures. Time adjustment shall be simple. Where mains operated electronic clocks are specified, these shall be of the synchronous self starting type, suitable for a 200 – 250 V 50 Hz AC supply

24. **TIME SWITCHES**

The time switch shall consist of a single pole switch with silver to silver or other approved contacts operated by a quartz movement with a 24 hour reserve.

A suitable 24 hour, night and day dial, with hour indicator and two adjustable strikers, one OFF and one ON must be provided. The whole mechanism is to be totally enclosed in a dust proof case.

The current rating shall be required and the switch is to be suitable for operation on 220 volt 50 Hertz AC supply. Time switches used for under floor heating are to be fitted with weekend cut-out.

25. **MOULDED CASE CIRCUIT BREAKERS (INCLUDING MINIATURE)**

Circuit breakers shall be of the size and type as directed and specified for the service. They shall comply with SABS Specification 156 and SABS IEC 60947-2.

26. **SWITCHES: ON-LOAD FAULT MAKING (CIRCUIT BREAKER TYPE) WITHOUT TRIPS**

The switches shall be triple pole, hand operated, panel mounting air break type, having continuous current rating as specified and suitable for operation of 380 – 440 Volt 50 Hz AC system.

The contacts are to be of silver alloy and the switch mechanism shall be of the quick-make, quick-break type.

27. **SWITCHBOARD EQUIPMENT**

Switchboard equipment such as switches, circuit breakers, etc, shall be as directed and specified in the detail specification for the service.

Circuit breaker equipment of SABS IEC 60934.

28. **FUSE-SWITCH UNITS (WITH HRC FUSES)**

The fuse-switch unit is to be of the double pole, or triple pole or triple pole with neutral link type, and of the required current rating, as specified for the service and must be in accordance with BS EN 60947-3.

The fuse links must be fully isolated when the switch is in the open position, and interlocks must be provided to prevent the switch being operated with the cover open.

The fuse links shall comply with SABS Specification 172 and SABS IEC 60269-1 to 4.

29. **BUS-BAR COPPER**

Bus-bar copper must be fully in accordance with Tables A1 and A2 of SABS 1473-2 and SABS IEC 60439-2.

30. **SPECIFICATION COMPLIANCE**

The complete installation shall comply with the requirements of this specification. Should any differences or contradictions exist between this Specification and the detailed requirements for a specific installation, then the detailed requirements shall take precedence.

LIGHTNING PROTECTION INSTALLATION

GENERAL SPECIFICATION

1. SATISFACTORY INSTALLATION

The whole of the installation shall be carried out in accordance with:

- (a) The latest S.A.B.S. Code of Practice for the Protection of Structures against Lightning - S.A.B.S. 03 ; SABS IEC 61024 (1) , 61024 (1 -1); SABS IEC 61312 (1) ; SABS IEC 61662 & NRS 042.
- (b) The KwaZulu-Natal Department of Works General Electrical Specification.
- (c) The Municipal By-Laws and any other special requirements as deemed necessary by the Local Supply Authority;
- (d) Local Fire Regulations.

2. S.A.B.S. APPROVED DRAWINGS

SABS Approved drawings are not required for this project.

3. TEST ON COMPLETION

Upon completion of the lightning protection system, the following tests shall be witnessed by an appointed representative of the Employer. The results shall be recorded on suitable test certificates which must be signed by both the Contractor and the Employers representative. A sketch must be included on each test certificate indicating the positions of each earth electrode in relation to some permanent reference point. It must also indicate the positions at which tests were carried out, the type of test and the results of these tests.

3.1 Earth Resistance Test

The Earth Resistance Test shall involve measuring the resistance to earth of each rod-type electrode, or group of rod-type electrodes, or trench earth which would normally be connected to one down-conductor or earth terminal. This test must be made with the electrodes completely disconnected from any part of the structure or lightning protection system.

3.2 Electrical Continuity Tests

(a) External Down-Conductors

Electrical continuity between the lower ends of external down-conductors which must all be disconnected from the earthing system during the test shall not exceed 1 (one) ohm.

(b) Metallic Services

Electrical continuity between any metallic structures of services (e.g. rainwater pipes) which form an integral part of the lightning protection system shall not exceed 1 (one) ohm. These tests should be carried out with all other components of the lightning protection system disconnected from the component being tested.

4. DESCRIPTION OF MATERIAL

4.1 Air Terminals and Down-conductors

All conductors must be in accordance with the requirements of BSS 1474 or American Standards Specification 6063. All aluminium conductors shall have a cross-section area of not less than 30 mm² (domestic dwelling only) or 50 mm² for all other applications. The dimensions of flat section conductors to be 20 mm x 3 mm. Where conductors are mounted in stand-off guides, the cross-section area of the conductor must be not less than 70 mm² to give adequate mechanical strength.

4.2 Conductor Guides

The conductor must be mounted in aluminium alloy guides conforming with the material specification given in 4.1 above. The guides must allow for free longitudinal movement of the conductor to cater for expansion and contraction of the system caused by temperature variation. The minimum thickness of any part of the guide shall not be less than 3 mm. The guides must be securely attached to the structure using two stainless steel screws and plugs, the use of plated screws is not permitted.

The conductor system shall be supported in guides so that an air gap exists at all times between the aluminium and the surface of the structure, the guides being seated upon plastic or other similar insulating material. Should conductors be installed directly upon the surface of concrete or cement plaster, an insulating strip is to be installed over its whole length to prevent contact between the two surfaces. Guides shall be installed to support the conductor at intervals not exceeding 1,2 metres horizontally or 1,5 metres vertically.

N.B.: No part of an aluminium conductor system must be allowed to come into direct contact with concrete or cement plaster as this may cause the aluminium to corrode.

4.3 Expansion Loops

Where conductors are installed horizontally without deviation from a straight line over long distances, expansion loops must be provided at distances not exceeding 30 metres. These expansion loops must have a cross-sectional area which is at least equal to that of the conductor.

4.4 Protection of Down-conductors

Where external down-conductors are installed in areas which are readily accessible to the public, the lower ends of the conductors shall be enclosed in a semi-rigid insulating material. In the case of a circular section conductor this shall comprise a 2 metre length of 20 mm diameter P.V.C. conduit. This conduit shall be securely attached to the wall by means of galvanized steel saddles fixed with stainless steel screws and plugs, spaced at intervals not exceeding 1 m. Where a flat section conductor is used this shall be covered by a similar length of 25 mm P.V.C. conduit. The lower end of the conduit shall be positioned as close as practicable to ground level, i.e. immediately above an aluminium to copper joint. The ends of the conduit shall not be sealed.

4.5 Earthing Electrodes

Earthing electrodes must consist of either copper-clad steel rods not less than 12 mm in diameter and having a minimum copper thickness of 0,20 mm driven into the ground, or a 50 mm² (35 mm² for domestic dwellings) bare copper conductor buried in a trench, or a combination thereof. Where copper clad steel electrodes are used they must have a suitable bond between the steel core and copper exterior to prevent moisture ingress between the two metals. Where it is necessary to extend earth rods, an electrolytically compatible corrosion resistant, coupling device, which prevents ingress or moisture into the joint shall be used. The copper conductor below the down-conductor joint shall be covered by a semi-rigid P.V.C. conduit for a distance of approximately 200 mm above ground and 400 mm below ground.

4.6 Joints Above Ground

Circular section aluminium conductors shall be jointed by aluminium ferrules or lugs which are securely crimped into place. Aluminium lugs must be bolted together using 10 mm diameter aluminium bolts and washers. The material specification for these components must conform with that laid down in paragraph 4.1. Alternatively heavily tinned copper lugs and ferrules may be used. The lugs should be joined together by means of 10 mm diameter copper, brass or bronze bolts and washers. Care should be taken to inhibit corrosion where dissimilar metals are used by thoroughly cleaning the surfaces of the metal before assembly and subsequently sealing the joint with an inert tenacious compound or tape.

Flat section aluminium conductors shall be joined by double riveting, using aluminium rivets which comply with the material specification laid down in 4.1. Alternatively 2 x 6 mm diameter stainless steel bolts, nuts and washers may be used. Fold over type bends will not be permitted.

Down-conductors are to be terminated approximately 200 mm above finished ground level. Circular section aluminium is to be jointed to a 50 mm² (35 mm² in the case of domestic dwellings) stranded copper conductor by securely crimping in place two heavily tinned lugs and bolting these together using 10 mm diameter copper, brass or bronze nuts, bolts and washers.

N.B. : Under no circumstances shall aluminium conductors be buried in the ground.

4.7 Joints Below Ground

A joint in the stranded copper conductor which forms part of the earthing system must be made by using a crimped copper ferrule clamping (not lugs) using two copper line taps of suitable dimensions, or exothermic welding. The copper earth conductor must be joined to an earth rod by either clamping, using a standard earth rod clamp or copper line tap or by exothermic welding. Joints which are made between dissimilar metals (i.e. copper conductor to galvanized steel water main), must be thoroughly cleaned before assembly. They shall be rendered watertight using waterproof adhesive tape on a suitable compound for a minimum distance of 200 mm in all directions from the joint.

4.8 Bonds

Where it is necessary to bond the aluminium conductor to any other metallic surface, this must be done by bolting or riveting. When attaching aluminium to a dissimilar metal the joints are to be thoroughly cleaned and sealed to prevent corrosion.

5. GENERAL INSTALLATION PROCEDURE

5.1 Air Terminals for Non-metallic Pitched Roofs

Aluminium conductors are to be installed along all ridges of roofs and projections such as dormer windows, etc., terminating at the ends with conductors running downwards over the surface of the roof and the eaves. Non-metallic chimneys must be protected by means of a finial of sufficient length to cover the chimney within a 45° angle struck downwards from its point. Alternatively it should have a conductor installed in the form of a closed loop upon the upper surface. The conductors are to follow the outer contour of the stack and must be bonded at a convenient point to the nearest component of the air terminal system.

N.B. : This bond may run in a horizontal or downward direction, but under no circumstances must any part of it run above horizontal.

Conductors may be dead-ended (i.e. have one end free and unbonded), providing that the length of such a conductor does not exceed 10 metres and that the unbonded end is either at the same level or higher than the bonded end. This technique may be used where ridge conductors are installed over dormer windows, etc.

In all cases where metallic gutters have been installed along the eaves of a pitched roof, these must be bonded to the air terminal system. Where metallic gutters do not exist, however, a conductor must be installed over the surface of the roof at eaves level to which the remainder of the air terminal system is to be bonded, with the following exceptions :

- (a) Where the maximum distance from the ground level to the eaves of the building is less than 4 metres and the pitch of the roof is more than 1 in 2 (27° from the horizontal).
- (b) Where the maximum distances from ground level to the eaves is less than 7 metres and the pitch of the roof is more than 1 in 1,5 (34° from the horizontal).
- (c) Where the distance from the ground level to the eaves is more than 7 metres and the pitch of the roof is more than 1 in 1 (i.e. the included angle at the apex of the roof is less than 90°).

Under these circumstances eaves conductors need not be installed.

Any non-metallic objects which protrude above the general roof lines, such as Cape Dutch gable ends, must be protected as described above with a suitable air terminal system. Any metallic objects which protrude above the general roof line, such as hot water expansion pipes must be bonded as directly as possible to the nearest eaves conductor, gutter or other part of the lightning system.

N.B. : These bonding conductors must run in a horizontal or preferably a downward direction, from the vent pipe, etc., to the lightning protection system.

5.2 Air Terminals for Metallic Pitched Roofs

Buildings with roofs covered with electrically continuous metal sheets do not require separate air terminals but must be earthed via down conductors generally as described in 5.6 and 5.7. Any non-metallic objects projecting above the general roof line must be separately protected as described in 5.1 and bonded to the metal roof covering.

5.3 Air Terminals for Non-metallic flat or Mono-pitched Roofs

For flat or mono pitched roofs of non-metallic construction the air terminal system must consist of aluminium alloy conductors installed around the outer perimeter of each section of the roof structure. These conductors must be installed on top of parapet walls if these exist. Lift motor rooms, tank rooms, penthouses, etc., which protrude above the general roof line must have air terminal conductors installed around the outer perimeter of each roof slab or parapet wall. Any metallic objects which protrude above the roof line, such as expansion pipes, signs, flag poles, handrails, etc., must be bonded directly to the nearest component of the lightning protection system as described in 5.1.

N.B. : It is not permissible for the ends of conductors to be bonded directly to the perimeter air terminal system if the latter is installed upon a parapet wall having a height exceeding 500 mm above roof slab level. In these circumstances the conductors are to be bonded directly to the down conductors.

5.4 Air Terminals for Metallic flat or Mono Pitched Roofs

Metallic flat or mono pitched roofs do not require separate air terminal conductors, providing that there is electrical continuity between the metallic roofing sheets, (see 5.2). A metallic roof surrounded by a non-metallic parapet wall shall have conductors installed at the top of the parapet wall and these must be bonded to the metallic roof at intervals not exceeding 20 metres. If the parapet wall is clad with metal over its upper surface or a handrail is installed which affords good electrical continuity, separate air terminal conductors need not be installed. Under these circumstances the metal handrail or cladding must be bonded to the metal roof covering at intervals not exceeding 20 metres.

All non-metallic covering such as slates, tiles, asbestos cement sheeting, etc., supported by a steel structure being electrically continuous throughout may be treated as being of a complete metal construction. In these circumstances no separate air terminal system need be installed providing the steel roof structure is bonded to earth at intervals given in 5.5.

5.5 Down Conductors for Non-metallic Structures

Down conductors must be installed at regular intervals around structures and to run as directly as possible between the air terminal and earthing system. They must, where practicable, be positioned at the external corners of the structure. The maximum separating distance between down conductors around the perimeter of the structure must not exceed 30 metres. In the case of very tall buildings having a slender base (i.e. chimney stacks, water towers, etc.), a minimum of two down conductors must be installed.

The lower ends of down conductors are to be terminated and bonded to the earthing system approximately 200 mm above finished ground level. Under no circumstances must aluminium conductors be buried underground. Test joints must be provided between the down conductors and earthing system. Down conductors must run vertically between the air terminal and earthing systems. Where this is impracticable, their course may be deviated to run at any angle up to and including horizontal.

Where it is necessary to run conductors horizontally over the upper surface of a structural protrusion, such as an exposed concrete slab, the conductor may run down vertically over the edge of the slab and return to the main structure, so that the distance between the upper and lower conductors exceeds one third of the length of the horizontal run. Looped down conductors are not permitted. Down conductors must not run over the underside of large overhangs which are less than 6 metres above ground level, or other areas where people are likely to be present during a thunderstorm.

External or internal metallic rainwater pipes may be used as down conductors providing these are of substantial section and are jointed by screwing one length into another or welding. Thin gauge galvanized steel pipes whose sections are held together by friction, rivets or screws must not form part of a lightning protection system.

5.6 Down conductors for reinforced concrete framed structures

The steel reinforcement of this type of structure may be used in place of down conductors. Where the reinforcing system is used, the air terminal system must be bonded to it at a maximum of 30 metre intervals using steel clamps. This bond may be achieved by clamping, with a steel clamp, a steel conductor to a selected reinforcing bar, the opposite end of this conductor must terminate at a corrosion resistant metallic terminal such as Grade 316 stainless steel.

The reinforcing system of prefabricated concrete buildings must not be used unless special provision is made for bonding the various prefabricated sections together.

The terminals should be mounted flush with the face of the concrete. An aluminium alloy bond must then be taken from the air terminal system and be connected to the stainless steel terminal by means of a heavily tinned crimp lug for circular section aluminium, or a suitable bi-metallic joint in the case of flat section aluminium. A similar system must be used to bond the reinforcing system at ground level to the earthing system at points directly below the air terminal bonds. Here copper conductors must be used as the external bonding material.

Under no circumstances must copper, or other non-ferrous material be allowed to come into contact with steel reinforcing bars, as this may cause severe corrosion and subsequent structural damage. The lightning protection system must not be bonded to any part of the structure which is electrically isolated from the remainder of the building, i.e. cantilevered sections. In these circumstances, or where it is otherwise impracticable to use the reinforcing system, external down conductors must be installed as described in 5.5.

5.7 Down conductors for steel framed structures

Where the framework of a building is constructed of structural steel columns, these may be used in place of down conductors providing the separating distance between them does not exceed 30 metres. The upper ends of the columns must be bonded to the air terminal systems and the lower ends to the earthing system.

5.8 Earthing by means of vertically installed rod type electrodes

Rod-type electrodes must be driven into the ground at a position directly below each down connector. The maximum earthing resistance of each electrode or number of electrodes bonded to any one down conductor shall not exceed $N \times 30$ ohms, where N equals the total number of down conductors which are bonded to a common air terminal system, or 200 ohms whichever is the lower value.

The minimum horizontal separating distance between rod-type electrodes bonded together must not be less than their installed depth. The upper ends of installed rod-type electrodes are to be terminated approximately 500 mm below finished surface level. A 50 mm² copper bonding conductor must be installed to run between each earthing electrode system and the lower ends of the adjacent down conductors. A joint is to be made between each of these bonding conductors and the down conductors at a position approximately 200 mm above finished ground level. These bonding conductors must be installed in P.V.C. conduit securely affixed to the wall (see 3.4). The length of this P.V.C. conduit must be approximately 600 mm and must be installed so that approximately 200 mm protrudes above ground level, the remainder being buried into the soil.

5.9 Earthing by means of metallic water mains

Where two or three down conductors are installed the water mains may serve as an earth terminal for one of these. Where three or more down conductors are installed the water mains may serve as an earth terminal for two of these. Regardless of whether the water mains are used as an earth terminal or not, the incoming metal water pipe must be bonded to the lightning protection earthing system underground.

5.10 Earthing by means of trench type electrodes

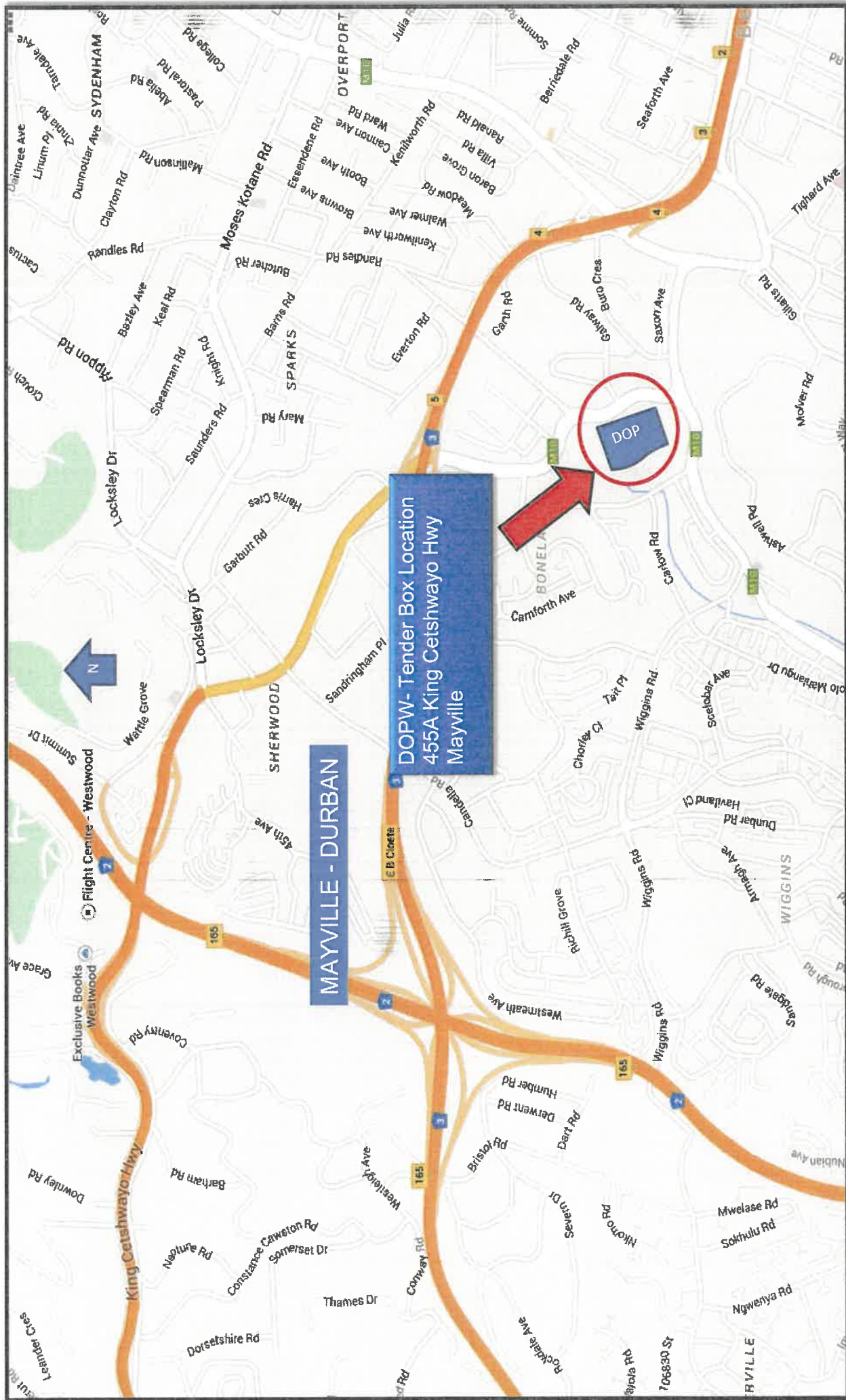
Where the soil conditions prevent the satisfactory installation of rod-type electrodes, a trench earth system must be installed. This method is to comprise a 50 mm² stranded copper conductor installed horizontally into a trench at a depth of 500 mm below finished ground level. The conductor is to follow the general outline of the structure to be protected and be installed 1 metre away from the outside walls. Where the building stands on rocky ground, the trench earth may be attached to the lower part of the wall in areas where rock protrudes through the soil. The conductor must, however, be buried wherever possible as described above.

Each down conductor must be bonded to the trench earth system as directly as possible by means of a copper conductor.

Trench earth systems must have a maximum earth resistance of 30 ohms. An isolated length of trench earth mat must be bonded to the down conductor system in such a way as to reduce the length of dead-ends to the minimum.

Should trench earths be installed beneath pathways where people are likely to be present during a thunderstorm, a plastic, bitumastic or ceramic pipe must be installed having a length similar to the width of the pathway and the trench earth conductor run inside it.

N.B. : The maximum useful length of a dead-ended trench earth is 80 metres.





KWAZULU-NATAL PROVINCE
PUBLIC WORKS & INFRASTRUCTURE
REPUBLIC OF SOUTH AFRICA

Annexure 5
Joint Venture Agreement
(March 2004)
(First Edition of CIDB document 1017)

1. **PREAMBLE**

This agreement is made and entered into by and between

of the first part and

of the second part and

of the third part.

(allow for additional parties as necessary).

Whereas the foregoing parties have resolved to form a Joint Venture under the title of

for the exclusive purposes of securing and/or executing the Contract to be awarded by

(name of Employer)

to the KZN Department of Public Works in respect of the following project:

for (brief description of Contract)

KWAZULU NATAL: DEPARTMENT OF COGTA: ETHEKWINI REGIONS: QADI TAC - REHABILITATION, REFURBISHMENT AND MAINTENANCE - (COMPLETION CONTRACT)

Now it is hereby agreed as follows :

2. **DEFINITIONS AND INTERPRETATION**

2.1 Definitions

The following words and expressions shall have the meanings indicated, except where the context otherwise requires. Defined terms and words are, in general, signified in the text of the Agreement by the use of capital initial letters, but the absence of such letters does not necessarily signify that a term, or word, is not defined.

'Agreement' means the agreement between the Members of the Joint Venture and includes this model form of agreement together with the Preamble, Specific Provisions, if any, Schedules 'A', 'B' and 'C' and any relevant Documents prepared prior to the signing of the Agreement and appended thereto.

'Contract' means the contract with the Employer for the supply of the Deliverables, for the purposes of securing and executing which, the Joint Venture has been formed.

'Deliverables' means the works and/or services, equipment, materials, goods, etc. to be furnished by the Joint Venture to the Employer in terms of the Contract.

'Document' means any written, drawn, typed, printed, or photographic material, which relates to the Agreement.

'Employer' means the person, or body, which is to award the Contract and will employ the Joint Venture if it is awarded the Contract.

'Joint Venture' means the joint venture formed by the Members in accordance with the Agreement.

'Management Committee' means the body established in terms of the Agreement to manage all aspects of the work of the Joint Venture in securing and executing the Contract and in meeting the provisions for the Agreement.

'Member' means a person, or body which, being a party to the Agreement, is a member of the Joint Venture.

'Member's Interest' means the proportion expressed as a percentage, which the total monetary value of all resources provided and contributions made by a Member towards the execution by the Joint Venture of the Contract bears to the total of such values by all Members and, unless otherwise indicated in the Agreement, represents the extent to which the Member participates in the fortunes of the Joint Venture.

'Representative' means the person representing a Member on the Management Committee.

'Schedules' means Schedules 'A', 'B' and 'C' which set out general, financial and other information relating to the Members and the obligations, duties, rights, risks and benefits arising from their participation in the Joint Venture.

'Specific Provisions' means the variations, if any, required to this standard form of agreement for the specific purposes of the Agreement.

2.2 Interpretation

Unless inconsistent with the context, an expression in the Agreement which denotes:

- any gender shall include the other genders
- a natural person shall include a juristic person and vice versa
- the singular shall include the plural and vice versa

2.3 Headings

The headings to clauses of the Agreement shall not be considered part thereof, nor shall the words they contain be taken into account in the interpretation of any clause.

2.4 Law

The Agreement shall be construed in accordance with and governed by the laws of the Republic of South Africa and the English language versions shall prevail.

2.5 Language

English shall be exclusively used by the Members in the preparation of Documents unless otherwise indicated.

2.6 Conflict between Agreement and Contract

Should any provision of the Agreement be in conflict with the terms of the Contract, the Agreement shall be amended to the approval of the Management Committee so as to eliminate the conflict.

3. **JOINT VENTURE GENERAL**

3.1 Establishment and Purpose

The Joint Venture established by the Members in terms of the Agreement is an unincorporated association with the exclusive purposes of securing and executing the Contract for the benefit of the Members.

3.2 Termination

The operation of the Joint Venture and the validity of the Agreement shall terminate if and when it becomes evident that the Joint Venture will not be awarded the Contract, or, if the Joint Venture secures the Contract, when all obligations and rights of the Joint Venture and the Members in connection with the Contract and the Agreement have ceased and/or been satisfactorily discharged.

Unless otherwise decided by the Management Committee, the Agreement shall not terminate if a Member changes its name, or is taken over by, or merged with, another body.

This agreement will terminate when any one of the Members resigns, are liquidated or opts out of this agreement and the Joint Venture will be in breach of contract with the Employer and their contract could be cancelled.

3.3 Exclusivity

Unless otherwise agreed by the Management Committee, or provided for in the Contract no Member shall engage in any activity related to the Contract other than as a Member of the Joint Venture and Members shall ensure that their subsidiaries and other bodies over which they have control comply with this requirement.

3.4 Participation of Members

Except as may otherwise be stipulated in the Agreement, each Member shall be responsible for all costs incurred by it prior to the date of inception of the Agreement.

Subsequent to the date of inception of the Agreement, each Member shall, participate in the operations, risks, responsibilities and fortunes of the Joint Venture including, inter alia, the provision of funding, sureties, guarantees, insurances, human and other resources and participation in profits and losses to the extents indicated in the Schedules. Participation in any aspect not covered in the Schedules shall, if an agreement cannot be reached between the Members, be to the same extents as indicated by the Members Interests.

3.5 Management

The affairs of the Joint Venture shall be directed and controlled by the Management Committee, as set out in Section 4 hereof.

3.6 Confidentiality

All matters relating to the Agreement and the Contract shall be treated by the Members as confidential and no such matter shall be disclosed to any third party without the prior written approval of the Management Committee.

No Member shall be party to the dissemination of publicity relating to the Contract, or the Agreement, without the prior written approval of the Management Committee and the Employer.

3.7 Assignment

No Member shall cede, assign, or in any other way make over any of its rights, or obligations, under the Agreement without the prior written consent of the Management Committee.

3.8 Subcontracting

No Member shall subcontract any obligation, work or duty for which it is, itself, responsible in terms of the Agreement without the prior written consent of the Management Committee.

3.9 Variations to Agreement

No variation, modification, or waiver of any part of the Agreement shall be of any force, or effect, unless unanimously agreed by the Members and reduced to writing.

3.10 Liability

Each Member warrants that it will indemnify the other Members against all legal liabilities arising out of, or in connection with the performance of its obligations under the Agreement.

It is acknowledged by the Members that they may be held jointly and severally liable in respect of claims against the Joint Venture by the Employer or third parties.

4. MANAGEMENT OF JOINT VENTURE

4.1 General

The affairs of the Joint Venture shall be directed, controlled and managed by the Management Committee, which, within the terms of the Agreement and the Contract, shall have full authority to bind the Members in all matters relating to the affairs of the Joint Venture.

Communication between the Joint Venture and the Employer, or third parties, relating to the Contract shall be conducted exclusively by the Management Committee, or by such person as it may delegate to perform this function.

The Management Committee shall have the power to appoint a project manager and/or such other persons as it may see fit to appoint for the purpose of executing the Contract and may delegate such of its powers, responsibilities and duties as it may consider necessary, or desirable, to persons or bodies appointed or seconded for this purpose.

Such administrative functions as are necessary to ensure the effective operation of the Management Committee shall be performed by its chairman.

4.2 Management Committee

4.2.1 Composition

The Management Committee shall, unless otherwise agreed by all the Members, consist of one Representative of each Member and each Member shall be obliged, at all times, to maintain a Representative on the Management Committee.

Each member shall, not later than three working days after the signing of the Agreement, appoint its Representative and notify the other Members of the name and contact details of the Representative. Such Representative shall have the power to bind the Member that he represents in all matters relating to the execution of the Contract and the performance of the Agreement.

A Member shall be entitled, after giving the other Members not less than three working days written notice of his intention to do so, appoint, remove and/or replace, an alternate who shall, at any meeting of the Management Committee from which the Representative whom he represents is absent, be vested with all rights and powers and subjected to all the obligations of the absent Representative.

The chairman of the Management Committee shall be the Representative of the Member which has the largest Member's Interest. If two, or more, Members have the same, largest Member's Interest, the chairmanship shall rotate between the Representatives of such Members at three monthly intervals, the order of rotation to be determined by ballot.

Notwithstanding the foregoing, the chairmanship of the Management Committee may be determined, or changed, at any time by unanimous decision of the Management Committee.

No remuneration shall be paid by the Joint Venture to Representatives or their alternates for serving on the Management Committee,

4.2.2 *Meetings*

Meetings of the Management Committee shall take place at such times and places as the Management Committee may determine, provided that the chairman shall convene a meeting of the Management Committee to be held not later than ten working days after he has been requested, in writing, by a Member to do so. Not less than five working days written notice of any meeting of the Management Committee shall be given to all Representatives and their alternates.

The Management Committee may permit, or invite, persons other than Representatives or alternates to attend any of its meetings, but such persons shall not have voting rights.

4.2.3 *Decisions*

Each Representative shall have one vote on the Management Committee and where, in terms of this clause, a casting vote is required, this shall be exercised by the chairman.

All decisions of the Management Committee shall, desirably, be unanimous. Accordingly, if unanimity cannot, initially, be achieved in regard to a decision, the meeting at which that decision is sought shall be adjourned for a period of 48 hours to enable Representatives to consult with their principals. If, on resumption of the adjourned meeting, unanimity can still not be achieved, the decision, provided it is not one requiring unanimity of the Members, shall be taken by majority vote and, in the event of a tie, the chairman shall exercise a casting vote.

A Member not satisfied with a majority decision of the Management Committee may declare a dispute, to be dealt with in terms of Clause 8 hereof, but the majority decision shall, nevertheless, be implemented with immediate effect.

Decisions of the Management Committee, whether taken at a meeting, or otherwise, shall be recorded in written minutes, which shall be distributed by the chairman to reach the Representatives not later than five working days after those decisions were taken. Such minutes shall be deemed to have been affirmed by the Representatives unless written notice of dissent is received by the chairman not later than three working days after receipt of the minutes by the Representative.

4.2.4 *Powers and duties*

The functions, responsibilities and powers of the Management Committee shall include, inter alia, those listed below:

- 4.2.4.1 Formulating overall policy in regard to the achievement of the objectives of the Joint Venture.
- 4.2.4.2 Managing the day to day affairs of the Joint Venture.
- 4.2.4.3 Monitoring, directing and co-ordinating the activities of the Members to ensure that the objectives of the Joint Venture are achieved and that the obligations and responsibilities of the individual Members are met.
- 4.2.4.4 Monitoring and controlling the financial affairs of the Joint Venture and ensuring that proper books of account and financial records relating to affairs of the Joint Venture are maintained in an approved form and submitted to the Management Committee for approval at regular intervals, which shall not be longer than one month.
- 4.2.4.5 Determining the necessity for and the details of any changes in the duties and responsibilities of Members provided that any resulting changes in Members' Interests shall be unanimously approved by the Members.
- 4.2.4.6 Determining the terms and conditions of employment of personnel and the emoluments applicable to staff seconded to the Joint Venture by the Members.
- 4.2.4.7 Controlling and approving the appointment of all subcontractors.
- 4.2.4.8 Procuring, after the completion of the Contract and the release of all bonds, guarantees and sureties given in respect of the performances of the Joint Venture and the Members, the preparation and auditing of a final set of accounts, on the basis of which the final profits, or losses, attributable to the individual Members shall be determined and any necessary adjustments effected.

5 **RESOURCES OF JOINT VENTURE**

The resources to be utilised by the Joint Venture in securing and executing the Contract shall, insofar as these are to be provided directly by the Members, be as set out in the Schedules and may, from time to time, be amended by decision of the Management Committee, provided that the Member's Interests are not, except with the unanimous approval of the Members, affected thereby.

Similarly, specific areas of responsibility of the Members for the performance of work and the provision of facilities shall be as set out in the Schedules and may, from time to time, be amended by decision of the Management Committee, provided that the Members' Interest are not, except with the unanimous approval of the Members, affected thereby.

5.1 Schedule 'A' (General)

Schedule 'A' shall contain general information relating to the Joint Venture including, inter alia, the following :

1. The Employer's name and address.
 2. A brief description of the Contract and the Deliverables.
 3. The name, physical address, communications addresses and domicilium citandi et executandi of each Member and of the Joint Venture.
 4. The Members' Interests.
 5. A statement indicating whether, or not, Specific Provisions apply to the Agreement.
 6. A schedule of insurance policies which must be taken out by the Joint Venture and by the individual Members.
 7. A Schedule of sureties, indemnities and guarantees that must be furnished by the Joint Venture and by the individual Members.
8. Details of the persons, who, in the event of failure by the Members to reach agreement on the appointments of mediator and arbitrator, will nominate appointees to these positions in terms of Clauses 8.2 and 8.3.

5.2 Schedule 'B' (Financial)

Schedule 'B' shall contain information regarding the financial affairs of the Joint Venture including, inter alia, the following :

1. The working capital required by the Joint Venture and the extent to which and manner whereby this will be provided and/or guaranteed by the individual Members from time to time.
2. The banking accounts that are to be opened in the name of the Joint Venture and the manner in which these are to be operated.
3. The rates of interest that will be applicable to amounts by which Members are in debit, or credit, to the Joint Venture.
4. The names of the auditors and others, if any, who will provide auditing and accounting services to the Joint Venture.
5. The intervals at which interim financial accounts and forecasts will be prepared for approval by the Management Committee.
6. Insofar as not covered in Schedule 'C', the basis on which contributions of various types by the Members towards the work of the Joint Venture in securing, executing, managing and satisfactorily completing the Contract, will be valued.
7. The basis on which profits and/or surplus cash will, if available from time to time, be distributed to Members.
8. The basis upon which losses, if any, are to be apportioned to Members.

5.3 Schedule 'C' (Contributions by Members)

Schedule 'C' shall set out the contributions of various types, other than cash, that will be made by the individual Members towards the work and obligations of the Joint Venture and shall, as far as possible, indicate the monetary values to be placed on such contributions, which may include, inter alia, the following :

1. Staff seconded to the Joint Venture.
2. Work carried out and services provided to, or on behalf of, the Joint Venture.
3. Plant, equipment, facilities etc. made available for use by the Joint Venture.
4. Materials and goods supplied to, or on behalf of, the Joint Venture.
5. Licences, sureties, guarantees and indemnities furnished to, or on behalf of, the Joint Venture.
6. Joint Venture Disclosure form required for the Contract.

6. **BREACH OF AGREEMENT**

If a Member breaches any material provision of the Agreement, or delays or fails to fulfil its obligations in whole, or in part, and does not remedy the situation within fourteen calendar days of receipt of notice from the Management Committee, or another Member, to do so, the other Members shall have the right, without prejudice to any other rights arising from the default, to summarily terminate the Agreement and re-assign the defaulting Member's rights and obligations in the Joint Venture as they see fit and withhold any moneys due to the defaulting member by the Joint Venture.

Each Member shall indemnify the other Members against all losses, costs and claims which may arise against them in the event of the Agreement being terminated as a result of breach of the Agreement by the said Member.

7. **INSOLVENCY OF MEMBER**

Should a Member be placed in liquidation, or under judicial management, whether provisionally or finally, or propose any compromise with its creditors, the other Members shall be entitled to proceed in terms of Clause 6, as if the Member had breached the Agreement.

8. DISPUTES

8.1 Settlement

The Members shall negotiate in good faith and make every effort to settle any dispute, or claim, that may arise out of, or relate to, the Agreement.

If agreement cannot be reached, an aggrieved Member shall, if he intends to proceed further in terms of Clause 8.2 hereof, advise all other Members in writing that negotiations have failed and that he intends to refer the matter to mediation in terms of Clause 8.2.

8.2 Mediation

Not earlier than ten working days after having advised the other Members, in terms of Clause 8.1, that negotiations in regard to a dispute have failed, an aggrieved Member may require that the dispute be referred, without legal representation, to mediation by a single mediator.

The mediator shall be selected by agreement between the Members, or, failing such agreement, by the person named for this purpose in Schedule 'A'. The costs of the mediation shall be borne equally by all Members.

The mediator shall convene a hearing of the Members and may hold separate discussions with any Member and shall assist the Members in reaching a mutually acceptable settlement of their differences through means of reconciliation, interpretation, clarification, suggestion and advice. The Members shall record such agreement in writing and thereafter they shall be bound by such agreement.

The mediator is authorised to end the mediation process whenever in his opinion further efforts at mediation would not contribute to a resolution of the dispute between the Members.

8.3 Arbitration

Where a dispute or claim is not resolved by mediation, it shall be referred to arbitration by a single arbitrator to be selected by agreement between the Members or, failing agreement, to be nominated by the person named for this purpose in Schedule 'A'.

The Member requiring referral to arbitration shall notify the other Members, in writing, thereof, not later than thirty calendar days after the mediator has expressed his opinion, failing which the mediator's opinion shall be deemed to have been accepted by all Members and shall be put into effect.

Arbitration shall be conducted in accordance with the provisions of the Arbitration Act No. 42 of 1965, as amended, and in accordance with such procedure as may be agreed by the Members or, failing such agreement, in accordance with the rules for the Conduct of Arbitrations published by the Association of Arbitrators and current at the date that the arbitrator is appointed.

The decisions of the arbitrator shall be final and binding on the Members, shall be carried into immediate effect and, if necessary, be made an order of any court of competent jurisdiction.

9. DOMICILIUM

The Members choose domicilium citandi et executandi for all purposes of and in connection with the Agreement as stated in Schedule 'A'. A Member shall be entitled to change his domicilium from time to time, but such change shall be effective only on receipt of written notice of the change by all other Members.

Member No. 1

Thus done and signed at _____ this _____ day of _____ 20____

For and on behalf of _____ [Company]

by [name] _____ who warrants his authority to do so.

As witnesses 1. _____ As witnesses 2. _____

Member No. 2

Thus done and signed at _____ this _____ day of _____ 20____

For and on behalf of _____ [Company]

by [name] _____ who warrants his authority to do so.

As witnesses 1. _____

As witnesses 2. _____

Member No. 3

Thus done and signed at _____ this _____ day of _____ 20____

For and on behalf of _____ [Company]

by [name] _____ who warrants his authority to do so.

As witnesses 1. _____

As witnesses 2. _____

[Allow for additional parties as necessary].

REFERENCE NR	WIMS 064162
REVISION	1
DATE	05 SEPTEMBER 2025



KWAZULU-NATAL PROVINCE

PUBLIC WORKS & INFRASTRUCTURE
REPUBLIC OF SOUTH AFRICA

Occupational Health and Safety Specification (OHSE SPEC)

PROJECT NAME	QADI TAC: REHABILITATION, REFURBISHMENT AND MAINTENANCE (COMPLETION CONTRACT)
WIMS NR:	WIMS 064162
CLIENT:	DEPARTMENT OF COOPERATIVE GOVERNANCE AND TRADITIONAL AFFAIRS
PREPARED BY:	S. KHOZA

1. Abbreviations	
ALARP	As low As Reasonably Practicable
BRA	Baseline Risk Assessment
BOQ	Bill of Quantities
COIDA	Compensation for Occupational Injuries and Diseases Act.
CHSM	Construction Health and Safety Manager
CHSR	Client Health and Safety Representative
CR	Construction Regulations
DMR	Driven Machinery Regulations
DEL	Department of Employment and Labour
FEMA	Federated Employers Mutual Association
FPP	Fall Protection Plan
GAR	General Administration Regulations
GSR	General Safety Regulations
HCSR	Hazardous Chemical Substances Regulations
HIRA	Hazard Identification and Risk Assessment
H&S	Health and Safety
JSA	Job Safety Analysis
MSDS	Material Safety Data Sheet
OH	Occupational Health
OHSA	Occupational Health and Safety Act, Act 85 of 1993
PC	Principal Contractor
PPE	Personal Protective Equipment
RAMS	Risk Assessment and Method Statement
RTA	Road Traffic Safety Act, Act 93 of 1996
SABS	South African Bureau of Standards
SACPCMP	South African Council for Project and Construction Management Professions.
SARTSM	South African Road Traffic Safety Manual, Chapter 2. Volume 13
SANS	South African National Standards
SSHSS	Site Specific Health and Safety Specification
SSHSP	Site Specific Health and Safety Plan
SWP	Safe Work Procedure

2. Definitions

"Occupational Health Practitioner" Doctor or Nurse registered and in Good Standing with the Health Professions Council of South Africa and has a tertiary qualification in Occupational Health Nursing.

"Medical Surveillance" Planned program of periodic examination/ medicals of Employees by an Occupational Health Practitioner.

"Act" Means, unless the context indicates otherwise, the Occupational Health and Safety Act, 85 of 1993.

"Audit" Means a systematic examination of documents, equipment, physical on-site conditions etc. to evaluate the levels of compliance with clients OHS requirements, applicable legislative requirements, and the achievement of a safe working environment for Employees, as well as not posing a risk to other persons and the environment.

"Baseline Risk Assessment" (BRA)" A wide encompassing risk assessment performed by the client of anticipated construction activities to execute the anticipated scope of work pertaining to the project.

"CR" refers to the Construction Regulations 2014.

"Client" in terms of this document means Department of Public Works and Infrastructure, KwaZulu-Natal.

"CHSR" Means Client Health and Safety Representative, an in-house employee appointed by the Client to oversee the Health and Safety Management of a project.

"CHSM" means Construction Health and Safety Manager.

"Competent person" means a person who-

- a) Has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific for that work or task provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualifications Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and is familiar with the OHS Act, Act 85 of 1993 and with the applicable regulations made under the Act.

"Construction Health and Safety Officer" Means a person deemed competent by SACPCMP under the relevant category of registration appointed by the Principal Contractor to oversee the Safety, Health and Environmental Management on-site.

"Construction Work Manager (Site Agent)" means a competent person responsible for the management of the physical construction processes and the coordination, administration, and management of resources on a construction site.

"Construction Plant" Encompasses all types of plant including but not limiting to, cranes, piling equipment, boring machines, excavators, dewatering equipment, and road vehicles with or without lifting equipment.

"Construction Site" means a workplace where construction work is being performed.

"Construction Work Supervisor" means a competent person responsible for supervising construction activities on a construction site.

"Construction Vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and off the construction site for the purposes of performing construction work.

"Construction work" means any work in connection with –

- a) The construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or
- b) the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer, or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work.

"Contractor" means an employer who performs construction work.

"Demolition Work" means a method to dismantle, wreck, break, pull down or knock down of a structure or part thereof by way of manual labour, machinery, or the use of explosives.

"Designer" Means a competent person as defined by the Construction Regulations of 2014 appointed by the Client or the Principal Contractor as Agent to design and/or supervise and/or monitor construction work on their behalf.

"Fall Protection Plan" (FPP) means a documented plan, which includes:

- a) Identification of hazards and risks pertaining to the risk of falling taking the nature of the work and its environment in consideration;
- b) The procedures and methods to be applied to eliminate the risk or to reduce it to a level which is as low as reasonably practicable; and
- c) A rescue plan and procedures.

"Fall Prevention Equipment" Means equipment used to prevent persons, tools, equipment, machinery materials etc from falling from a "fall risk" position, including personal protective equipment, body harness, body belts, lanyards, lifelines or physical equipment, guardrails, screens, barricades, signage anchorages or similar equipment.

"Fall Risk" means any potential exposure to falling either from, off, over or into.

"Hazard" Means a source, situation, feature, activity, or anything else which has got the potential to cause harm, injury, death, environmental damage, business interruption etc.

"Hazard Identification and Risk Assessment (HIRA)" Means a document, which identifies hazards, assesses the risks and identifies the control measures, which are to be used to mitigate or reduce to a level which is as low as reasonably practicable the occurrence of hazards and risks during construction, use, operation and eventual demolition phases of a project.

"Hazardous Chemical Substance (HCS)" Means any toxic, harmful, corrosive, irritant or asphyxiating substance, or a mixture of substances, for which an occupational exposure limit is prescribed, or an occupational exposure limit is not prescribed, but which creates a hazard to health and the environment.

Induction Training: Means once off introductory training on general health and safety issues given to all Employees and Visitors to the site before commencement of work on site.

"Issue based Risk Assessment" Means a Risk Assessment based upon a specific issue/activity/item which could be instituted in response to the high priority risks identified in the Baseline Risk Assessment, Programme Risk Assessment or even after a near miss or actual loss event.

"Job Safety Analysis (JSA)" Means an analysis of a specific job or task according to a pre-determined procedure which helps to integrate accepted SHE principles and practises into a particular task or activity. Each step of the JSA is to identify potential hazards and to recommend the safest way to do the job.

"Medical Certificate of Fitness" means a certificate contemplated in regulation 7(8) of Construction Regulations of 2014.

"Method Statement (MS)" also known as a **Safe Work Method Statement (SWMS), or Safe Work Procedure (SWP)** is a document developed because of the outcome of a risk assessment by the contractor, which contains details of how each task should be performed safely.

"Principal Contractor (PC)" means an employer appointed by the client to perform construction work, but may also include the responsibility of designing or overseeing the design process.

"RAMS" Means Risk Assessments and Method Statement.

"Risk" Means the probability or likelihood that the possible harm, injury, death etc potential of a hazard could be realized with a consequence attached.

"SHE" Means Safety, Health and Environmental.

"Site": Means the area handed over to the Principal Contractor for the purposes of construction work. Where there is no demarcated boundary it will include all adjacent areas, which are reasonably required for the activities for the Principal Contractor and approved for such use by the Designer and/or the Client.

"Site Specific Health and Safety File (SSHSF)" Means a file specifically pertaining to a site containing all health and safety documentation relating to the project as per the requirements of the Construction Regulations of 2014 and/or the SSHSS.

"Site Specific Health and Safety Plan (SSHSP)" means a detailed site, activity, or project specific documented plan in accordance with the client's OHSE specification indicating how health and safety will be managed during the project.

"Site Specific Health and Safety Specification (SSHSS)" means a site, project specific document prepared by the client pertaining to all health and safety requirements related to construction work.

"Site Specific Health and Safety File (SSHSF)" Means a file specifically pertaining to a site containing all health and safety documentation relating to the project as per the requirements of the Construction Regulations of 2014 and/or the SSHSS.

"Site Specific Health and Safety Plan (SSHSP)" means a detailed site, activity, or project specific documented plan in accordance with the client's OHSE specification indicating how health and safety will be managed during the project.

"Site Specific Health and Safety Specification (SSHSS)" means a site, project specific document prepared by the client pertaining to all health and safety requirements related to construction work.

3. KEY REFERENCES

- Occupational Health and Safety Act No. 85 of 1993 and Regulations (as amended)
- Compensation for Injury and Occupational Diseases Act No. 100 of 1993 (as amended)
- Construction Regulations 2014
- ISO 45001 – Occupational Health and Safety Management Systems
- Building Code SANS 10400
- Wiring Code SANS 10142
- Scaffolding Code SANS 10085-1
- Green Building Guidelines

4. INTRODUCTION AND PURPOSE

The KwaZulu-Natal Department of Public Works and Infrastructure is deemed as the "Client" in terms of the definitions of the Construction Regulations of 2014 as published in *Government Gazette No. 37305*. The Construction Regulations of 2014 in terms of CR(5)(1) stipulates that the Client must prepare a suitable, sufficiently documented and coherent SSHSS, for the intended construction work based on the Baseline Risk Assessment, (BRA) which in turn is based on the Scope of Work and several other related factors such as hazards and risks identified by the designer. It must be noted that for ease of reading the term "He/ His" will be descriptive of both male and female gender throughout this document.

Purpose

The purpose of this SSHSS identifies the health and safety requirements the contractor needs to comply with. It will be periodically reviewed and updated (if necessary) to address and / or include:

- Changes in legislation;
- Client requirements;
- Leading practices;
- Lessons learnt from incidents; and
- Unforeseen issues.

This SSHSS also forms an integral part of the contract between the Client and the PC. It identifies and encompasses the working environment, practises and behaviours expected of all parties who have roles to play in the successful completion of this project. The SSHSS provides guidelines to comply with the Occupational Health and Safety Act, Act 85 of 1993 (OHS Act) as amended, The Construction Regulations of 2014, other applicable legislative requirements, and applicable best practises. It aims to firstly ensure compliance with applicable legislative requirements as indicated above and secondly to form the basis for the PC to develop his/her SSHSP.

As with any other plan for it to be implemented and managed effectively it requires the allocation of sufficient funds and resources, human and others, to achieve the objectives set out in the plan. In line with this requirement, Construction Regulation 5(1) (g) also requires the Client to ensure that the Principal Contractor has made adequate provisions for the cost of Health and Safety Measures in their tenders. The PC will be required to submit a Bills of Quantities (BOQ) with his SSHSP, which can be found under the Annexures section of this document which will be evaluated at the time of the evaluation of the SSHSP to satisfy the requirements of CR 5(1)(g).

This specification covers the requirements for eliminating and/or mitigating health and safety risks, injuries, accidents, and incidents on site to a level which is as low as reasonably practicable (ALARP). It addresses legal compliance, hazard identification, risk management and the promotion of a positive health and safety culture within the project. This specification also makes provision for the protection of persons other than those employed by the PC as stipulated by Sec 9 of the OHS Act, Act 85 of 1993.

It will also be noted that this document specifies certain recommendations, which should be followed so that the health and safety of all persons who may be potentially at risk and the potential risk to the environment may receive the same priority as other facets of the project such as Time, Cost and Quality.

It must be noted that this SSHSS as much as it is detailed it is not exhaustive and the onus is on the PC to ensure that he complies with Section 8 of the OHS Act, Act 85 of 1993 which reads as follows:

Sec 8(2)(d) "Establishing as far as reasonably practicable what hazards to the Health and Safety of persons are attached to any work which is performed, and he shall as far as is reasonably practicable, further establish what precautionary measures should be taken with respect to such work in order to protect the health and safety of persons, he shall provide the necessary means to apply such precautionary measures..", this means that Principal Contractors as an employer in his/her own right must at all times ensure continuous Hazard Identification and Risk Analysis (HIRA) and the implementation of appropriate risk reduction and/or elimination measures so as to strive towards the implementation and continued provision and maintenance of a healthy and safe working environment. The SSHSS is a performance specification aimed at ensuring that the Client and any persons it enters into an agreement with achieves an acceptable level of SHE performance.

5. SCOPE OF APPLICATION

This SHE Specification is exclusively applicable to the following project:

QADI TAC
REHABILITATION, REFURBISHMENT AND MAINTENANCE
COMPLETION CONTRACT

The scope of work involves the renovation, rehabilitation, and general maintenance of the Qadi Traditional Administrative Court. This project is a cancellation project being implemented under the GCC 2010 contract for a 6 months period and is defined as a Design by Employer which requires in terms of OHS Management the transferring some functions and responsibilities which would normally be conducted by the Client to the Principal Contractor.

5.1 SITE LOCATION

The Qadi Traditional Administrative Court is located in Qadi, a settlement within the Ndwedwe Local Municipality in KwaZulu-Natal, South Africa. Situated approximately 60 kilometers north of Durban, Ndwedwe is a predominantly rural area characterized by its rich cultural heritage and strong ties to Zulu customs and traditions. The court serves as an important local institution, administering customary law and resolving community disputes under the authority of traditional leadership. Its location within the Qadi community makes it accessible to local residents who rely on traditional judicial processes for matters related to family, land, and communal issues.

- Province : KwaZulu-Natal
- District Municipality: ILembe District
- Local Municipality : Ndwedwe Local Municipality

5.2. DRAFT SUMMARY SCOPE OF WORK

1. Site Establishment
2. Renovating and alterations of Dining Area, Main Building, ablutions, Eastside Building
3. Construction of New Building, Holding Cell and Guard House
4. Electrical works and Aircon Installation
5. General Site Works including parking and installation of carport

5.3 THE PROJECT TEAM

The DPWI Project Team is as follows:

Initials and Surname	Organisation	Discipline	Contact Details	E-mail
Richard Hadebe	Department of Public Works and Infrastructure	Construction Project Manager	082 869 1165	sicebi.Hadebe@kznworks.gov.za
Sibusiso Khoza	Department of Public Works and Infrastructure	Client Health and Safety Representative	083 4085 056	sibusiso.khoza@kznworks.gov.za
Dickson Adom	Department of Public Works and Infrastructure	Quantity Surveyor	072 5143 641	dickson.adom@kznworks.gov.za
Ahmud Bux	Department of Public Works and Infrastructure	Civil/ Structural Engineer	066 1859 985	ahmud.bux@kznworks.gov.za
Buhle Khuzwayo	Department of Public Works and Infrastructure	Architect	066 196 7043	buhle.khuzwayo@kznworks.gov.za
Nduduzo Danisa	Department of Public Works and Infrastructure	Electrical Engineer		nduduzo.danisa@kznworks.gov.za

6. REQUIREMENTS PERTAINING TO SITE SPECIFIC HEALTH AND SAFETY PLAN SUBMISSION

The PC shall prepare a documented SSHSP as per CR 7(1) (a) based on the information / requirements contained in this specification, applicable legislative requirements and demonstrate how he is going to implement health and safety requirements during the construction process. It must cover all activities that will be carried out on the project site, from mobilisation and set-up through to Close-out. The SSHSP must include all documentation required in terms of The Act, Regulations, and this specification for the purpose of evaluation and approval.

The PC must refer to Annexure C of the SSHSS to familiarise himself with the requirements pertaining to the contents of his SSHSP to be submitted to the CHSR for approval. Failure to comply with the

requirements of Annexure C may result in unnecessary delays in the SSHSP approval process. The PC must keep the original SSHSP and submit a copy for evaluation and approval purposes, which will be kept by the CHSR for filling and referencing purposes.

Upon approval of the PC's SSHSP, the CHSR will issue the final letter of SSHSP approval as required by CR 7(1)(a) and confirm his appointment as required by CR 5 1(k). The PC must file the letter on his SSHSF. It must be noted that Construction work may not commence until an official letter issued by the CHSR has been issued. The PC shall be responsible for ensuring that adequate information is submitted as supporting documentation with his completed documentation.

The approved SSHSP included in the SSHSF as well as this SSHSS must always be kept on site and include all documentation required in terms of The Act and this specification. It must be kept in mind that All Sub Contractors must open their own SSHSP's and files. These health and safety files shall be approved in writing by the PC's CHSO, as required by CR 7. 1 (c)(x), a copy of which must be filed on the Sub Contractors as well as the PC's Health and Safety File. The Sub-Contractor must also be appointed in terms of CR 7. (c)(v). The Sub Contractor's Health and Safety Files will also be subjected to evaluation by the CHSR when conducting an Audit in addition to the evaluation by the CHSO.

It is of the utmost importance that the PC takes note of the following when submitting his SSHSP for approval **in addition the requirements of Annexure C:**

- Completion and submission of Annexure A "Health and Safety Declaration" to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Occupational Health and Safety Act and its Regulations.
- A valid Letter of Good Standing.
- Two detailed Risk Assessments and Method Statements (RAMS) of two priority hazards as identified by the Risk Profile of anticipated construction activities for review by the CHSR, with evidence of the CHSO input to enable the CHSR to evaluate the Risk Assessors competency in terms of being able to conduct sufficient Risks Assessments and subsequent Method Statements.
- Valid Proof of Competencies, including CV's of Key Appointments.

7. PRINCIPAL CONTRACTORS RISK ASSESSMENTS

A detailed hazard identification and risk assessment processes must be followed for all work to be performed as well as for all associated equipment and facilities. The contractor must ensure that effective procedures and assessment systems are in place to control hazards and to mitigate risks to levels that are ALARP.

The risk assessment processes must be applied to:

- Routine and non-routine activities.
- Planned or unplanned changes.
- All employees, sub-contractors, suppliers, and visitors; and
- All infrastructure, equipment, and materials.

The risk assessment processes and methodologies must be appropriate for the nature and scale of the risks and must be implemented by competent persons.

The process of analysing and managing risk must include the following:

- Establishing the context of the risk assessment.
- Identifying hazards and determining possible risk scenarios (unwanted events).
- Evaluating risks and assigning ratings (classification).
- Recording the risk analysis in a risk register.
- Managing risks according to their classification (prioritising for action).
- Identifying and implementing control measures through the application of the
- Hierarchy of Risk Controls to ensure that risks are managed to levels that is as low as is reasonably practicable (ALARP).
 - reasonably practicable (ALARP).
- Developing action plans for reducing risk levels (where possible).
- Verifying the completion of actions.
- Re-evaluating the risks and classifications as appropriate; and
- Reviewing and updating the risk register.

The PC must refer to the BRA and summary of hazards and risks identified by designers when conducting his risk assessments.

Once the SSHSP of the PC has been approved where two detailed Issue Based Risk Assessments and Method Statements (SWP's) of two priority hazards as identified by the BRA Risk Profile has been approved, such approval will only be granted in terms of approved RAMS up to and including site establishment.

During the site establishment period the PC will be required to submit his construction program. Health and safety management matters must be included in the program which will form the basis for the CHSR calling for RAMS for approval purposes. RAMS for future work must be supplied via e-mail to the CHSR at least 72 hours before the anticipated activity commencement date, unless otherwise agreed, followed by a WhatsApp informing the CHSR of such e-mail.

Work may not commence pertaining to RAMS submitted for approval until such RAMS have been approved. Should the CHSO continuously submit RAMS late, it will be for the PC's account. Should the PC's CHSO persistently submit poor quality RAMS, the situation will be brought to the Project Leaders attention for intervention and engagement with the PC.

The PC must ensure that the CHSO is included in production, planning, sessions/meetings to ensure that the appropriate RAMS as required are available and completed timeously. Under no circumstances may a CHSO perform a risk assessment in isolation. The active participation of all relevant role-players is mandatory.

A Risk Assessment must be followed by a Method Statement (SWMS/SWP) which describes in detail how the job or task is to be performed in a logical, sequential manner. RAMS must be a "Team" effort, Site Management Representatives, Supervisory Personnel, Technical Experts, and workers must be part of the RAMS process.

RAMS must be reviewed as a minimum on an annual basis, when changes are made to work methods statements and following an incident.

8. NOTIFICATION OF CONSTRUCTION WORK

The PC must submit in terms of Construction Regulation 4 in the format of Annexure 2, a Notification of Intention to Commence Construction Work to the closest Department of Employment and Labour. A stamped copy must be provided to the CHSR after submission. The SSHSP will not be approved until such Notification has been received by the CHSR. A copy of the approved notification to Commence Construction Work must be kept on the SSHSF.

9. SITE SPECIFIC OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT (IN ALPHABETICAL ORDER)

9.1	Accident, Incident Investigation
9.2	Alcohol and Drugs
9.3	Appointments
9.4	Consultation, Communication and Liaison
9.5	Close-out requirements
9.6	COIDA
9.7	Competency and Training
9.8	Confined Space Work
9.9	Construction Supervision
9.10	Defects Reporting and Correction
9.11	Demolition
9.12	Delivery and Placement of Containers, Park Homes etc.
9.13	DSTI's
9.14	Electrical Connections
9.15	Emergency Drills and Evacuation Procedures
9.16	Environmental Management Plan
9.17	Edge Protection
9.18	Excavations
9.19	Extreme Weather Condition
9.20	Fall Prevention Plan and Planning
9.21	First Aid Boxes and Equipment
9.22	Fire Extinguishers, Precautions and Fighting
9.23	Fuel and Flammable Liquids
9.24	General Record Keeping
9.25	Hand Tools
9.26	Hazardous Chemical Substances
9.27	Hazard Identification and Risk Analysis (HIRA)
9.28	Hazards and Potentially Hazardous Situations
9.29	Health and Safety Audits, Monitoring, Reporting and Statistics
9.30	Health and Safety Disciplinary Procedure
9.31	Health and Safety Management Notice Board

9.32	Health and Safety Organogram
9.33	Health and Safety Plan Submission
9.34	Health and Safety Policy
9.35	Health and Safety Training
9.36	Heat Stress and Sun Protection
9.37	Housekeeping
9.38	Incident and Injury Management
9.39	Induction Training
9.40	Ladders
9.41	Lighting
9.42	Manual Handling of Materials
9.43	Maintenance
9.44	Medical Fitness / Fitness to work
9.45	Method Statements, Safety (SMS)(SWP'S)
9.46	Noise
9.47	Notices
9.48	Notification of Construction Work
9.49	Occupational Hygiene (Personal Hygiene and Infectious Diseases)
9.50	Personal Protective Equipment (PPE)
9.51	Plant and Machinery
9.52	Planned Task Observations
9.53	Portable Electrical Tools
9.54	Public Safety and Security
9.55	Risk Assessment of Plant and Equipment
9.56	Roof Work
9.57	Safety Meetings: Pre- Start, Review etc.
9.58	Safety, Health and Environmental Representatives and Committee's
9.59	Safety Officer (CHSO), Roles and Responsibilities
9.60	Signage
9.61	Site Clearance
9.62	Site Establishment
9.63	Site Layout Plan
9.64	Site Specific Safety Rules
9.65	Smoking on Site

9.66	Speed restrictions and Protection
9.67	Stacking and Storage of materials
9.68	Structures and Temporary Works
9.69	Sub-Contractor
9.70	Transportation of Workers
9.71	Trespassing
9.72	Toolbox Talks
9.73	Vehicles and Traffic Management
9.74	Ventilation
9.75	Vibration
9.76	Visitors to Site
9.77	Waste Management
9.78	Water Management
9.79	Welding, Grinding, Cutting etc.
9.80	Welfare Facilities
9.81	Working at Heights

LISTED BELOW PLEASE FIND SITE SPECIFIC OCCUPATIONAL HEALTH AND SAFETY STIPULATIONS IN ALPHABETICAL ORDER. IT MUST BE NOTED THAT SOME ITEMS MAY BE OF MORE DETAIL THAN OTHERS, THE REASON BEING THAT DUE TO THE LEVEL OF RISK ASSOCIATED WITH THESE ITEMS THAT MORE DETAILED INFORMATION IS NEEDED TO BE BROUGHT TO THE PC'S ATTENTION, BUT THIS MUST NOT BE SEEN AS AN INDICATOR THAT OTHER ITEMS ARE OF LESS IMPORTANCE.

9.1	Accident, Incident Investigations
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All Injuries sustained on the site are to be categorized into the following categories:

- first aid.
- medical attendance (Doctor).
- disabling; and
- fatal injuries

The PC must manage Accident/ Incidents. A procedure for the management of all health and safety accidents/ Incidents must be drawn up and implemented. This procedure must define the responsibilities, methodologies and processes that must be followed for:

- Reporting an incident/accident.
- Investigating an incident/accident.
- Analysing an incident/accident to determine the root cause.
- Identifying and implementing corrective actions to prevent a recurrence; and
- Communicating information concerning an incident to relevant persons and / or groups.

A documented, detailed investigation report must be submitted with 7 days to the Project Team which and as a minimum include the following:

- The date, time, and location of the accident.
- Witness statements, including residential and contact details.
- A detailed description of the accident, including photographs.
- The Initials, Surnames, residential and contact details of any injured person/s.
- Injury details (if applicable).
- A summary of the first aid and / or medical treatment provided (if applicable).
- The status of any injured persons (if applicable).
- The root causes of the incident ; and
- Detailed corrective actions, including responsible persons and target dates for implementation.

A Near Hit/Mis is an incident which may have the potential to cause harm, injury or damage and need therefore to be reported and investigated to prevent the potential negative effect it may have been realised.

The contractor/ Supervisor/Employee must report each incident that occurs (including Near Hits/Mis) to the CHSO without delay. Preliminary details must be recorded on the same workday or shift on which an incident occurs. In the event of a significant incident, with the potential to cause serious injury, harm or damage taking place, work must cease and may only resume once the necessary actions, including the re-evaluation of any relevant risk assessments have been taken to reduce the risk of recurrence. Work may only be permitted to recommence once formal authorisation has been granted by the CHSO after consultation with the CR 8(1).

In the event of a person requiring First aid such cases must also be recorded in the First Aid Dressing Register. All accidents /Incident investigation reports and related documentation must be recorded on the safety file. All disabling and fatal accidents must immediately be reported to the CHSR telephonically after they occur followed by and e-mail notifying the CHSR of accident.

All incidents as described in Section 24 of the OHS Act must be reported in the prescribed period and manner to the Department of Employment and Labour. Copies of Section 24 reports, including WCL 2 forms must be forwarded to the CHSR.

The PC must on a monthly basis include in his Self-Audit Report all injuries sustained on site with the required remedial measures taken. Accident/ Incidents and the identified Root Causes with the recommended corrective measures must be included on the agenda of Safety Committee Meetings for discussion and reported back on at the next progress meeting.

9.2	Alcohol and Drugs
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A fit-for-work policy must be in place, incorporating zero tolerance for any drugs (including prescribed medication with an intoxicating effect) or alcohol in the system of a driver or operator. Drug and alcohol testing must be part of all medical fitness assessments for the issue of medical fitness certificates.

No alcohol and other drugs will be allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any person on the construction site who is on prescription medication must inform the CHSO officer or the safety representative accordingly. A register must be kept of all persons on prescription medication with the contact details of the medical practitioner prescribing such medication.

Any person on the construction site who is suffering from any illness/condition that may have a negative effect on his/her safety performance must report this to the CHSO or Safety Representative.

Any person on the construction site who is suspected of being under the influence of alcohol or other intoxicating drugs must be removed from site. He must be instructed at the time of being removed from site to report the next day for a preliminary inquiry. A full disciplinary process must be followed by the Contractor concerned and a copy of the disciplinary action must be forwarded to the PC for his records.

9.3

Appointments

The PC shall make appointments as per the Act and its Regulations; structured and guided by the scope of works and its associated risks. The PC must refer to Annexure C for a list of appointments which may be applicable to his Safety Management Structure.

All health and safety appointments must be done in writing and kept on the SSHSF. Where appointments have lapsed or new appointments have been made, such previous appointments and the new appointments must be kept in the SSHSF. Expired appointment may not be discarded or destroyed.

All SHE Appointments must be reflected on the Site SHE Organogram, which must be kept up to date, filed in the SSHSF and displayed in the Site Office.

It is acknowledged that the PC may need to allocate more than one appointment to certain staff members. This practice may only take place if health and safety standards would not be negatively affected, with the CHSR reserving the right to specify otherwise if deemed that it may affect health and safety standards.

9.4

Consultation, Communication and Liaison

The PC must establish and maintain effective communication and consultative processes, allowing for a two-way dialogue for the duration of the project to ensure that:

- All personnel are kept up to date regarding health and safety matters e.g., Hazards and risks, incidents and lessons learnt, leading practices, performance against objectives, etc.
- General health and safety awareness levels are kept high.
- Prompt feedback is given to personnel about health and safety issues or concerns that they raise; and
- Relevant, and often critical, health and safety related information e.g., design changes, instructions, reporting of hazardous conditions or situations, etc. is effectively disseminated.

This can be achieved by means of Toolbox Talks, Project Safety Meetings, Health, and Safety Awareness Programs etc.

9.5

Close-out Requirements

In terms of CR7(1)(e) and CR7(2)(b) the PC must hand over a consolidated SHE File to the Client when Construction work ceases, and the PC hands the site back to the Client. The Sub-Contractors appointed by the PC are required to do the same for the PC when exiting the site after completion of their work.

The onus is on the PC to allow adequate time to ensure the correctness and approval by the CHSR of the files prior to exiting the Site.

The following list is an example of what should be included in the Close –out files but is not exhaustive. The CHSR may require further information at the time of completion of the project and the PC will have to ensure that all instructions are met. All records from the start of the project must be included. Daily or monthly inspection records are not required unless they are related to an accident. All records must be in electronic format and submitted to the CHSR for approval in adequately formatted lists and folders. The Layout should be logical and in the same order as in the site files. Upon final approval of the files by the CHSR, two hard copies of the electronic files must be handed over to the CHSR unless otherwise indicated by the CHSR.

Health and Safety close out file requirements.

PC File to include the following:

- Copy of Notification of Construction Work stamped by DOL
- Client SHE Specification
- Principal Contractor's SHE Plan
- Client Letter of SHE Plan Approval
- Organograms (Original and amended.)
- List of SHE Legal Appointments (Originals and amended)
- List of all employees employed on a permanent or contractual basis over the duration of the contract, PPE receipt records
- Medical Fitness Certificates for all employees
- Letters of Good Standing for the Project
- Incident/ Accident Records
- NCR's
- CHSR Health and Safety Audits
- Risk Assessments
- Method Statements
- Safe Work Procedures etc.
- List of all Sub Contractors

Sub-Contractor Files to include the following:

- SHE Plan
- SHE Plan Approval letter issued by the P
- Organogram/s (Original and amended).
- List of SHE Appointments (Original and Amended)
- All employees employed on a permanent or contractual basis over the duration of the contract receipt records
- Medical Certificates of Fitness for all employees
- PC and own audits
- Mandatory Agreements (if applicable)
- Risk Assessments
- Method Statements
- Safe Work Procedures
- Letters of Good Standing
- Incident Records
- Non-Conformance record

PC to include in its SHE File the following documentation if not being attended to by other discipline of PSP Team:

- All drawings for temporary structures (suspended beams etc.)
- All operating manuals for any systems that require on-going maintenance, and
- Copies of test results, policies, and procedures for environmental monitoring (silica, noise, dusts etc.)

Defect and Liability Period

The H&S files must be kept 'live' for the defect and liability period by the Principal Contractor, including those of their Subcontractors. Any work required during the defect and liability period will require an assessment of the H&S file by the PC's CHSO prior to any work commencing.

9.6	COIDA
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The PC must ensure that all employees are fully covered in terms of the COID Act, either through the Workmen's Compensation Commissioner or another registered approved institution and that such cover will remain valid for the duration of the project. Failure to keep his/her cover valid will result in instructions to cease construction work being issued.

The PC must ensure that all Sub-Contractors appointed by him are fully covered in terms of the COID Act, or another institution as indicated above, and that such cover must remain valid for the duration of their contractual relationship with the PC.

The PC must have Public Liability Cover, which must adequately make provisions for any losses because of his and/or his employee's acts and/or omissions, which must remain valid for the duration of the project.

9.7	Competence and Training
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The CEO (OHSA S16.1) of the PC will be overall responsible for the appointment of competent Construction Managers and site staff for the duration of the project unless it has been delegated to the Section 16.2 Appointee. All legal appointments are to be made with relevance to the type of work to be performed and kept current with the project programme. The PC, all contract employees, and their supervision must be in possession of the required qualifications or licences where the activities they must perform require such qualifications or licences.

The following Health and Safety competencies are applicable to certain appointments:

Sec 16.2 and CR 8.1: Supervisors Safety Course (IRCON) or equivalent and Legal Liability Course.

Safety Officer: SAMTRAC/ Lex Nexis 3 week SHE Management Course / Nebosch, or equivalent.

SACPCMP CHSO Registration and Relevant Experience.

Safety Representatives: SAQA Accredited SHE Representative Training Course.

Risk Assessor: SAMTRAC / Lex Nexis 3 week SHE Management Course / Nebosch or SAQA accredited Risk Assessors Course

First Aider: SAQA accredited Level 2 First Aid Course.

Where operations are being performed such as Scaffold Erectors, and Inspectors all such operators must be in possession of proof of qualifications, which is in compliance with Legislation, National

qualifications Framework, Act 2000: Act No 67 of 2000, or similar industry standard where legislation does not prescribe such training. It must be noted that course providers used for training purposes must be accredited course providers.

Training must be given to each employee, including sub-contractor employees, to equip them with the knowledge and skills, understanding of the hazards and the risks as well as mitigating measures to enable such employee as far as is reasonably practicable to perform his duties in a safe manner.

Specific competency profiles and selection criteria (fitness for work) must be developed for all roles where significant health or safety risk exists.

A formal training needs analysis must be carried out based on the competency profiles and a training matrix must be developed for the project. Competency-based training must be provided and include operational controls (procedures and work instructions), management of change, and emergency response. All employees must hold and maintain the required competencies (including appropriate qualifications, certificates, and licences) and are under competent supervision.

A site-specific induction and orientation programme that highlights health and safety requirements, procedures, and significant hazards, risks and associated control measures must be in place for all new employees and visitors. Personnel must be trained on new or amended standards, rules, SWMS/SWP's, Risk Assessments etc. Refresher training must be conducted where required e.g., where employees are found disregarding rules etc. Records must be kept of training, qualifications, experience etc. Whenever training is given follow ups must be conducted to evaluate the efficiency of the training.

9.8

Confined Space Work

The PC must comply with the OHS Act, General Safety Regulation 5.

Detailed RAMS must be conducted, SWMS /SWP's must be developed and communicated in writing to persons designated to perform work in confined spaces. Confined space entry work requires the issue of a Confined Space Entry Permit which has been issued by an authorized competent person.

Responsibility for safe work procedures from entering, whilst working in the confined space, and including exiting the confined space is the responsibility of the Contractor. The Contractor must ensure that all measures have been implemented to address hazards and their associated risks to a level which is ALARP.

The Contractor is responsible for the provision and correct use of all of all required tools and equipment required to conduct the work in the confined spaces, e.g. Tripods, Testing Equipment, Signage, Communication Equipment etc.

9.9

Construction Work Supervision

As indicated in the previous paragraphs the CEO (OHS Act of 85, 1993: Section 16.1) of the Principal Contractor will be overall responsible for the appointment of competent Construction Work Managers and site Staff for the duration of the project. These appointments will be tasked with different supervisory responsibilities to ensure the provision of a safe working environment. The PC is again reminded to refer to Annexure C to determine what Supervisory Appointments need to be made taking into consideration the scope of work, Legislative requirements etc. Note must also be taken of at which

stage certain appointments need to be made. The Construction Team is to ensure the appointed CHS Officer is kept up to date with all planned activities, to ensure all H&S requirements are met.

9.10	Defects Reporting and Correction
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The purpose of any inspection is to determine deviations in need of remedial action. Where defects are identified during any routine inspection, pre-start check or during operation or use of any tools, equipment, motor vehicle, tools, or equipment, etc. it needs to be reported immediately.

Steps need to be taken to remedy such defects reported for the purpose of repairing such tools, equipment, etc. Where such remedial action cannot be actioned, immediate measures such as the fitting of Tags, taking out of service etc. needs to be applied to limit further use until repairs/ replacements have been completed and re-inspection carried out. Such defect reports must be done in writing.

9.11	Demolition
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The PC needs to ensure compliance with OHS Act, Sec 8 and CR 14.

A detailed Structural Engineering Survey needs to be carried out before demolition work takes place and a Demolition Method Statement must be developed based on the structural engineering survey and include:

- Scope of Work.
- Termination of services requirements.
- Construction vehicles and plant and equipment to be used.
- Personnel Involved.
- Procedural steps to be followed.
- PPE Requirements.
- Signage requirements.
- SHE measures to be applied.
- Waste Management and housekeeping measures to be applied.
- Emergency Procedures applicable.
- Training to be rendered.

The Proposed Demolition Plan must be signed off by the Structural Engineer and the CHSR **PRIOR** to Demolition Work being conducted.

9.12	Delivery and Placing of Containers. Park homes etc.
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The PC must ensure compliance with OHS Act, Sec 8 and Cr 22. The items must be placed according to the predetermined positions indicated on the Site layout Diagram. Soil conditions, overhead hazards etc need to be taken into consideration when doing Risk Assessments and developing the required method

statements. Only trained competent workers and supervisors may be used to execute and supervise the work operations.

9.13**DSTI's**

The Daily Safe Task Instruction, DSTI, forms a critical part of the Risk Management process. No work may be conducted on site without a valid DSTI signed off by the relevant signatories. Supervisors must have the competency to be able to complete DSTI's correctly and the work area must be inspected at the end of the shift.

A DSTI is a pre-start discussion amongst the members of a work team, led by the appointed supervisor, aimed at anticipating hazards and potential risks associated with the activities planned for the day or shift, and ensuring that the necessary control measures are in place to prevent incidents.

At the start of each day or shift, prior to the start of any work, each appointed supervisor must inspect the work area which he is responsible for and ensure that it is safe. He must then conduct a DSTI with his work team specifically concerning the tasks that they will be performing during the day or shift. The relevant SWMS/SWP for the activity must be used as the basis for the discussion. The correct work method must be reiterated, and the identified hazards, risks and control measures must be discussed with the team allowing team members to contribute to the discussion.

Any team member arriving late must first be taken through the information that was discussed prior to his arrival before being permitted to start working. If the work method changes or scope changes after activities have already begun, the DSTI must be revisited and updated with the team, and the changes must be signed off by the relevant CHSO.

Every member of the work team must sign the DSTI attendance register. The attendance records must be kept and maintained in the contractor's SSHSF.

9.14**Electrical Connections**

The PC must implement and comply with OH&S Act, Electrical Installation Regulations and Construction Reg 24. All electrical installations must be carried out by an appointed and qualified certified Electrical Installation Electrician. A Certificate of Compliance (COC) must be issued and kept on the SSHSF. Temporary Electrical Installations must be inspected on a weekly basis and recorded in an appropriate register, which must be kept in the SSHSF.

9.15**Emergency Drills and Evacuations and Procedures**

The PC must develop, implement, test, and maintain an Emergency Response Plan, incorporating emergency evacuation procedures that focuses specifically on the contractor's team and work activities. The plan must be risk-based and must detail the procedures that must be followed when responding to all potential emergency scenarios such as a medical emergency including first aid response, a fire, an explosion, a hazardous substance spill, rescue from height, rescue from a confined space, etc.

Consideration must be given to the procedures of other occupants on the premises and their emergency procedures to ensure that in the event of an emergency that the PC's Emergency procedure does not hinder or clash with their procedures. Details of any arrangements with external emergency response service providers must be included.

The plan must be adequately resourced to ensure effective implementation. These resources must include appropriate personnel, external emergency response service providers, emergency response equipment, and warning devices. All equipment and warning devices must be identified, maintained, and tested to always ensure availability.

An Emergency Response Team (ERT) responsible for the implementation, management and execution of the Emergency Response Plan must be established. The roles and responsibilities of each team member must be clearly defined in the plan. Each team member must receive appropriate training to ensure that each role is performed competently.

The process for managing incident communication, notification, and reporting must be incorporated into the Emergency Response Plan. The responsible person(s) must be clearly identified, and the protocols for communicating with internal and external stakeholders must be defined.

At project work site:

- A suitable evacuation alarm (siren) must be provided. All persons working in an area where an evacuation alarm is sounded must respond to it immediately.
- Suitable fire-fighting equipment must be provided and maintained, and personnel must be trained in fire-fighting procedures and the use of fire-fighting equipment.
- Suitable first aid equipment and supplies must be provided and maintained, and an adequate number of appropriately trained First Aiders with kits must be in place.
- Emergency assembly points positioned in safe locations away from containers, plant and equipment must be designated and conspicuously signposted. In the event of an evacuation, all persons, personnel, and visitors, must assemble and be accounted for at these emergency assembly points.
- All personnel must receive awareness training on the applicable emergency response procedures, and all visitors entering the site must be properly instructed in these procedures as part of their induction training.
- The emergency response procedures must be displayed on notice boards.
- A Site Layout Plan indicating evacuation routes, emergency assembly point locations, and the positioning of emergency equipment (fire extinguishers, first aid boxes, etc.) must be prominently displayed in all offices, boardrooms, notice boards, and in other locations on the site as may be required.
- An up-to-date list of emergency telephone numbers must be compiled and maintained. A copy of this list must be posted at each site entrance, in each office, and notice board.
- Emergency response drills must be conducted to test the effectiveness of the emergency procedures and equipment, as well as the knowledge and proficiency of the response personnel. Where appropriate, drills must include liaison with and the involvement of external emergency response service providers. A variety of emergency scenarios must be tested including, but not limited to, medical emergencies, fires, rescues, and hazardous substance spills. A drill must be carried out one month after site establishment and six-monthly thereafter. Each drill must be monitored, and the outcomes (highlights and shortcomings) must be documented. Corrective

actions must be identified and implemented to address the shortcomings, and the Emergency Response Plan and associated procedures must be amended as required.

9.16	Environmental Management Plan
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The PC must take all precautionary steps to prevent any pollution because of his activities. Matters such as waste disposal, cement run-off, not permitting vehicles leaking oil and fuel on site, not permitting disposal of water used for cleaning paintbrushes into normal wastewater disposal lines, not permitting the burning of materials etc must be addressed in his Environmental Management Plan.

Workers must be familiarised with the contents of the Environmental Management Plan as part of the Induction. The PC's Environmental Management Plan must be submitted with his SSHSP for approval.

9.17	Edge Protection
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Persons falling over open edges can result in severe injuries. The PC's responsible person must ensure that edge protection forms part of the Fall Protection Plan. Edge protection must be able to withstand the load imposed of an average worker's weight should the worker lean against such edge protection. All edges which pose a fall risk to persons must be protected. Barricading tape or snow netting is not deemed as suitable edge protection and may only be used to highlight such edges.

Activities, which may create temporary open edges such as the removal of drain covers must be always supervised whilst open or be cordoned off with temporary suitable barricading.

9.18	Excavations
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The PC must implement and comply with Construction Regulation 13 OH&S Act - General Safety Regulation 13. All excavation work must be conducted under the Supervision of an appointed competent person. Excavations must be fitted with barricading which will be able to withstand the load of the weight of an average worker should he lean or accidentally fall against such barricading. Barricading must be constructed to provide access points for workers to enter and exit and the removal of excavated material without leaving other sections of the excavation exposed.

When excavations are necessary across roadways or pathways where necessary, "Detour" notices and detour routes must be provided. Should such Detours have a negative impact on other occupants of the premises the execution of the excavations plus the implementation of detour routes must be communicated to the responsible person for the other occupants of the premises at least 7 working days prior to such excavation work taking place.

Warning signs and flashing warning lights at night must be provided in suitable positions to warn any persons approaching the area of the location and extent of any excavation should such excavations be accessible by other occupants or members of the public. Where the possibility exists of unknown hidden services where excavations are conducted, such risks must be communicated and the required risk reduction measures implemented such as the digging of pilot holes, use of detection equipment and insulated tools.

All excavations must be on register, inspected daily before commencement of work, after inclement weather, certified safe, and recorded accordingly in the appropriate register. No loose material may be stored within 1 meter from the edge of the excavation and more than 45 degrees to the angle of repose.

9.19**Extreme Weather Conditions**

Adverse weather conditions can lead to loss of life and damage to structures and plant. The PC must develop an emergency plan which stipulates measures how to mitigate the impact such weather conditions can have. The Contractors' Emergency Plan must include procedures to be followed for adverse weather conditions such as high winds, Lightning, Flooding etc. Response measures must be communicated to the appropriate Supervisory Staff including materials required such as ropes, shutter board etc.

In the event of impending adverse weather or other conditions, Emergency response Staff and Supervisory Staff must be made aware of the impending weather conditions and the possible need to implement the required response measures.

9.20**Fall Protection Plan and Planner**

PC to comply with OHS Act, Sec 8 and CR10. When there is a risk of falling off, into or over a risk assessment must be carried out regardless of the potential fall distance. The PC shall appoint a competent Fall Protection Planner. The Fall Protection Planner shall have the following minimum qualifications:

- Fall Arrest Course (Accredited to SAQA Unit Standard 229998)
- Fall Protection Planner (Accredited to SAQA Unit Standard 229994)

An appropriate, project specific FPP, developed by the appointed competent appointed Fall Prevention Planner must be developed, and submitted as an annexure to the SSHSP when submitting the SSHSP for approval by the CHSR. The following aspects as a minimum must be included in the FPP:

- Risk Assessment identifying areas where a Fall Risk may exist as well as the required mitigating measures e.g., Signage, Edge Protection, Hard Barricading etc.
- Permit system for working at heights.
- Prevention measures for falling tools or equipment, and persons, and link to emergency plan regarding rescue.

9.21**First Aid Boxes and Equipment**

The PC to comply with GSR 3. The contractor shall ensure that enough competent First Aiders is appointed and present on site. All First aiders must have a level 2 First Aid certificate. Where Sub-Contractors are appointed, they need to comply with GSR 3 and have trained, competent First Aiders on site. If they do not have trained competent First aiders, they may enter into a First Aid Agreement with the PC to provide such services, subject to the PC having enough First Aiders on site as well as First Aid Equipment. The written agreement entered with Sub-Contractors must be kept on the PC as well as the Sub-Contractors SSHSF.

Adequately maintained First Aid equipment compliant with Statutory Safety Regulations must be available on site. The contents of First Aider kit must always comply with minimum amount as per Annexure to GSR. Records of First Aid Treatment administered must be kept in an appropriate register.

The Location of the First Aid facilities must be indicated with the required SABS approved Symbolic Safety Signage posted at the entrances to such facilities. The name of the First Aider must be displayed in addition to Symbolic Safety Signage.

9.22	Fire Extinguishers, Precautions and Fighting
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The PC must ensure that the location of fixed Fire Extinguishing Equipment is indicated on his Site Layout plan and in his Emergency Plan. The procedure to be followed in the event of a fire must be translated into the languages of all workers on site, posted on notice boards, communicated to workers and records kept of such communication.

All work involving the generation of a Fire Risk may only be executed upon the issue of a Hot Work permit, which include the presence of Fire Extinguishing equipment and checking for smouldering materials.

Fire precautions on construction sites in addition to the requirements of CR 29 must include Good Housekeeping, the keeping of minimum amounts of Flammable liquids etc. SABS compliant signage such as “No Smoking” “No Naked Flames” etc. posted where appropriate.

Sufficiently trained persons such as Supervisors need to be available on site to be able to perform fire-extinguishing exercises and use equipment correctly. Persons involved with activities such as welding, grinding etc. must be able to perform fire-extinguishing exercises when required.

All Fire extinguishing Equipment must be serviced annually, numbered, on register and inspected by a trained competent person at least every six months. All fire extinguishing equipment which has been discharged or damaged in any way must be sent off site and be attended to by a SABS accredited Service Agent.

9.23	Fuel and Flammable liquids
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The PC must ensure compliance with OH&S Act - General Safety Regulation 9 and Temporary Storage of Flammable liquids on Construction Sites, Construction Regulation Reg.25.

Storage areas must be provided with a bund wall to contain 110% of the maximum volume of the container/s stored in the area. Drip trays of sufficient size must be provided at tap off points.

Storage Containers must be clearly marked with a “Flammable Liquid, No Smoking & No naked Flame” signs, be clearly marked to indicate contents of the tank and bonded to prevent static electricity sparks being generated. An adequate numbers of dry chemical fire extinguishers, each with a minimum capacity of 4.5kg, must be provided,

Before any fuel driven plant or equipment is refuelled, it must be switched off, and no refuelling may take place where machinery is kept running. Refuelling must take place at designated safe areas and appropriate warning signs installed.

The Contractor must ensure that storage areas must be designated at a safe distance from other buildings. It must be kept free from all combustible materials and must be constructed from brick/ mortar/steel, no timber or similar combustible materials may be used.

The following SABS compliant Symbolic Safety Signage need to be displayed: “No Smoking” and” No Naked Flames”, Fire extinguisher and Location signs.

9.24	General Record Keeping
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The PC and Sub contractors must keep and maintain Health and Safety records to demonstrate compliance with the Clients SSHSS, OHS Act, Act 85 of 1993 and the Construction Regulations of 2014. The PC must ensure that records of all incidents/accidents, training, inspections, audits etc. are kept in the SSHSF held in the Site Office.

THE SSHSF must always be present on site. The PC must ensure that every sub-contractor opens and maintains his own SSHSF under the control of the PC’s responsible person.

9.25	Hand Tools
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Hand Tools and its use can contribute to accidents and incidents. The PC must ensure that all Hand Tools brought onto and used on site are safe for use. Hand tools must be inspected by an appointed competent person at least once a month and the results of such inspections to be recorded on an appropriate register. If hand tools are found to be unsafe, it needs to be removed, tagged unsafe for use and removed from site.

No Makeshift hand tools may be brought onto and used on site. If found such hand tools must be removed from site with immediate effect and/or disposed of.

9.26	Hazardous Chemical Substances (HCS)
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The PC must comply with the Hazardous Chemical Substances Regulations as published in Government Notice No. R. 1179 dated 25 August 1995 and amendments thereto. No HCS may be permitted to be brought on site without a MSDS. The PC must ensure that all the necessary use and storage precautions are taken and that the required safety equipment, first aid measures etc is available.

All employees required to use HCS, or products containing Hazardous Chemical Substances must be adequately and comprehensively trained with regards to the requirements of the Hazardous Chemical Substances Regulations including the potential sources of exposure and the potential risks to their health caused by exposure.

MSDS’s for all Hazardous Chemical Substances must be kept on site in the SSHSF and recorded in a HCS Register.

9.27	Hazard Identification and Risk Assessment (HIRA)
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The PC must comply with Sec 8 of the Act and CR 9 by allowing for and ensuring that Site-Specific HIRA’s are conducted by an Appointed Competent Person. Supervisory staff must be equipped with the required skills to do HIRA’s.

The purpose of a RA is to firstly identify main activities which form part of the construction process, then its sub activities, then the hazards associated with the sub-activities, the risks associated with the

sub-activity hazards, then determining the Pure Risk level by using a risk matrix, propose risk reduction/control measures and then re-evaluating the effect such risk reduction/control measures have had on the risk level once again using a risk matrix to calculate the Residual Risk Rating, which must be as low as reasonably practicable (ALARP) and finally communicating the hazards, residual risks, risk reduction/control measures etc to the workforce. In the form of a SWMS/ SWP.

Please refer to item 9 at the beginning of this document for details regarding the submission of Risk Assessments and the approval process.

The PC and its appointed competent person will be responsible for the evaluation and approval of HIRA's developed by their appointed Sub-Contractors. If at the time of an Audit or any other time being present on site, it is found that HIRA's and/or SWMS/SWP used by Sub-Contractors are of a sub-standard level the CHSR will issue instructions to cease work which is applicable to such sub- standard RA's and/or SWMS until amended to a satisfactory level.

The PC must ensure that all persons who could be negatively affected by hazards and risks associated with construction 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.

If the CHSR identifies alternative hazardous activities or risks for which a Risk Assessment was not performed or was not identified as part of a Risk Assessment Process, the PC will be required to implement corrective measures before being permitted to continue with work. **It must be noted that although the CHSR may approve RAMS, the responsibility rest with the PC as the employer in terms of Sec 8 of the Act to ensure the correctness of such RAMS and the required mitigation measures etc.**

9.28	Hazards and Potentially Hazardous Situations
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The PC must immediately notify other Sub-Contractors and/or occupants of the site where work is being conducted of any hazardous or potentially hazardous situations that may arise during performance of construction activities.

Should a hazardous situation require work stoppages, the work must be stopped, and corrective steps taken such as the conducting of new RA's, amending RA's the development of new SWMS, amendment of existing SWMS's, barricading, signage etc.

9.29	Health and Safety Audits, Monitoring, Reporting and Statistics
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The CHSR shall strive to at least once a month or at closer intervals as determined necessary for the duration of the contract conduct Health and Safety Audits of the work operations. The audit shall be consisting of a detailed audit of physical site activities and administration of Health and Safety. Copies of the audit reports will be forwarded to the Project Leader and the PC within seven working days. Copies of the Audit report must be kept in the SSHSF. The CHSR may at any time visit the site for an Audit without prior notification to the contractor.

The CHSO must conduct monthly Self-Audits including all the sub-contractors on site at the time of the audit as approved at the time of the SSHSP approval. The results of the Self Audits must be made available to all members of the project team at least 7 days before the following progress meeting. At the progress meeting the CHSO must report on his finding and closing out of deviations.

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Issues such as injury and incident records e.g., Near misses, First Aid, Medical Cases, and the Disabling Injury Frequency Rates must be included in the audit report. Copies of self-audit reports must be kept in the SSHSF.

9.30	Health and Safety Disciplinary Procedure
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The PC is responsible for maintaining discipline on site in terms of his employees, sub-contractor employees and visitors. In line with this requirement, the PC will be required to have a documented Disciplinary Procedure, which must be communicated to all persons working on site. Where a breach of a Site Health & Safety Rule or The PC's Safety Procedure is identified, the Contractor must ensure that disciplinary action is initiated against such contravening Persons/s in accordance with the documented procedure. Dependent on the nature of the breach and the nature of such presence on site, the process as outlined below could be used:

- First breach – verbal warning/counselling
- Second breach – written warning/counselling
- Third breach - appropriate disciplinary action taken such as Suspension Without
- Pay/Termination of Service, penalties etc.

All disciplinary steps taken in terms of OHS such as NCR's issued must be included in the PC's monthly SHE Audit report submitted to the CHSR and other team members.

9.31	Health and Safety Management Information Notice Board
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The PC must provide a Safety Management Information Notice Boards (SMI boards) as a minimum near the site office and if possible, in other areas e.g., eating and changing areas, with the following information posted:

- Supervisors Photos and Contact details.
- First Aider Photo and Contact detail.
- Valid, completed DSTI/S for the day's activities.
- Emergency Procedure.
- Any other information as required by the CHSR.

9.32	Health and Safety Organogram
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An organogram outlining the Health and Safety Management Structure as per appointments under the OHS Act and the Regulations must be included in the SSHSP and kept in the SSHSF. The Organogram must also be displayed in the Site Office.

Any changes to the appointments as per the approved Organogram must result in the Organogram being revised. All previous organograms must be kept in the SSHSF and not be discarded. The initials and Surname of appointees. Including the description of their appointment must be reflected on the Organogram.

9.33	Health and Safety Plan and Submission
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The PC must submit a detailed SSHSP based on this document known as the SSHSS. The contents of the SSHSP can be found under Annexure C of this document. Note must be taken of the required documentation which needs to be submitted as part of the SSHSP.

Failure to submit the required documentation as required by Annexure C, may result in a delay of the SSHSP approval process. When submitting the SSHSP to the Client/or its duly appointed representative the PC's CHSO must contact the CHSR appointed to this project, who's contact details can be found under the heading "Item 5.3: The Project Team" to arrange a sit-down meeting to discuss the PC's SSHSP to work towards approving the SSHSP. **It must be noted that no evaluation or approval of the PC's SSHSP will take place without engaging with the CHSO.**

9.34	Health and Safety Policy
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The Safety, Health and Environment Policy signed by the Chief Executive Officer must form a part of the SSHSP. The policy must outline Health and Safety objectives and set out how they will be achieved and implemented during construction.

The Policy must in addition to being part of the SSHSP and being kept on the SSHSF also be communicated to all employees, copies of such communication must be kept on the SSHSF. A copy of the Health and Safety Policy but must also be displayed in the Site Office.

9.35	Health and Safety Training
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The PC must ensure that all site personnel and Visitors attend a site-specific health and safety induction training session before starting work or being permitted entrance onto the site.

Employee Induction training must also include training on the risks associated with the works to be executed, method statements (SWP's) and emergency procedures. Visitor Induction training must include items such as site safety and health risks, steps to follow in the event of emergency, restricted areas and on the site and health and safety rules.

A record of attendance reflecting the signature of all training must be kept in the SSHSF. Employees and Visitors must carry proof of induction training whilst being on site, which may be a nametag or sticker, displayed on a hardhat. The PC must ensure that none of his employees, or sub-contractor employees, including transport and delivery Contractors entering the site delivering materials and/or equipment, may proceed to enter the Site or any operations area until they have received all training required under applicable laws and regulations, including, but not limited to, work activity inductions and Site-specific induction etc.

Induction Training is generally valid for 1 year but should the contents of the training previously rendered change then follow up training must be rendered irrespective of the fact that induction training may still be valid.

The PC must prepare and present to all its employees its own Contractors Induction training, explaining the PC's SSHSP, Rules, the obligations imposed by the Occupational Health and Safety Act and Regulations, as well as a Site Specific Induction, which must as a minimum consist of an introductory briefing explaining the nature of the work, the general hazards which may be encountered during the operation, and the particular hazards attached to their own function within the site.

The PC must ensure compliance with the OHS Act- Environmental Regulations 2(4). Heat stress can form part of many work activities associated with construction work. Where work is of a physical nature, and/or is conducted in excessive ambient or radiant temperatures the PC must implement measures such as rest breaks, provision of adequate amounts of water, scheduling work to coincide with cooler times during the day such as in the mornings and late in the afternoons.

Workers who are exposed to excessive ambient or radiant temperatures can suffer from a lack of ability to concentrate with resultant injuries becoming a probability.

The PC must ensure that all personnel are protected from excessive sunlight exposure by means of the use of long sleeve shirts, long trousers, brims to safety helmets, UV factored sunscreen and shade structures etc.

The PC must implement and ensure compliance with the requirements of Construction Reg. 27.

The PC must ensure that all work areas are kept in a neat and tidy state, free of debris and rubbish, at all times. Unless otherwise directed, the PC must dispose of all debris, rubbish, spoil, and hazardous waste off site in a designated and authorised area or facility.

The PC must keep in mind that poor housekeeping does not only contribute to the creation of an unsafe working environment but also a poor image of the project and its management, as well as the department as the client. In the event where housekeeping standards are not maintained or implemented the CHSR may issue instructions to cease, work until housekeeping is of an acceptable standard without the Client entertaining any extension of time claims or costs claims by the PC. **Keeping the site in a neat and orderly condition at all times is the sole responsibility of the PC.**

Regular safety/housekeeping inspections on an at least a weekly basis to ensure maintenance of satisfactory housekeeping standards must be conducted by the PC and the results of each inspection documented and the recorded. Records of such inspections to be kept on the SSHSF for viewing by the CHSR. The PC must ensure that all supervisory staff are made aware of their responsibility to monitor and manage housekeeping in their respective areas of responsibility.

DSTI's must make provisions for the checking that work areas are left in a neat and tidy fashion at the end of each shift. The CHSO must on a random basis after signing off on DSTI's at the end of shifts inspect such work areas to verify that such work areas are left in a neat and tidy condition. Should it be found that DSTI's are not a true reflection of the condition the work area was left in, the Supervisor must be engaged regarding the matter and if it is found to be a repeated situation, disciplinary measures must be implemented.

Waste disposal and general refuse disposal areas must be made available and barricaded off. The PC **MUST** ensure that refuse removal frequencies are in line with waste /refuse generation frequencies. If

waste/refuse generation rates increase the removal frequencies must increase, no overflowing waste/refuse disposal areas will be tolerated.

Employees must, as part of the hazard communication process on DSTI's be made aware of the hazards and risks created due to poor housekeeping practises. Incidents of poor housekeeping practises and poor levels of supervisory enforcement of good housekeeping practises must be considered as part of offenses which may require steps to be followed as part of the PC's disciplinary process.

9.38	Incident and Injury Management
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The PC must implement and ensure compliance with OH&S Act - General Administrative Regulations 6 and 8. This section must be read in conjunction with item 10.1 Accident, Incident Investigation.

The PC must have in position prior to site establishment and have submitted with his SSHSP for approval by CHSR suitable /sufficiently documented accident/ incident reporting system/procedure that is following all applicable statutory requirements.

Any incident or "near miss" involving the PC or its subcontractor's or any third party's personnel, property, plant or equipment, must with immediate effect be verbally reported to the CHSR by the PC's CHSO whether or not injury to personnel or damage to property or equipment resulted from such incident or "near miss". The verbal reporting must be followed within 48 hours by a brief written report stating the known facts and conditions including a preliminary assessment of the most likely consequence potential of the incident in the circumstances, as well as the preventative measures to be implemented by the end of the shift. The abovementioned procedure does not exempt the PC from providing accident reports required by Statutory Authorities.

In the event of any serious incident resulting in a fatality, or permanent disability, the incident scene must be left untouched until witnessed by a representative of the SAP. This requirement does not mean that First Aid cannot be administered, or the scene be made safe. In the event where items or equipment have to be moved to assist in removing injured person/s photographs detailing the scene of the accident must be taken if possible before the scene is disturbed preclude immediate first aid being administered and the scene being made safe.

Names and contact details of witnesses to the accident must be taken by the CHSO or a SHE Representative delegated with such responsibility by the CHSO ASAP after arriving at the scene of the accident to assist in the accident investigation procedure.

Failure by the PC's SHE Officer to provide the CHSR with the abovementioned report within the specified timeframe as required will result in the Construction Manager (CR 8.1) being required to submit to the CHSR with a letter indicating the reasons as to the required report not being submitted as well as when the report will be submitted which may not exceed 72 hours from the time of the incident. Failure to comply with the abovementioned requirements at the discretion of the CHSR may result in instructions to cease work being issued until the detailed report as required has been submitted.

In the event where an injury has taken place such injury must be managed by ensuring that appropriate medical treatment is provided to ensure that the injured person has the opportunity as far as is reasonably practicable taking the injuries sustained into consideration to return to a level of good medical fitness and be able to resume his normal day to day activities whatever they may be.

The PC must ensure that suitably qualified medical persons/practitioners must treat all injured persons.

9.39	Induction Training
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Each employee and person wishing to enter the site must attend all mandatory Health and Safety Induction Training applicable to the project. No employee or visitor will be permitted to enter any project work site until he has attended this training. Each employee and visitor must carry proof that he has completed the induction training and may be removed from site if such proof cannot be produced on request.

All visitors must receive a visitor induction briefing before entering any project work site. However, this induction does not permit a visitor to enter a site unescorted. Visitors must be always accompanied by an appropriately senior employee who has been fully inducted.

9.40	Portable Ladders
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The PC must comply with OH&S Act - General Safety Regulation 13A. PC to ensure that:

- All ladders used on the site is constructed and used in compliance with the OH&S Act and Regulations.
- Ladders, which provide access to a working platform, must extend at least one meter above the platform where it provides access, and is secured to prevent slipping.
- Timber ladders must not be painted other than with clear preserving oils, clear varnishes etc.
- Damaged ladders must be removed from the work area, tagged unsafe and removed from site.
- All ladders must be tagged with a clearly visible tag or numbered which is recommended to be positioned below the second rung from the top, logged in a register and inspected by a competent person.
- All portable ladders when in use must be held by an assistant or properly tied down.
- All persons using ladders must be trained in the correct, safe use of ladders.

9.41	Lighting
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The PC must implement and comply with OH&S Act – Environmental Regulations, Schedule E of the Regulation.

The PC must ensure where natural lighting is inadequate to provide workers with a safe working environment. Lighting issues must be addressed by providing artificial lighting in all work areas and walkways.

Portable lights must be of a robust construction have adequate stability and be fitted with a mechanical guard to protect the lamp. No makeshift lights such as overhead florescent tube type of lighting may be positioned on floors or leaned against walls. Cables and plugs must be in a good condition and properly routed, preferably overhead to prevent tripping hazards.

Where work activities include wet processes cables and lights must be suitable to be used in such in wet environments. All lighting must be electrically safe for use in terms of their construction, cables etc.

it must be kept in mind that where lighting is of the “plug in” and “Plug out” type it is classified as Portable Electrical Equipment and must be accordingly numbered, inspected, and recorded on a Portable Electrical Equipment Register.

In the event where night work will be conducted Illumination checks must be performed to ensure conformance to minimum lighting requirements and the provision of emergency lighting must be addressed in the event of power failures.

9.42	Manual handling of materials
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The PC must ensure that no employees are required or permitted to lift or move by hand any object that is likely to create a risk of injuries being sustained by such employees. The shape weight etc of the items to be lifted must be considered and where required issues such as training in correct lifting methods, use of PPE use of alternative lifting methodologies must be considered.

Any handling or lifting task that can only be done manually must be planned and rehearsed before the task is done. If more than one person is involved in a task a communication procedure must be agreed in advance. Lowering the load must be done in a controlled manner. Dropping a load is dangerous and must be avoided.

As a guideline 25 kg is the limit of what a person can safely handle. Where there are loads exceeding 25 kg the risk of handling the load must be mitigated to assure minimal potential for any injury.

When mechanical lifting aids are provided, they should be used.

Extra care should be taken when lifting awkwardly shaped objects.

Position the feet correctly. The feet should be placed hip-width apart to provide a large base. One foot should be put forward and to the side of the object, which gives better balance.

Bend or ‘unlock’ the knees and crouch to the load. The weight will then be safely taken down the spine and the strong leg muscles will do the work.

Get a firm grip. The roots of the fingers and the palm of the hand should grip the load. This keeps the load under control and permits it to be distributed more evenly.

The following should be considered with conducting the Risk Assessment with regards Manual Handling and take into consideration the task factors, physical demands and tools involved in the task:

- Load weight / frequency.
- Hand distance from lower back.
- Asymmetrical trunk / load.
- Postural constraints.
- Grip on the load.
- Floor surface.
- Environmental factors.
- Carry distance.
- Obstacles in route the load must be carried.

Team Manual Handling:

- Load weight.
- Hand distance from lower back.
- Vertical lift region.
- Trunk twisting / sideways bending.
- Postural constraints.
- Grip on the load.
- Floor surface.
- Environmental factors.
- Communication, co-ordination, and control.

9.43	Maintenance
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All equipment and structures on site, whether it is fixed or temporary must be maintained at intervals no longer than that recommended by the manufacturer, under a planned maintenance system to ensure the safety of personnel who are responsible for operating or using the equipment.

Proof of all current tests and maintenance certificates relating to cranes, lifting beams, pulley blocks, lifting gear and slings must be kept on site in the SSHSF and be available for inspection by any person authorized to do so.

9.44	Medical Fitness/ Fitness for work
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The PC must ensure compliance with CR 7(1) (g) and that all his personnel as well as those of Sub-Contractors appointed by him are healthy and medically fit for their respective assignments and keep proof of such medical fitness on the SSHSF. The PC must ensure that all persons required to have a certificate of medical fitness must be in possession of such certificates prior to being permitted to assume their duties on site. Should employees be found on site without a valid medical fitness certificate at the time of the CHSR conducting an audit, such employee must be removed from site and the CHSR may at his discretion issue instructions to cease work.

All medicals to include the Annexure 3 form as per the Construction Regulations 2014 signed and stamped by the occupational medical practitioner. The PC must ensure that only suitably qualified occupational health practitioners' issue medical certificates.

Should a worker's scope of work change, or he be required to work outside the scope of work for which his medical certificate has been issued, he may not be permitted to do such work until an updated medical fitness certificate has been issued.

The PC must develop and implement a programme to manage employee fitness for work for all employees working on the project. Working hours must be managed in compliance with applicable legislation. An exit medical from a previous project or site must not be deemed as a valid medical.

The medical examinations carried out for all drivers and operators must include testing and assessment for medical conditions that could affect the safe operation of vehicles or equipment. Specific testing and questioning must be carried out to determine if an individual:

- Suffers from epilepsy or any other medical condition deemed to be a risk by the occupational medical practitioner.

- Makes use of chronic medication that could affect performance
- Is colour-blind.
- Has poor day or night vision.

The medical examinations carried out for employees that are required to work at height must include testing and questioning to determine if an individual suffers from epilepsy, hypertension (high blood pressure) or any other medical condition deemed to be a risk (with regard to working at height) by the occupational medical practitioner.

9.45	Method Statements, Safety (SMS)/ Safe work procedures (SWP)
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SMS's/SWP must be in line with the associated Risk Assessments. The SMS's/SWP's must detail in a step- by- step and methodical manner on how the task is to be done from beginning to the end and must indicate what tools/equipment will be used at each stage and/or how the work area is to be accessed. The Task Items listed in the SMS's/SWP must tie up exactly with the task items being assessed in the Risk Assessment document.

Acceptance of a SMS by the CHSR does not relieve the PC of his responsibility for ensuring full compliance with SSHSS and any applicable legislation.

9.46	Noise
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The PC must implement and comply with OH&S Act - Environmental Regulation 7 and the Noise Induced Hearing Loss (NIHL) 2003 Regulations.

The PC must meet statutory requirements on limitation of noise emitted by machines and equipment. When personnel are required to operate such equipment, noise level exposure at the operator position must not exceed an equivalent level of 85-dB (A) or more during normal working conditions without the required mitigating measures being implemented.

Employees working in the vicinity must not be subjected to an equivalent continuous level of 85-dB (A) during normal operating conditions. The PC must comply with time periods and PPE requirements where applicable.

Consideration must be taken of the fact that the sound level at any works/site boundary caused by mobile equipment must not exceed the night-time background level pre-existing the operation of the equipment. **At no time must the noise emission of the equipment or activities cause the sound level at the nearest residence, hospital ward or adjacent structure to exceed 40-dB (A).**

Sound levels must be measured in accordance with SANS 10083, with due allowance being made for tonal or impulsive components. A plot plan of project or plant must be drawn up to identify the measuring points with date, time, and frequency duration of measurement.

Symbolic safety signs, warning employees and visitors regarding the hazard of noise in the area, shall be erected at all entrances to the area and in a position where it must be clearly visible.

9.47	Notices
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if the PC receives any notice issued by any relevant Government Authority concerning Health and Safety, he must immediately upon receipt of such notice comply with the requirements of such notice. The PC must provide the CHSR with copies of any such notices, correspondence or directions of whatsoever nature issued by the abovementioned Government Authority concerning Health and Safety within 2 hours of the dispatch and/or receipt of such notice, correspondence, or direction.

9.48	Notification of Construction Work
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Notification of Construction Work

The PC must submit an Annexure 2, “Notification of Intention to Commence Construction Work” to the closest Department of Labour office, have it stamped provide the CHSR with a copy. A copy must be kept on the SSHSF for inspection purposes. Submitting a copy to the CHSR does not constitute permission to proceed with construction work.

Should construction work extend past the completion date reflected on the submitted Annexure A the PC must inform Department of Labour accordingly and file the amended Annexure A on the SSHSF.

It must be noted that no work of any nature may take place on site until permission to proceed with site Handover has been received from the Project Leader after receipt of letter from CHSR.

9.49	Occupational Hygiene (Personal Hygiene and infectious Disease Management)
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The PC must ensure that its personnel and subcontractor’s personnel is able to maintain and maintains high standards of hygiene, personal and in connection with the performance of the work. All work areas must be kept in a clean and tidy state. Waste disposal must be facilitated by providing sufficient waste collection receptacles and the correct disposal frequencies to prevent waste build up.

Employees must be trained on the contents of the Personal Hygiene and Infectious Disease Management Plan which must identify any anticipated hazardous biological agents which may be present in the work environment, trained in measures to protect themselves in terms of personal hygiene and provided with the necessary means to minimise the risk of contracting the harmful effects associated with such hazardous biological agents.

All Resting and Eating areas must be kept in a clean, tidy condition as well as being positioned away from contaminants and hazards. No eating and drinking may take place outside the designated eating or in office areas. Facilities for hand washing must be made easily accessible for persons to wash hands when leaving the construction area and entering the construction site offices.

9.50	Personal Protective Equipment (PPE)
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The PC must implement and comply with OH&S Act – General Safety Regulation 2. It must be kept in mind that PPE must only be the last resort in addressing risks. All Contractors’ personnel on site and Visitors, must always use the following minimum personal safety equipment which must be compliant with relevant SABS codes. Each item of PPE supplied for use on the project site(s) must be designed and manufactured in accordance with the relevant South African National Standard, ISO standard, or other recognised international standard.

Visitors (minimum PPE)

- Hard Hat,
- Reflective vest and
- Safety Boots.

If required due to on-site risks,

- Eye Protection,
- Hearing Protection,
- Respiratory Protection

No Visitor, regardless of title or position may be permitted to enter the construction site without the minimum PPE which is a Hardhat, Reflective Vest and Safety Boots. Should the CHSR when present on site find any person without the minimum PPE he may issue instructions to cease construction work.

On site Workers.

- Suitable protective clothing (Min. x2 Overalls for all Employees working on-site)
- Personnel exposed to noise levels exceeding 85dB (A), SANS 11451 approved hearing protection.
- Gloves, (Type appropriate to risks, or recommended by product manufacturers).
- Eye Protection/Face shields, (Appropriate to risks, or recommended by product/equipment manufacturers).
- Leather spats, (Appropriate to risks, or recommended by product/equipment manufacturers).
- Safety harnesses, (Where work is conducted from a Fall Risk Position).

Additional PPE requirements must be determined through hazard identification and risk assessment. This hazard-specific PPE (such as hand protection, hearing protection and respiratory protection) must be worn as required (e.g., when in a certain area, when performing a certain task, or when working with a certain substance).

The correct PPE must always be worn:

- In accordance with site requirements (as indicated at the entrances to a project site and at the entrances to buildings and/ or designated areas on the premises).
- In zoned areas (e.g., noise zones and respirator zones).
- As required by a Safe Work Procedure, a risk assessment, or a Material Safety Data Sheet (MSDS).

PPE must be provided to the employees by the PC and Contractor at no cost to the employee. Due to hygiene risks associated with interchanging PPE Site visitors wishing to gain access to the site must have their own personal PPE.

Should a worker not have the required PPE he may not be permitted to work. Employees must be trained in the correct use and how to take care of PPE. Supervisors need to as part of the Pre-Shift inspections when conducting DSTI's check that employees have the required PPE and that it is in a good condition.

If an item of PPE has worn out, has become damaged, or is found to be defective in any way, it must be replaced by the contractor. Employees must be provided with facilities which enable them to store their PPE e.g., lockers.

Employees who wear prescription spectacles (i.e., require corrective lenses) must make use of either:

- Prescription safety glasses (with permanent fixed side shields) that conform to the requirements of a recognised national or international standard (e.g., CSA, ANSI, or equivalent), or
- Over-spec safety glasses or goggles.

Any person who refuses to wear PPE as required must be removed from the site.

Symbolic signs indicating mandatory PPE requirements must be prominently displayed at the entrances to a project site and at the entrances to buildings and / or designated areas on the premises where additional PPE is required. These signs must comply with SANS 1186.

The PC must ensure the:

- Control the issuing and replacement of PPE.
- Maintenance of a register as proof that items of PPE have been issued to Individuals with signatures of receipt of PPE.
- Keeping of adequate quantities of replacement PPE on site.
- Carrying out of regular inspections to ensure that PPE is being used correctly, is being maintained in a good, serviceable, and hygienic state, and is not being shared between employees.

9.51	Plant and Machinery
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The PC must ensure that he controls **all plant and equipment entering and exiting the site**. Daily monitoring of all plant and equipment is required prior to commencing work, on issue and prior to use. A full list of hired and own plant must be available for inspection at each audit.

All daily inspection records are to be filed in the SSHSF and must not be more than one week behind. Only competent, medically fit plant operators must be permitted to operate plant. Medical certificates of fitness must be filed in the SSHSF. No unauthorized person may be permitted to operate or use plant.

Lifting equipment, plant or material that require annual load testing by an AIA, are to comply with the Driven Machinery Regulations (2015). Operators must be adequately trained and certified to operate mobile cranes or crane trucks. Certificates and registers are to be placed in the SSHSF.

Each contractor making use of plant and machinery on the project site must develop, document, and implement SWMS that will ensure the safe use and operation of such equipment.

For all plant and machinery, the following documentation must be kept in the Equipment Profile:

- Test records and certificates.
- Inspection records.
- Maintenance records; and
- Details of any modifications or repairs made.

9.52	Planned Task Observations
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PLANNED TASK OBSERVATIONS

All contractor and sub-contractor supervisors must perform Planned Task Observations (PTO's) to verify that the control measures that have been identified in SWMS's (and associated Risk

Assessments) are being adhered to and are being properly implemented, and to provide guidance where deviations are noted.

Each supervisor must complete at least one PTO per day involving one or more employees in his work team.

When an unsafe act or condition is identified, the supervisor must coach the work team to correct the act or condition in line with the Safe Work Procedure.

Where valid changes to the work method are identified, the supervisor must ensure that the SWMS/SWP and Risk Assessment are updated to reflect the current practice.

9.53

Portable Electrical Tools

The PC to ensure compliance with EMR 10. PC to ensure safe Portable Electrical Equipment is used on site. The PC is required to inspect/have inspected by an appropriately qualified person all portable electrical equipment as follows:

- Supply cabling distribution boards, fixed lighting, and portable appliances on a monthly basis or more frequently if required by frequency of use.
- Extension leads, welding machines, compressors, pumps, and portable hand- tools on a weekly basis.

All sub-Contractor equipment must be inspected and tested at the same intervals as indicated above. The PC must implement a management system to ensure effective inspection and control over equipment such as a monthly colour coding tagging system. Tagging must be durable and be able to withstand the stressors associated with working in a construction environment.

A record book/register must be kept reflecting the following:

- Item unique number.
- Items inspected.
- Deviations identified.
- Signature Of Inspector.
- Date of inspection.

In addition to the abovementioned, the PC must ensure the following:

- That only trained authorized persons use the Tools.
- That equipment is inspected at the start and end of each shift and included in the DSTI.
- That damaged, unsafe equipment is removed from service, tagged unsafe for use until repaired and returned to service.

9.54

Public Safety and Security

Hoarding/Fencing

The PC must hoard/enclose the construction site to prevent unauthorised entry and disruption to the site where required. The hoarding must be as follows:

- The hoarding/ enclosure must be at least **1.8-meter-high** and must enclose the entire parameter of the site.

- It must be constructed of a material, which must be able to prevent unauthorised persons from entering the site such as welded mesh/ diamond mesh and 80% shade cloth.
- A Lockable gate must be at least 1.8 meters in height as well a security staff member to control access.
- Hoarding parameters must be as per project's decanting plan.

Warning / informative signs

The entrance of the site must have easily visible construction safety warning signs posted which must contain as a minimum of the following information:

- Construction activities ahead/ Construction Site.
- No unauthorised entry.
- Different Types of Personal Protective Equipment required for the site as per risk assessments.
- Speed limit (10 km/h), unless otherwise stipulated.
- Visitors to report to the site office.
- Where applicable the Construction Permit Number issued by DEL.

Appropriate warning signs must also be posted in different locations of the site to create awareness of danger e.g., demolition in progress sign, required PPE and deep excavations signs etc.

Informative signs indicating the Emergency Assembly Point/s, location of fire extinguishing equipment and first aid equipment must be displayed where required.

Location of site office

The location of the site office should be in an area that will not require visitors to pass through or enter areas where construction work is active and will not require the re-location of the office as the project progresses. The location of the site office must be included in the Site Layout Plan submitted with the SSHSP.

9.55	Risk Assessment of Plant and Equipment
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The PC must ensure that Risk assessments of plant and equipment is undertaken and documented before arrival at site, after major service, after modification, and before use in an unusual operating mode or conditions. The RA's must be undertaken by a suitably qualified and experienced person.

RA's for equipment mobilising to Site must be conducted prior to the equipment arriving on Site, and must consider, where applicable, potential for entanglement in moving parts, crushing or striking by moving or falling objects, cutting or stabbing by sharp objects, high pressure fluids, electrical shock or burns, burns from hot or cold surfaces, slips, trips and falls, ergonomic design of access and egress, seating, vibration, noise, exhaust fumes, etc.

The identification of hazards should consider normal operations, abnormal or unusual operations, breakdowns, and servicing operations. Particular attention must be given to fall protection attachment points when there is a requirement to work where a fall risk exists for activities such as repairs to equipment due to breakdowns. Where repairs to earthmoving equipment must take place on site the risk assessments must include provisions to deal with oil, diesel, and coolant spillages.

The PC must maintain all Plant and Equipment in good order and condition. Where equipment becomes inoperable due to breakdowns or other reasons and is being replaced by other equipment the same RA' requirements will be applicable to such replacement equipment.

The CHSR may inspect items of plant or equipment brought to site by the PC for use on site. Should the CHSR deem that it is inadequate, faulty, unsafe or in any other way unsuitable for the safe and satisfactory execution of the work for which it is intended, he must advise the Contractor in writing and the Contractor must forthwith remove or have repaired the item from the site and replace it with a safe and adequate substitute which does not entitle the PC to any additional claims or extension of time in respect of delays caused by the CHSR's instructions.

9.56	Roof Work
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The PC must ensure compliance with OH&S Act - General Safety Regulation 10. Safe access for gaining access on to roofs must be provided which can be ladders, scaffolding, man-cages, or elevated work platforms. Man-cages and elevated work platforms may only be used where scaffolding, and ladders is not suitable.

A lifeline, consisting of a steel wire rope, the diameter which has been calculated to suit the span and the number of persons attached to it must be erected on the ridge of the structure including the use of a mechanical device, e.g., turnbuckle, for tensioning the wire rope.

The lifeline to be erected/installed, must be recorded on register, and checked daily by a suitably qualified, competent, appointed person. Employees working on the roof must be clipped onto the lifeline via their safety harnesses. No work may be permitted during rain or windy conditions more than 30 kph.

Roof structures must not be overloaded with bundles of roofing materials. Only bundles for immediate use must be stacked onto the roof structure. Bundles must be sufficiently secured to the structure to prevent it from being blown away or falling off. No materials may be permitted to be stored on the roof structure over weekends or holidays.

9.57	Safety Meetings: Pre-start, Review etc.
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The PC must ensure compliance with OH&S Act, Section 19. Weekly Toolbox meetings must be conducted with employees. Topics for Toolbox Meetings must be pertinent to the site, equipment used, activities performed, SHE committee resolutions. Records of contents of Toolbox Meetings as well as attendance records must be kept on the SSHSF.

The PC must conduct at least one formal Health and Safety Meeting per month or at shorter intervals if required by the CHSR. Safety Representative Inspection reports contents must be discussed in addition to items such as Safety Statistics for the Month, PPE Issues, training requirements, CHSR Audit reports and results etc.

Daily Safe Task Instructions (DSTI) briefings must take place with each work team before the start of each shift. Hazards and risks as well as the required risk reduction measures must be communicated to workers. The Supervisor, CHSO and workers must sign the DSTI before work commences. At the end of the shift after the required close out check and signing, the DSTI's must be signed off and filed.

Weekly Safety Review Meetings of all safety related aspects of the week must be conducted. OHS must be a standing item on Planning and Progress Meeting Agenda's and attended by the CHSO.

The PC and Sub-Contractors to comply with Section 16 and 17 of the Act by allowing for and ensuring that Health and Safety Representative(s) whom, after consultation, have been appointed and trained to carry out their functions.

The appointments must be in writing and the Health and Safety Representative must carry out regular inspections, keep records and report all findings to the CHSO. The CHSO must co-ordinate at least monthly H&S Committee meetings and attend all H&S committee meetings held by the Contractors. The CHSO shall further ensure that H&S is discussed at all internal production or progress meetings. Issues arising from the H&S committee meetings are to be discussed at internal meetings, as well as all H&S related issues, incidents, non-conformances, and penalties issued (if applicable).

Feedback to the CHS committee and close out of findings is imperative. Minutes of meetings must be kept for all H&S interventions and meetings. Minutes of meetings must be filed on the SSHSF.

The Principal Contractors to appoint Full Time registered and competent Construction Health & Safety Officer for the duration of the project (*Unless the Project Manager suggest otherwise*).

The PC must ensure that the CHSO performs the following duties:

- Assist and co-ordinate the development of the SSHSP.
- Attend Project Planning Meetings.
- Assessment and approval of Sub-Contractors SSHSP's.
- Facilitation of Site HS Meetings.
- Identification of Hazards and risks relevant to the construction project through regular co-ordinated site inspections.
- Establish and maintain HS communication structures, systems, and distribution of HS specific documents to sub-contractors, compiling of project specific emergency preparedness documentation and supervising testing and evaluation of emergency preparedness plans.
- Conducting of induction training sessions.
- Evaluation of compliance by sub-contractors to project specific HS Plans and Client specification through inspections and audits.
- Overseeing the reporting and investigation of project related incidents.
- Overseeing the maintenance of all HS related records.
- Participation in management reviews of HS Systems.
- Draft and analysis of trend analysis to identify system deficiencies and incident trends, outline relevant improvements and incorporate changes into the HS management system.
- Reviewing and updating the SHE Plan.
- Ensuring that all staff, visitors, sub-contractors etc comply with the site rules and procedures.
- Ensure that no new workers or Contractors commences work without prior approval of their SSHSP or any other documentation as per required applicable legislative documentation.
- Ensuring that no work will be permitted to be performed without a valid RA and where required Method Statement as agreed with CHSR until such documentation has been approved by the CHSR.
- Any other duties as agreed between Construction Manager and/or CHSR.

The CHSO may not be removed or replaced without the approval of the CHSR, nor may the site be left unattended for more than 1 day without adequate, competent cover.

9.60	Signage
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The PC must ensure that signage is posted on site as per site risks, legislative requirements e.g., General Safety Regulations or SANS, prohibiting entrance, specifying PPE requirements, location of First Aid Station and Fire Fighting Equipment etc. Signage must be noted on the site layout plan indicating where fixed/temporary signage is required.

Temporary electrical signage is to be included for the temporary electrical supplies. All rules or signage provided by the PC must to be adhered to. Where possible wording on signage must be in English and isiZulu.

9.61	Site Clearance
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Site Clearance activities will vary depending on the condition of the site in terms of it being overgrown, if trees must be removed if redundant materials must be removed from site etc. All site clearance activities irrespective of what it entails must be conducted under supervision and subjected to the Risk Assessment Process as well as the development of SMS's (SWP's).

Where the site is overgrown with vegetation, RA's must make provisions for the presence of snakes, poisonous vegetation, sharp objects, open trenches and excavations and insects. All tools, equipment vehicles and machinery must be in a safe working condition and operated by trained competent persons. Employees must be provided with the required PPE.

9.62	Site Establishment
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Site establishment can only be deemed complete when the site is enclosed, signage is posted, welfare facilities have been provided, containers have been placed etc. Upon site establishment being deemed as complete the PC must refer to the "Site Establishment Checklist" under item 12.6.1 which can be found under Annexures at the end of this document. Only once all items have been ticked as being present/completed can the PC proceed with other construction activities.

The checklist as indicated above must be signed by the CHSO and the CR8.1/CR8.7 and submitted to the CHSR. Should the CHSR upon conducting a site visit/audit and find that site establishment was not completed before commencing with other construction activities the CHSR may issue instructions to cease construction work until all outstanding items have been attended to.

9.63	Site Layout Plan
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The PC must ensure that a Site Layout Plan is developed and submitted with the SSHSP as indicated in Annexure C of this document. This document must indicate items such as Location of the Site Office, Laydown areas, Location of welfare facilities, Traffic routes, location of first aid and emergency equipment etc. After Site establishment and as the project progresses the plan must be updated if

required and a copy provided to the CHSR. The Location Plan must be displayed at the entrance to the site as well as at the site office.

9.64

Site Specific Health and Safety Rules

The PC must provide and ensure implementation and compliance with the following Site-Specific Health and Safety Rules and requirements:

- Safe Access and Egress to be provided to and from work areas.
- Good Housekeeping and Stacking Practices to be implemented and always maintained.
- Continuous cleaning to take place especially at the end of the shift and be recorded in DSTI "close out" Section.
- Safe and orderly routing of electrical cables and air hoses to prevent tripping of persons must be always enforced.
- Rigging Studies must be conducted for all heavy and/or difficult lifts.
- No lifting of loads in windy conditions exceeding 30 km/h depending on RA, Rigging Study, dimensions and weight of the load and lifting capability of the crane.
- Prohibition of certain activities in wet conditions e.g. un-shored excavations, use of portable electrical equipment, elevated work, roof work etc.
- Employees may not be transported on the back of a bakkie and or truck, unless fitted with a canopy and separated by means of a barrier from tools and equipment.
- All elevated work must include compulsory use of Lifelines (unless secured to an approved fixing point), Safety Harnesses & Fall Arrestors including a height rescue system and training of rescuers. To comply with SABS-EN –353-355,358,360-365,795,813&SABS033, 1833, 341,564-567,892,1891,12277 and 4878 -Fall Right SA standards or equivalent - always attached in elevated positions and use of double lanyards.
- Scaffolding must comply with SANS 10085 standards. Scaffold inspectors and Erectors may not be the same person. Access ladders must be erected on the inside of frames, staggered every 2 meters with a safe landing platform. Trapdoors must be provided on working platform. Scaffold must remain tagged "Unsafe for use" until certified "Safe for use". If modified to be re-tagged "Unsafe for use: until certified 'Safe for use'".
- Where required workbenches must be provided for onsite work.
- Barricading must be able to sustain loads imposed on it, should a fully grown person fall against it or lean against it, solid frame covered with orange netting to highlight presence.
- Tools and equipment used in working at heights to be secured by use of lanyards/Tool belts.
- Minimum PPE required to permit entry onto site: Safety boots, Hard Hat and Reflective Vest.
- When grinding, welding and gas cutting operations take place Shields and extinguishers must be used to contain sparks and control fire spread. Fire watchers to be posted whenever Hot Work is conducted.
- Guide ropes must be used whenever lifting operations are conducted.
- Flagmen must wear reflective vests.
- Heavy mobile plant and earth moving equipment must be fitted with rotating lights and operated with lights on and functional reverse hooters and/back up alarms.
- Concrete buckets to be fitted with safety Chains and opening wheels.
- All portable generators and welding machines with electrical outlet sockets must be fitted with earth leakage switches.
- All electrical items used in wet conditions must be fitted with waterproof caravan type plug fittings.
- No machinery e.g. grinder designed with guards may be operated without guards unless approved by CHSR.

- All Self-Propelled mobile machines must be fitted with Fire Extinguishers, Revolving Lights and Back-up and Reverse Hooters.
- All oxygen-acetylene cylinders must be fitted with Flashback Arrestors and proper, good condition hoses and clamps in a trolley equipped with a fire extinguisher.
- Supervision ratios between Foreman and workers not to exceed 1:15 ratio.
- Staff to always wear appropriate PPE with sufficient replacements to being available.
- All employees on site to carry identification e.g. ID card reflecting the following information:
 - Initials and surname.
 - Designation.
 - Company number.
 - Name of Employer,
 - and proof of induction, sticker on hardhat unless otherwise agreed with CHSR.

Welfare Facilities to:

- Be protected from environmental conditions such as rain, sun, and wind.
- Tables and Chairs to be provided in eating areas.
- Refuse bins for disposal of food containers and food scraps.
- Hand washing facilities.
- Portable toilets 1:10 ratio.
- Separate male and female toilets with doors that can be locked from the inside.
- Running water, soap, and toilet paper to be always available at toilets.
- All facilities to be always kept in neat hygienic condition.

9.65	Smoking on site
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The PC may not permit any person to smoke on site unless in designated area, which has clearly been identified by means of signage being posted indicating it as the designated smoking area which has been selected in accordance with applicable legislative requirements. Applicable receptacles must be provided for the disposal of cigarettes butts to ensure good housekeeping standards are maintained and prevent accidental fires being started.

9.66	Speed Restrictions and Protections
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The maximum speed limit on site shall be limited to 10 km/h unless otherwise agreed upon with the CHSR. Vehicle movement routes on site must be clearly indicated where applicable and indicated on the Site Layout Plan.

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.

9.67	Stacking and Storage of Materials
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The PC must ensure compliance with CR 28 and General Safety Regulations 8. Stacking and Storage must take place under the supervision of an appointed competent person.

Storage areas must be designated, kept neat and under control. Inspections of stacking and storage areas must be done and recorded on a register which must be kept on the SSHSF. Adequate stacking,

storage and lay down areas must be provided on site. If unauthorized persons can enter an area where materials are stacked, such area must be barricaded off to prevent access to such area. Stacks should not exceed the height to width ratio of 3:1.

Hazardous chemical substances must be stored in dry storeroom as per the specifications of their material safety data sheets.

No materials may be stored outside the site perimeter, unless agreed to in writing with the CHSR and Project Leader.

9.68	Structures and Temporary Works
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The Principal Contractor must ensure that the provisions of CR 11 & 12 are adhered to.

A Competent Temporary Works Designer must be appointed as per CR 12(1). All temporary works must be erected under the supervision of the appointed Temporary Works Supervisor who will be responsible to certify that the structure is suitable to withstand the loads imposed on it when concrete is poured. No concrete may be poured until authorised to do so by the Temporary Works Supervisor in writing.

All temporary works structures must be inspected by the Temporary Works Supervisor/s after concrete pouring and thereafter daily until the concrete has cured. Temporary works materials or sections may only be removed or dismantled upon receiving authorisation from the appointed Temporary Works Supervisor in conjunction with the Structural Engineer. Records of all inspections and authorisation to dismantle temporary works materials must be kept in the SSHSF.

9.69	Sub-Contractors
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All Sub – Contractors shall be responsible for their own Health and Safety on site. The PC shall sign Section 37(2) mandatory agreements with the Sub – Contractors for the works, which stipulate the arrangements and procedures to ensure compliance by the Sub-Contractor and his/her employees with the requirements of the OHS Act, Act 85 of 1993, CR and the SSHSS.

All subcontractors must have their own SSHSP applicable to the scope of work they will be performing on site, which has been approved in writing by the PC's CHSO. Records of such approval letters must be kept on the PC's as well as the Sub-Contractors SSHSF.

The PC may not permit any Sub-Contractor to start working on site without his SSHSP being approved. The PC's failure to ensure compliance with any of the abovementioned and to monitor Sub – Contractor's compliance on site may be seen as failure by the PC to enforce good SHE Practises, Compliance with the Act, CR and this SSHSS and may result in the CHSR issuing instructions to cease work.

9.70	Transportation of Workers
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The PC and Sub-Contractors shall not:

- Transport persons together with goods or tools unless there is an appropriate area or section of the vehicle separated/partitioned off from the area where workers are seated in which to store such goods or tools.

- 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 light duty vehicle (LDV) unless they are closed / covered and have the correct number of seats for the passengers.
- No driver may 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.
- The driver of any LDV may not permit more than two passengers to occupy the cab of any LDV. Drivers of such vehicles must have a valid driver's license for the code of vehicle being driven by them.

9.71	Trespassing
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The PC and his employees may not trespass on any land/area outside the limits of the site, as indicated at the time of Site Handover, and must communicate such requirement to his sub-contractors. The PC must ensure that all fences are maintained during the Contract.

The PC and his employees are required to work only in the specified construction areas and access to these areas is only by specified routes. Should access routes change due to work related issues on site such routes with applicable restrictions must be communicated to the employees. Changes in routes must go with the required barricading and signage to prevent unauthorised persons from using such routes to access the site where such routes may enable unauthorised persons from entering the site,

Where changes in routes may have a negative impact on the day-to-day functions of persons other than that of the PC such changes in routes must take place in consultation with such affected parties.

9.72	Toolbox Talks
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The contractor must prepare a Toolbox Talk on a weekly basis and must share it with all personnel for which the contractor is responsible (including all sub-contractors). Toolbox Talks must address health and safety issues that are relevant to the work performed on the project site and must include information and / or knowledge sharing, lessons learnt from incidents that have occurred, information concerning specific hazards and / or risks and control measures to prevent injury, etc.

Attendance records must be kept and maintained in the contractor's SSHSF.

9.73	Vehicles and Traffic Management
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The PC must ensure compliance with OHS Act- Construction Regulations 23 and that all vehicles entering the site, moving around on the site, parked on site, and exiting the site does so in a safe manner. In addition to the abovementioned, the following must be adhered to:

- Vehicles parked outside the site area must be parked in such a way as to not obstruct the movement of public vehicles nor put the public in danger in any way.
- Contractor's vehicle drivers must comply with all safety direction and speed signs.
- Drivers must ensure that vehicle loads are properly secured before setting the vehicle in motion.
- The Contractor must only permit the authorized, necessary number of vehicles on site.
- Traffic rules and signs such as speed signs; stop signs must be always obeyed.

- No vehicles may be left with the engine running or the keys in the ignition.
- Warning signage must be posted on the outside of site entrances of the site to make road users aware of vehicles entering or exiting the site.

9.74	Ventilation
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The PC must implement and comply with OH&S Act - Environmental Regulation 5. Any activity/task, which generates excessive dust such floor sanding, or fumes, such as welding where natural ventilation is not sufficient to ensure the provision of a safe working environment must include the use of an exhaust extraction system. Care must be taken to ensure that outlets of exhaust extraction system do not pose a risk to the health and safety of other persons on or outside the site or contaminate other ventilation system intakes.

9.75	Vibration
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As far as is reasonably practicable, exposure to vibration must be eliminated. However, if this is not possible, short-term solutions to decrease exposure include:

- Reducing the vibration levels.
- Removing the person from the vibrating equipment / tools.
- Reducing the period that the person works with the vibrating equipment e.g., at least 40 minutes break after 20 minutes working with a machine that vibrates excessively.

To reduce exposure to vibration:

- Consider buying equipment that operates effectively at lower speeds.
- Buy equipment with built-in damping materials.
- Buy lighter tools if they are available - they require less of a grip.
- Maintain the equipment.
- Make sure equipment is balanced and there are no worn parts.
- Use remote controls when they are available.
- Workers must be informed to reduce their grip on the equipment when it is safe. The less time they have their hands on the equipment the better. They need to relax their hands during these brief breaks.

9.76	Visitors to Site
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The PC must ensure that all Visitors to the site are subjected to a site-specific safety induction training session prior to being allowed access to site. Visitors are required to conform to the Site PPE requirements and should arrive at site with the appropriate PPE, with the minimum being safety boots/shoes, hard hat and a vest.

Visitors must not be permitted to roam around on site without being accompanied by a representative of the PC, so as to make them aware of on-site hazards, risks, No-Go areas etc.

9.77	Waste Management
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The PC must ensure that a Waste Management Plan must be developed which must be submitted with the SSHSP as indicated in Annexure C. It must be kept in mind that a site with areas overflowing with waste creates health hazards, attracts rodents and a poor image of the company.

Sufficient receptacles and designated stored areas must be provided which must be cleared frequently. Consideration must be taken of the types of waste generated and where required waste separation must form part of the Waste Management Plan. Environmentally hazardous waste such as empty paint tins, fluorescent light fittings etc must be disposed of in line with applicable legislative requirements.

9.78	Water Management
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The PC must keep in mind that South Africa is a country with limited water resources. Water may only be obtained on site, as per contract stipulations. The PC may not make unauthorised water connections. Where water is brought onto site by means of water tankers the PC must ensure that the water is suitable for its intended use.

The PC must communicate to all workers the importance of water conservation and management. Run-off water from washing and cleaning activities must be managed in a controlled manner to not create areas where water becomes stagnant contributing to the creation of areas for mosquitos to breed. Run-off water must also not contribute to the creation of slippery surfaces. It is recommended that taps are of the press-button type to reduce water wastage.

No hazardous substances such as paints, oils etc may be disposed of into drains, and sewers.

9.79	Welding, Grinding, Cutting etc.
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The PC must comply with the requirements of the OHS Act-Construction Regulation 29. The Pc must also ensure the following:

- That all equipment used is in a safe working condition.
- That Hot Work Permits have been issued by the appointed Competent Person.
- That where required the necessary screens have been erected to protect against harmful rays and sparks.
- The presence of close proximity fire extinguishing equipment.
- Dampening down takes place where required.

9.80	Welfare Facilities
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The PC must implement and comply with Construction Regulation 30. PC to ensure:

- Sufficient chemical ablation facilities on site where connection to existing sewer system is not possible.
- Separate facilities must be provided for males and females with gender signs posted at entrance or on door.
- Ablutions must be serviced weekly as a minimum.
- Safe drinking water must be provided to employees.
- Safe, clean storage areas for workers personal belongings and clothing to be provided.

9.81 page	Working at Heights
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The PC must implement and comply with OH&S Act - General Safety Regulation 6 & Construction Regulation 10. Note: The following must be implemented in conjunction with the requirements for Elevated Work and the Fall Protection Plan as covered earlier in this document:

- If personnel are required to work in any area, which is not guarded, which has a fall risk, either above or below ground, fall protection equipment must be provided and utilised by the personnel. Fall protection includes Safety harnesses and double lanyards with the correct hooks, approved lifelines, or other approved means.
 - All harnesses must comply with SABS/EN/EC Standards and must be in a "good state", inspected using a comprehensive inspection checklist, and "in-date" as per manufacturing guideline.
 - All persons working in a fall risk position, e.g., scaffolding, formwork/false work, support work, roof work, etc. must be trained for working at heights with a minimum of an Accredited Fall Arrest Course compliant to applicable SAQA Unit Standards.
 - The supervisor of the work relating to the fall risk area must be trained at a minimum level of a SAQA Accredited Fall Arrest and Basic Rescue Course.
 - A Rescue Kit (Contents of the Rescue Kit as per the Fall Protection Plan, and as determined by the type of working from a fall risk position that is being conducted on site) must be always available on site.
 - The site must have at least one Accredited Fall Arrest Rescue Co-Coordinator on site who will co-ordinate the rescue operation.
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10.	ANNEXURE B: Baseline Health and Safety Risk assessment
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Please note that this is a Baseline Risk Assessment, Contractor to perform detailed Issue Based and Continuous Risk Assessments in the sequence of the activities anticipated of being performed

Project: QADI TAC: REHABILITATION, REFURBISHMENT AND MAINTENANCE COMPLETION CONTRACT						
REF No	W/IMS 064162		RISK ASSESSOR	S. Khoza	REVISION	1 DATE 05 September 2025
Likelihood		Consequence		RISK RANKING		
		RISK = LIKELYHOOD X CONSEQUENCE		Score	RANKING	
Rare	1	Negligible	1	0-5	1	
Unlikely	2	Minor	2	6-10	2	
Possible	3	Moderate	3	11-16	3	
Likely	4	Major	4	17-20	4	
Almost certain	5	Severe	5	21-25	5	

MAIN ACTIVITY: SITE ESTABLISHMENT

Ref Nr	Sub-Activities	Potential Hazards	Potential Risks	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
1.	- Collect & Deliver of construction materials and equipment. - Loading & Offloading of construction material & equipment by hands. - Casting concrete blinding layers for placement of containers; and erection/ placement of construction facilities (i.e. Site office, Storeroom, Sheltered eating area & Changing area for Employees, etc.). - Supply and Maintenance of temporal flushable portable toilets. - Provide water works for project: water tanks, containers, drums, water carts, etc. - Temporary electrical installation & connections for Site Office.	• Unsafe manual handling of equipment and materials. • Strains, slips, trips, falling objects. • Dust inhalation. • Unsafe moving vehicles on site. • Uneven surfaces between vehicle and lay down area. • Excessive speeds/ Driving recklessly. • Fatigue. • Chemical exposure. • Hygiene issues. • Noise. • Cement exposure. • Working at heights/ From a Fall Risk Position. • Temporary electricity. • Extreme weather conditions (i.e. Sun, heavy rains, windy, etc.).	- o Manual handling injuries. - o Respiratory diseases. - o Eye injuries. - o Vehicle Collision & damage. - o Material Damage/Equipment Damage. - o Slips, trips and falls from uneven surfaces. - o Chemical burns/ contact dermatitis from cement. - o Worker falling from heights/ Fall risk positions causing death or serious injury. - o Shock, burns, electrocution or electrical fire from installing temporary electrical connection. - o Cuts, respiratory issues, slips.	x	x	x	3 x3=9	🔥 Communicate HSE Induction to all Employees & keep attendance records. 🔥 Ensure that all Employees are in a possession of Medical Certificates of Fitness by OHS Practitioner/ Nurse. 🔥 Responsible 16.2 to ensure Instructions are given on Manual handling using Safe Work Procedure (SWP) for Manual Handling, portable Electric Tools, etc. 🔥 Create task-based DSTI & Communicate to all Employees & keep attendance records.	1x2=2	1

- Cleaning all accumulated rubble, building material, etc.	• Vibration (vibrating concrete). • Exposure to sharp objects	o Heat stroke from being exposed to the sun for too long and sun burn.				✦ Communicate Toolbox talks to Employees weekly & keep attendance records (<i>with relevant topics</i>). ✦ Fall Protection Plan must be communicated and implemented by an appointed, competent and qualified Fall Protection Planner (CR10.1a). ✦ All ladders to be labelled, inspected before use & monthly and recorded by appointed Ladder Inspector. ✦ Hand tools to be inspected prior to use & monthly by appointed Hand tool inspector. ✦ Qualified Electrician to be appointed as Temporary Electrical Installations Controller & Inspector (CR24(c)&(d) and Registered Electrician (EIR6&11). ✦ Provide PPE: Safety Boots/Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2 Piece Long Sleeve Overall, Gloves, double lanyard safety harness	2	1
Totals		Pure Risk	9	Residual Risk				

MAIN ACTIVITY: ALTERATIONS [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

Ref Nr	Sub-Activities	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
2.	- Taking down & removing Gypsum plasterboard ceiling, cornice & trap doors. - Removal of existing corrugated metal roof. - Removal of damaged timber trusses, purlins, etc. - Taking out barge & fascia boards. - Hacking up/ off & removing ceramic floor & wall tiles. - Taking-out down pipes, gutters, etc. - Removal of half brick walls - Hacking up/ off granolithic, screed, plaster, etc. from walls, columns & beams. - Removal of timber doors and frames. - Removal of glazed steel windows. - removal of damaged roof trusses. - Hacking up/off granolithic, screeds, plaster etc from concrete or brickwork and preparing surfaces for new screed, plaster and tile finishes. - Removal of existing sanitary fittings (i.e. vitreous China WC suite & single wash hand basin).	• Falling materials. • Manual handling. • Dust exposure. • Falling debris. • Unstable roof & structures. • Exposure to sharp objects. • Work at heights: ladder/scaffold. • Adhesive fumes from floor tiles	- o Injury to Workers/ Public from falling objects. - o Serious injury (musculoskeletal injuries) due to falling from roof & heights. - o Respiratory irritation. - o Trips or slips and falls. - o Severe hand & finger cuts by sharp & pointy equipment & protruding nails. - o Ergonomic injuries due to manual handling. - o Chemical burns. - o Chest congestion & respiratory conditions due to inhaling generated dust. - o Eye injury due to flying small plaster particles during the removal of plaster from walls	x	x	x	3x4=12	✚ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✚ Only competent Employees & in possession of Work at Heights certificates to work at heights/ on roof. ✚ Practise good housekeeping to avoid slip trip and falling hazards. ✚ All Workers to have valid medicals with annexure 3. ✚ Hand tools to be inspected before use and recorded. ✚ Awareness trainings to be conducted. ✚ Safe Work Procedures to be communicated & adhered to. ✚ An MSDS List & Register must be maintained for all chemicals. ✚ Provide required PPE: Safety Boots/ Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2 Piece Long Sleeve Overall, Gloves, safety harness where needed, etc.	3x2=6	2
Totals								Residual Risk	6	2

MAIN ACTIVITY: MASONRY [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

3.	- Brickwork of NFPE bricks. - Brick wall reinforcement built in horizontally. - Installation of galvanized hoop iron cramps, ties, etc	• Handling of equipment and heavy construction materials (i.e. cement bags, etc.). • Dust. • Noise. • Vibration. • Working at Heights/ Fall risk position. • Scaffolding. • Electricity. • Hand Tools. • Portable Electric Power Tools.	- o Manual handling injuries. - o Injury to workers/public from falling objects. - o Serious injury from fall - musculoskeletal injuries. - o Respiratory irritation. - o slips/cuts. - o Ergonomic injuries due to manual handling. - o Chemical burns.	- x - x - x	3x3=9	✚ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✚ Install edge protection and fall arrest systems ✚ Use scaffolding/towers with guardrails. ✚ Secure temporary roofing materials. ✚ Use PPE (harnesses, helmets, etc.) ✚ Provide and enforce use of PPE (gloves, goggles, respirator). ✚ Safe roof dismantling sequence. ✚ Manual handling training. ✚ Train workers in chemical handling. ✚ Maintain MSDS registers. ✚ train workers in chemical handling. ✚ Contractor to conduct DSTI and toolbox talks.	3x2=6	2
Totals					9	Residual Risk	6	2

MAIN ACTIVITY: ROOF COVERINGS [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

4.	- Refixing of existing roof coverings complete with fittings, flashings and including new roofing screws with washers, etc. to new timber purlins with pitch not exceeding. - Fitting new roof covering including prefabricated roof trusses and wall plates. - Fitting new corrugated roof sheeting and colour. - Ridge capping screed through sheeting purlins. - Lay insulation over purlins and fixing concurrent with roof covering incl. steel straining wires	• Manual Handling of equipment. • Using drills/screwdrivers. • Dust exposure. • Use of ladders improperly or on unstable surfaces. • Incorrect installation or structural failure. • Working in exposed weather conditions (heat/sun/wind). • Use of hand and power tools (saws, drills, nail guns).	- o Deep cuts. - o Electric shock. - o Dust being inhaled causing respiratory diseases or getting in eyes causing eye injuries. - o Falls resulting in serious injury or death. - o Muscle strain, back injury. - o Cuts. - o Falling objects (tools, material) causing head injury to persons below. - o Heat exhaustion, dehydration, wind-related hazards. - o Pollution.	x	x	x	3x4=12	- Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. - Only competent Employees & in possession of Work at Heights certificates to work at heights/ on roof. - Practise good housekeeping to avoid slip trip and falling hazards. - All Workers to have valid medicals with annexure 3. - Hand tools to be inspected before use and recorded. - Awareness trainings to be conducted. - Safe Work Procedures to be communicated & adhered to. - An MSDS List & Register must be maintained for all chemicals. - Provide required PPE: Safety Boots/ Shoes, Hard Hat, Dust Mask, Eye Protection, Reflective Vest, 2 Piece Long Sleeve Overall, Gloves, safety harness where needed, etc.	3x2=6	2
Totals							12	Residual Risk	6	2

MAIN ACTIVITY: CARPENTRY AND JOINERY [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

5.	- Installation of prefabricated roof trusses. - Installation of double pitch timber roof truss. - Installation of fascias including galvanised steel H. - Installation of frames and doors.	• Use of power tools. • Manual handling of timber. • Cutting/ sanding wood. • Working at height. • Use of adhesives and solvents. • Use of ladders. • Transporting timber on site • Blade contact, electric shock. • Lifting heavy/awkward materials. • Wood dust. • Chemical exposure, flammable vapours.	- o Falling. - o Loud operating sounds. - o Slips, cuts, pinching. - o Slips, trips, and falls. - o Falling from height - o Collision, dropping loads. - o Serious injury, amputation, electrocution. - o Back injuries, strains. - o Respiratory problems, long-term illness. - o Serious injury or death. - o Burns, fire, inhalation, dermatitis. - o Hearing damage or loss. - o Minor injuries, cuts. - o Bruises, sprains, fractures. - o Serious injury. - o Injuries to feet or limbs.	x	x	x	3x4=12	✚ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✚ Manual handling training. ✚ PPE (gloves, goggles. ✚ use of mechanical aids, team lifting. ✚ Dust extraction, masks. ✚ Use of scaffolding, fall arrest harness, edge protection, trained staff. ✚ Good housekeeping. ✚ Ladder inspection.	3x2=6	2
	Totals						12	Residual Risk	6	2

MAIN ACTIVITY: RONMONGERY [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

7.	- Handling ironmongery (e.g., lifting locks, closers, hinges). - Installing door closers or overhead hardware. - Using power tools (drills, drivers). - Drilling into doors/ walls. - Cutting metal components (on-site trimming). - Transporting ironmongery to site. - Installation of door closers and floor springs - Installation of SABS approved signages e.g. arrow sign, fire extinguisher. sign, fire exit keep clear sign etc	• Manual handling. • Working at height. • Contact with moving parts. • Dust inhalation, noise. • Sharp edges, flying debris. • Tripping, poor stacking. • Incorrect installation.	✚ Musculoskeletal injury (back strain, cuts). ✚ Falls, head injury. ✚ Cuts, electric shock. ✚ Respiratory issues, hearing loss. ✚ eye injury. ✚ Injury from falling items. ✚ Pollution. ✚ Noise.	x	x	x	3x2=6	✚ Contractor to create task-specific DSTI's & communicate it to all employees, and keep attendance records. ✚ Manual handling training. ✚ use of PPE (gloves), safety glasses. ✚ use trolleys. ✚ Use of appropriate ladders. ✚ fall prevention training. ✚ Use of dust masks. ✚ hearing protection. ✚ Use of face shield and cutting guards. ✚ Secure and clear walkways, proper stacking. ✚ Install as per manufacturer instructions. ✚ Housekeeping. ✚ work only day time.	2x2=4	1
	Totals						6	Residual Risk	4	1

MAIN ACTIVITY: METAL WORK [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

8.	- Installation of aluminium windows. - Installation of galvanized pressed steel door frames. - Installation of hot-dipped galvanized steel burglar bars.	• Cutting metal (saws, shears). • Potential Hazard. • Sharp edges, flying particles. • UV radiation, fumes, fire. • Sparks, dust, debris. • Flying metal shavings, noise. • Sharp edges, manual handling. • Fume accumulation, lack of oxygen. • Crush injuries, dropping items. • Fire, explosion. • Welding. • Grinding. • Drilling metal. • Handling sheet metal. • Fabrication/welding in enclosed spaces. • Moving heavy metal components. • Hot work near flammable materials.	- o Eye damage. - o Respiratory issues. - o Fire hazard. - o Inhalation risk. - o Hearing damage. - o Cuts, strains. - o Asphyxiation risk. - o Foot injuries, back strain. - o Pollution. - o Noise.	✚ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✚ PPE: Use of gloves, safety glasses, machine guards, welding mask, fire-resistant clothing, Eye/face protection, dust mask, wear safety boots. ✚ fume extraction, fire extinguisher nearby. ✚ Wear cut-resistant gloves. ✚ team lifting for large sheets. ✚ Practise good housekeeping. ✚ work only day time.	1x2=2	1
Totals			Pure Risk	Residual Risk	2	1

MAIN ACTIVITY: PLASTERING [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

9.	- Screeding on floors. - Manual mixing of plaster. - Handling bags of plaster. - Applying plaster on walls/ceilings. - Working with wet plaster. - Trowelling/ plastering ceilings. - Working near electrical fittings. - Finishing (sanding/plasterboard joints). - Cleaning tools and buckets.	• Dust inhalation. • Manual handling injuries. • Working at height. • Skin contact, slips. • Repetitive movement, overhead work. • Contact with live wires. • Dust generation. • Slips/trips, chemical exposure.	○ Respiratory issues (silicosis, asthma). ○ Back strain, dropped loads. ○ Falls, injury from slips. ○ Dermatitis, slips on spillage. ○ Muscle fatigue, neck/shoulder strain. ○ Electric shock, burns. ○ Respiratory issues. ○ Falls, skin irritation. ○ Ground contamination.	x	x	x	3x2=6	✚ Contractor to create task-specific DSTI's & communicate it to all employees, and keep attendance records. ✚ Use dust masks. ✚ mix in well-ventilated areas. ✚ Manual handling training, use trolleys/lifting aids. ✚ PPE: Use gloves, wear non-slip boots. ✚ clean spills promptly. ✚ Rotate tasks, take breaks. ✚ Isolate power supply, check for live cables before plastering. ✚ Dust control (wet sanding or extraction), wear masks. ✚ Clean in designated areas, good housekeeping. ✚ Do not mix cement on bare ground surfaces, concrete bund.	1x2=2	1
Totals			Pure Risk				6	Residual Risk	2	1

MAIN ACTIVITY: TILING [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

10.	- Skirting, nosings etc. - Activity Surface preparation (cleaning, levelling). - Manual handling of tiles. - Cutting tiles (wet or dry cutter). - Mixing adhesive.	• Dust. • Uneven surfaces. • Sharp edges. • Heavy loads. • Sharp blades. • Flying debris.	- o Respiratory issues. - o Slips. - o Cuts. - o Back injuries. - o Eye injury. - o Pollution.	x	x	x	3x2=6	✚ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✚ Provide required PPE. ✚ Inspect tools before use. ✚ Training Employees on HCS handling. ✚ Housekeeping: clean working area. ✚ Practise correct lifting technique when lifting heavy boxes of tiles.	1x2=2	1
Totals				Pure Risk			6	Residual Risk	2	1

MAIN ACTIVITY: PLUMBING AND DRAINAGE [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

11.	- Installation of aluminium gutter system incl. outlets and downpipes.	• Handling Aluminium Gutter Components. • Working at Heights (ladders, scaffolds, or roof). • Use of Power Tools (e.g., drills). • Installing Downpipes (at wall level or underground). • Securing Brackets and Fixings to Structures. • Weather Conditions (working outside). • Disposal of off-cuts & packaging.	- o Electrical shocks from exposure to electric tools malfunctions. - o Physical injuries from slips and trips. - o Eye injury from flying particles. - o Falls from height. - o Excavation risks. - o Working with anchors - o Repetitive strain. - o Heatstroke. - o Pollution.	x	x	x	3x2=6	✦ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✦ Practice SWPs. ✦ Housekeeping. ✦ Ensure visible supervision. ✦ Inspect ladders before use. ✦ Practise safe lifting technique. ✦ Shift rotation. ✦ PPE: fall arrest equipment, cut-resistant gloves. ✦ Practise good housekeeping.	2x1=2	1	
Totals							6	Pure Risk	2	Residual Risk	1

MAIN ACTIVITY: MECHANICAL WORKS [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

12.	- Installing HVAC ducting - Pipe cutting (manual/ power tools). - Lifting heavy mechanical equipment. - Welding/ brazing pipes. - Working confined spaces. - Use of pressure testing systems. - Using power tools (drills, grinders). - Connecting to mains services. - Working in ceiling voids. - Testing mechanical equipment.	• Working at height. • Sharp edges, flying debris. • Manual handling. • Heat, sparks, fumes. • Limited ventilation. • High-pressure release. • Noise, vibration, cuts. • Live systems. • Limited space, trip hazards. • Unexpected movement.	- o Falls, dropped tools. - o Lacerations, eye injury. - o Back strain, crush injuries. - o Burns, fire risk, respiratory issues. - o Asphyxiation, heat stress. - o Burst pipes, injury. - o Hearing loss, cuts. - o Electrocution, burns, flooding. - o Head injuries, trips, strain. - o Crush or pinch injuries.	x	x	x	3x3=9	✚ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✚ Use mobile towers/ scaffold, tether tools, fall protection. ✚ Use PPE (gloves, safety goggles), guards on tools. ✚ Team lifts. ✚ use mechanical aids (hoists, trolleys). ✚ Training. ✚ fire extinguisher. ✚ Ventilation, gas monitoring, confined space entry procedure. ✚ inspect tools regularly. ✚ Isolate systems, use lockout/ tagout procedures.	3x2=6	2
	Totals		Pure Risk				9	Residual Risk	6	2

MAIN ACTIVITY: PAINT WORK [FOR MAIN BUILDING, DINING AREA, ABLUTIONS, HOLDING CELL, EASTSIDE BUILDING, GUARD HOUSE, AND NEW BUILDING].

13.	Paintwork: - to new ceiling and internal walls.	- Exposure to paint fumes and other related hazardous chemicals (e.g. thinners). - Eye injury from flying particles. - Falling from heights. - Use of ladders improperly or on unstable surfaces. - Fire risk from flammable solvents. - Manual handling of materials. - Improper disposal of waste.	- Respiratory irritation. - Headaches. - Skin irritation. - Strain from lifting paint cans/ladders. - Pollution from spillages. - Repetitive strain.	x x x	3x3=9	- Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. - Communicate the handling HCS to Employees & Painters. - Provide PPE: Double Lanyard Harnesses, gloves, long sleeve overalls and respiratory masks. - Fire Extinguishers/ firefighting equipment must be available near work area. - Maintain MSDS registers and train workers in chemical handling. - Use non-flammable paints. - Avoid ignition sources. - Use stable ladders. - Train workers. - Use fall arrest where needed. - Proper disposal of hazardous chemicals. - Shift rotation.	1x2=2	1
Totals			Pure Risk		9	Residual Risk	2	1

MAIN ACTIVITY: ELECTRICAL INSTALLATION.

14.	- Site Reticulation (Include: Excavation of 600mm deep for cabling & cable piping, etc.) and supply + install electronic manholes	• Unsafe hand tools. • Dust. • Construction activity that requires repetitive body bending. • Extreme weather.	- o Hand & fingers injuries by hand tool's handle. - o Chest congestion from inhaling dust. - o Back pains & back strains due repetitive body bending activities. - o Electric shock/ electrocution from unseen/ undetected underground services. - o Head injury, broken bones, damage to property. - o Heat stress, cuts, musculoskeletal injuries.	x	x	x	3x3=9	✚ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✚ Appointed Excavation Supervisor to inspect ground (<i>using provided inspection checklist</i>) to be excavated before any excavation take place. ✚ PPE: Use gloves, maintain cable management. ✚ Inspect hand tools before use. ✚ Practise safe lifting technique when lifting heavy material. ✚ Ensure visible supervision. ✚ Access restricted to authorised personnel.	1x2=2	1
	- Cabling & Electrical work (Including: L.V Cabling, DB Board, Lighting & Earth and Lightning Protection).	• Long & heavy electrical cables. • Electrical wires with live electricity. • Non-competent Employee working with electricity. • Contact with live wires. • Unsafe ladder.	- o Electric shock due to faulty equipment. - o Skin burns, electrocution. - o Shock, fire, damage to existing infrastructure. - o Burns, fire, serious injury. - o Injury or electrocution.	x	x	x	4x4=16	✚ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✚ Inspect tools & ladder before use. ✚ PPE: Use gloves, maintain cable management. ✚ Only registered Electrical Contractor to execute electrical works. ✚ Isolate circuits, lockout/tagout (LOTO), test before touch. ✚ Use insulated tools. ✚ Only qualified Electricians to execute electrical works.	3x2=6	2

	Unsafe ladder.	- Burns, fire, serious injury. - Injury or electrocution.					- Only registered Electrical Contractor to execute Earthing & Bonding works. - Only qualified Electricians to execute Earthing & Bonding works. - Ensure visible supervision. - Access restricted to authorised personnel.	3x2=6	2
- Aircon unit installation.	- Heavy Aircon unit system. - Contact with live wires. - Unsafe ladder. - Dust from wall drilling. - Unsafe handling of heavy aircon units. - Extreme weather. - Working at confined spaces.	- Musculoskeletal injuries from manual handling of heavy equipment. - Electric shock due to exposed live wires/ faulty equipment. - Skin burns, electrocution and arc flashes from working with live circuits. - Crush injuries from falling heavy aircon unit. - Chemical burn/ frostbite caused by refrigerant leakage. - Head injury from falling hand tools striking the head. - Heat stress/ exhaustion/ heatstroke due to extreme heat.	x	x	x	3x5=15	- Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. - PPE: Use gloves, maintain cable management. - Good housekeeping. - Air conditioner to be installed by qualified & licensed Air conditioning & Refrigeration Technician. - Isolate circuits, lockout/tagout (LOTO), test before touch. - Ensure visible supervision. - Practise safe lifting technique when lifting heavy equipment/ material. - Access restricted to authorised personnel.	26	9
Totals			Pure Risk			65	Residual Risk		

MAIN ACTIVITY: GENERAL SITE WORKS.

15.	- Installation of fencing. - Installation of security gate.	• Site clearing for fencing. • Unsafe hand tools. • Heavy fencing material & steel gate. • Dug fence poles holes. • Fencing material left on walkways. • Dust. • Extreme Weather.	- o Poisonous insect bites. - o Hand & finger injuries due to unsafe tools. - o Crush injury caused by strike of falling heavy fencing material & steel gate. - o Unkle & knee twist injuries due to stepping on uncovered dug holes. - o Trips & falls due to tripping by fencing material left on walkways. - o Chest congestion due to dust inhalation. - o Heat stress/ exhaustion/ heatstroke due to extreme heat.	x	x	x	3x3=9	✚ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✚ Spray around insecticide/ insects repellent. ✚ Inspect tools before use. ✚ Practise SWP & Safe Lifting Technique. ✚ Provide PPE to Employees to wear when executing work. ✚ Provide water for Employees to drink. ✚ Practise good housekeeping. ✚ Visible supervision.	1x2=2	1
	- Concrete stand and Installation of 5000l polyethylene water tank..	• Heavy cement bags. • Cement dust. • Wet surface. • Heavy water tank. • Extreme Weather.	- o Back pains due to lifting heavy cement bags. - o Chest congestion & respiratory conditions due to cement dust inhalation. - o Slip & fall caused by wet & slippery surface. - o Back pains due to lifting heavy water tank. - o Heat stress/ exhaustion/ heatstroke due to extreme heat.	x	x	x	3x3=9	✚ Contractor to create task-specific DSTI's & communicate it to all Employees, and keep attendance records. ✚ Communicate the handling of HCS to Employees. ✚ Provide required PPE to Employees. ✚ Inspect tools before use. ✚ Practise SWP & Safe Lifting Technique. ✚ Provide PPE to Employees to wear when executing work.	1x2=2	1

11.	RISK PROFILE
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ITEM	PURE RISK RESIDUAL RISK
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Item	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	+
1. Site Establishment																					
2. Alterations																					
3. Masonry																					
4. Roof Coverings																					
5. Carpentry and Joinery																					
6. Ceilings and Partitions																					
7. Ironmongery																					
8. Metal Work																					
9. Plastering																					
10. Tiling																					
11. Plumbing and Drainage																					
12. Mechanical Works																					
13. Paint Work																					
14. Electrical Installation																					
15. General Site Works																					

12.	Annexures
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12.1.	Annexure A: Contractors Health and Safety Declaration
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CONTRACTORS HEALTH AND SAFETY DECLARATION FOR TENDERS

PROJECT NAME: _____

WIMS NUMBER: _____

CLIENT: _____

INTRODUCTION

In terms of Construction Regulation 5(1)(h) of the Construction Regulations of February 2014 a Contractor may only be appointed to perform construction work if the Client is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act, Act 85 of 1993 and the Construction Regulations of February 2014. In line with this requirement the Contractor is required to read through this document carefully, sign it and submit it with his/her Tender.

DECLARATION

1. I, the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act, Act 85 of 1993, the Construction Regulations of February 2014 and the Site Specific Health and Safety Specification attached in the tender document.
2. I hereby declare that my company and its employees has the necessary competency and resources to safely carry out the construction work under this contract in compliance with the Occupational Health and Safety Act, Act 85 of 1993, the Construction Regulations of February 2014 and the Construction Safety, Health and Environmental Specification.
3. I hereby confirm that adequate provisions has been made in my tender to cover the cost of all Safety, Health and Environmental duties and responsibilities imposed on me by the Occupational Health and Safety Act, Act 85 of 1993, the Construction Regulations of February 2014 and the Site Specific Health and Safety Specification.
4. I confirm that I may not commence with any part of construction work under the contract until the Client has approved my OH&S Plan in writing.
5. I hereby confirm that copies of the following documentation will be kept on site for viewing and inspection purposes for the duration of the construction work:
 - a) Client's Site-Specific Health and Safety Specification.
 - b) Approved Construction Occupational Health and Safety Plan.
 - c) Occupational Health and Safety Act, Act 85 of 1993, and
 - d) Construction Regulations of February 2014.
 - e) Any other documentation as specified in the SSHSS or as required by the CHSR.
6. I agree that my failure to complete and execute this declaration to the satisfaction of the Client will mean that I am unable to comply with the requirements of the Occupational Health and Safety Act, Act 85 of 1993 and Construction Regulations 2014, and accept that my tender will be rejected.

Signature: _____ **Date:** _____

(Person duly authorised to sign on behalf of Tender)

12.2.	Annexure B: Structure of SSHSP submitted for approval and SSHSF layout requirement.
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<u>Number</u>	<u>Item</u>	<u>To be submitted with SSHSP for approval</u>	<u>Comments</u>
1.	INDEX	Yes	None
2.	SSHSP Approval Letter and Appointment letter.	No	To be filled in SSHSF after issuing by CHSR
3.	Letter of Good Standing	Yes	To be kept up to date and filled in SSHSF
4.	Notification of Construction Work	No	To be submitted to DEL for recording, stamped copy forwarded to Client before SHE Plan Approval Letter will be issued. No work will be able to commence until letter has been issued including Site Establishment. work. To be filled in the SSHSF
5.	Signed and dated SHE Management Plan	Yes	To be filled in SSHSF
6.	Organogram	Yes	To be placed on the SSHSF, kept updated
7.	Signed and dated Health and Safety Policies	Yes	To include communication Register and filled in SSHSF
8.	Site Layout Plan	Yes	To be kept updated and filled in SSHSF
9.	Signed and dated Emergency Plan	Yes	To be kept updated and filled in SSHSF
10.	Signed and dated Environmental Management Plan	Yes	To be kept updated and filled in SSHSF
11.	Signed and dated Personal Hygiene and Infectious Disease Management Plan.	Yes	To be kept updated and filled in SSHSF.
12.	Signed and dated Fall Prevention Plan	Yes	To be reviewed prior to work being conducted, and filled in SSHSF with communication record.
13.	Demolition Plan	No	To be submitted to CHSR and Structural Engineer for approval before work commences and filled in SSHSF with communication record.
14.	Two signed and dated risk assessments of priority risks as per the risk profile.	Yes	To be submitted with SSHSP for evaluation. To filed in SSHSF and reviewed prior to work being conducted.
15.	Two signed and dated Method Statements/ Safe Work Method Statements for the two priority risk assessments as per item 11.	Yes	To be submitted with SSHSP for evaluation. To filed in SSHSF and reviewed prior to work being conducted.

16.	Risk assessments and Method Statements.	No	To be kept on SSHSF with communication records
17.	Daily Safe Task Instruction (DSTI)	No	To be signed off at the start and end of shift with communication record, to be kept in SSHSF.
18.	Induction Course	No	To be reviewed, kept updated and include communication record register. Filled in SSHSF.
19.	Toolbox talks	No	To include communication register and filled in SSHSF.
20.	PPE Issue Record	No	To include training in correct use etc and filled in SSHSF.
21.	Sub – Contractor Monthly Audit records	No	To be discussed at SHE Committee meeting, closed out and kept on SSHSF.
22.	External Audit Reports	No	To be discussed at SHE Com Meetings, Internal Meetings etc and filed in SSHSF.
23.	Self-Audit Format	Yes	To be completed on a monthly basis, forwarded to team members at least 7 days before progress meeting, to report on close out at the meeting. Filed on the SSHSF.
24.	Sub- Contractor Appointments and scope and list	No	To be kept on SSHSF
25.	Section 37(2) Agreements	No	To be kept on SSHSF
26.	Copy of Construction Regulations	No	To be kept on SSHSF
27.	Construction Manager (CR 8(1))	Yes	Including CV / Proof of Competency. To be kept in the SSHSF
28.	Assistant Construction Manager (CR 8(2))	Yes, if applicable	Including CV / Proof of Competency. To be kept in the SSHSF
29.	SHE Officer (CR 8(5))	Yes	Including CV / Proof of Competency and SACPCMP Registration. To be kept in SSHSF
30.	Construction Supervisor (CR 8(7))	Yes	Including CV / Proof of Competency. To be kept in SSHSF
31.	Assistant Construction Supervisor (CR 8(8))	Yes, if applicable.	Including CV / Proof of Competency. To be kept in SSHSF
32.	Risk Assessor (CR 9 (1))	Yes	Including CV / Proof of Competency. To be kept in SSHSF
33.	Fall Prevention Planner (10 (1)(a))	Yes	Including CV / Proof of Competency. To be kept in SSHS
34.	Temporary Works Designer (CR 12(1))	No	Including CV / Proof of Competency. To be kept in SSHSF

35.	Temporary Works Supervisor (CR 12(2))	No	Including CV / Proof of Competency. To be kept in SSHSF
36.	Excavation Supervisor (CR 13(1)(a))	No	Including CV / Proof of Competency. To be kept in SSHSF
37.	Demolition work Supervisor (14(1))	No	Including CV / Proof of Competency. To be submitted with Demolition Plan. To be kept in SSHSF
38.	Scaffold Supervisor (CR 16(1))	No	Proof of Competency. To be kept in SSHSF
39.	Scaffold Erector (CR 16 (2))	No	Proof of Competency. To be kept in SSHSF
40.	Scaffold Inspector (CR 16(2))	No	Proof of Competency. To be kept in SSHSF
41.	Suspended Platform Supervisor (CR 17(1))	No	Proof of Competency. To be kept in SSHSF
43.	Bulk Mixing Plant Supervisor (CR 20(1))	No	Proof of Competency. To be kept in SSHSF
44.	Construction vehicle and Mobile Plant Operator (CR 23(1)(d))	No	Proof of Competency, medical fitness etc. To be kept in SSHSF
46.	Temporary Electrical Installation Inspector (CR 24(d))	No	Proof of Competency. To be kept in SSHSF
47.	Stacking and storage Inspector (CR 28 (a))	No	Appointment, to be kept in SSHSF
48.	Fire Equipment Inspector (CR 29(h))	No	Including basic Fire Fighting Training proof of competency
50.	Portable Electrical Equipment Inspector (EMR 9)	No	Appointment to be kept in the SSHSF
51.	Accident Incident Investigator (GAR 9(2))	Yes	Including CV / Proof of Competency. To be kept in SSHSF
52.	First Aider GSR (3(4))	No	Including at least Level 2 First Aid Competency. To be kept in the SSHSF
53.	Welding/Flame cutting equipment Inspector (GSR 9)	No	Appointment to be kept in the SSHSF
54.	Ladder Inspector (GSR 13 (a))	No	Appointment to be kept in the SSHSF
55.	Hazardous Chemical Substances Supervisor (HCSR 3(3))	No	Appointment to be kept in the SSHSF
56.	Hand Tool Inspector (Sec 8(2)(a))	No	Appointment to be kept in the SSHSF
57.	SHE Representative (Sec 17)	No	Including proof of Competency. To be filled in SSHSF
58.	Sub-Contractor (CR 7(1)(c))	No	As per applicable legislative requirements
59.	Electrical Contractor (EIR 6)	No	Including proof of Professional Registration
Registers as required by scope of work, equipment, facilities etc.			

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	<u>PRELIMINARIES</u> <u>OCCUPATIONAL SAFETY & HEALTH</u> Part 1 General 1.1 Preparation and submission of safety and health The preparation and submission of the Safety and Health Plan comprising with but not limited to; a. Description of project b. Site project organization structure c. Arrangements for controlling significant site risks 1.2 The Safety and Health Committee Conduct HSE meetings and inspections during the duration of the contract as below; a) HSE Safety committee meetings monthly for the duration of the contract. 1.3 Construction Health and Safety Officer Full time competent Construction Health and Safety Officer for the entire duration of the contract	Item No. Item			
	To Collection				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	1.5 Personal Protective Equipment Provide, maintain and replace any damage personal protective equipment as per specification to all employees. Provide, maintain and replace any damaged items of the following personal protective equipment during the construction period. a) Eye and face protection b) Fall protection (Harnesses, lanyards, lifeline, safety belt) c) Foot protection (Safety shoes/boots) d) Hand protection (suitable glove - pair) e) Head protection (safety helmet) f) Hearing protection g) Respiratory protection h) Protective clothing (minimum 2 per person) i) Protection against radiant energy (filter lenses) j) Others (please specify)	Item No. No. No. No. No. No. No. No. No. No. No.			
	1.6 Safety and Health Training & Briefing Conducting briefings and induction course to each worker and any related courses that required for the entire project. Plan and conduct relevant safety and health training plan as per site requirement. a) Site safety and health induction course for site personnel. b) Site health and safety induction for approved visitors. c) Firefighting. d) Emergency preparedness, respond and evacuation. e) Tool box meetings/briefing (once a week at site). f) Others (please specify)	Item Item Item Item Item Item Item			
	To Collection				

Provide, maintain and replace any damage personal protective equipment as per specification to all employees.

Provide, maintain and replace any damaged items of the following personal protective equipment during the construction period.

- a) Eye and face protection
- b) Fall protection (Harnesses, lanyards, lifeline, safety belt)
- c) Foot protection (Safety shoes/boots)
- d) Hand protection (suitable glove - pair)
- e) Head protection (safety helmet)
- f) Hearing protection
- g) Respiratory protection
- h) Protective clothing (minimum 2 per person)
- i) Protection against radiant energy (filter lenses)
- j) Others (please specify)

1.6 Safety and Health Training & Briefing

Conducting briefings and induction course to each worker and any related courses that required for the entire project.

Plan and conduct relevant safety and health training plan as per site requirement.

- Site safety and health induction course for site personnel.
- Site health and safety induction for approved visitors.
- Firefighting.
- Emergency preparedness, respond and evacuation.
- Tool box meetings/briefing (once a week at site).
- Others (please specify)

To Collection

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	1.7 Hazards Identification Risk Assessment & Risk Control (HIRARC) Prepare and undertake Hazards Identification, Risk Assessment and Risk controls (HIRARC) for all construction activities.	Item			
	1.8 Monthly Report Printing/copying, papers, inks, binding or related cost in providing the monthly report within the contract period inclusive of any investigation expertise.	Item			
	1.9 Notification of Accidents, Dangerous Occurrences, Occupational Diseases Provision for Accident / Incident Investigation Report inclusive for the cost to engage if there is any third parties involve (competent person) to investigate any accident at workplace.	Item			
	1.10 General Signage Safety signage in the workplace to ensure the workers and the public are aware about safety within the environment of the project. Provide, install and maintain the following standard signage a) Keep Site Clean b) No Open Fires / Burning c) Emergency exit routes d) Any other safety signs as instructed and approved by the S.O. (please specify)	Item Item Item Item			
	1.11 Site Safety and Health Information Board Provide at least one (1) information board to update any HSE information to the employee at worksite. Provision and maintenance of Safety and Health information board including regular updating of safety and health information.	Item			
	To Collection				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	1.12 First Aid Facilities A trained first-aid for any minor accident and first aid arrangement in case of any accidents at the workplace. This includes providing complete set of first aid kit for office within the period of contract. Requirement to be as set out in the OHS Act One qualified First Aider appointed where more than 10 persons are employed. One additional First Aider for every 50 persons employed a) To provide suitable trained person to attend first-aid treatment. b) To provide and maintain first aid kit. 1.13 Portable Fire Extinguisher Provide enough fire extinguishers at the workplace. The locations of the fire extinguishers include the site office, quarters and standby for any hot works activities within the contract period. The cost also includes the maintenance and training of the use of equipment. At least one unit for office, two units for each quarters and one unit standby for hot work area. Provision and maintenance of approved fire extinguisher to be provided for around each 200m² of floor space with a minimum of one per floor at designated area.	Item No. Item			
	To Collection				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	Part 1 General - Collection From				
	Page 1				
	From Page 2				
	From Page 3				
	From Page 4				
	From Page 5				
	To Summary				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	Part 2 Amenities and Facilities (Construction Site)				
	2.1 Toilets				
	Provide, maintain and the dislodging of toilets for workers. Toilet shall be connected to a sewer / temporary septic tank with the approval of the relevant competent authority. Contractor shall estimate the number of workers for entire project and at least 1 toilet per every 30 workers. For every 100 workers, there should be 4 numbers of toilet.	Item			
	2.2 Temporary Structures and Sanitary conveniences at construction worksites				
	Temporary site office with adequate lighting and ventilation.	Item			
	Sanitary facilities in the ratio of 1 water closet, 1 shower and 1 wash basin for every 25 workers or less shall be provided. The toilet facilities shall be connected to a sewer/temporary septic tank.	Item			
	2.3 Temporary rest area				
	Provide and maintain rest area for the workers and site staff with safe area, ventilated and lighted.	Item			
	2.4 Lighting				
	Provide adequate lighting in dark environment at work areas, access and egress. Note: Dark environment with inadequate lighting (access to upper floor, tanks, any confined space, etc.).	Item			
	2.5 Ventilation				
	Provide mechanical ventilator in areas where natural ventilation is not possible and in accordance to the specification. Areas which requires constant air circulation which involves fumes and smoke e.g. generator, welding activities, confine space, etc.	Item			
	To Summary				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	Part 3 Prevention of fall at Workplace				
	3.1 Unprotected Sides and Edges				
A	Supply, install and erect guardrail, barricade and toe board (where required) to exposed edges / openings but not limited to: a) Bridge work b) Working platform c) Loading platform	Item			
B	Provide, install and maintain temporary hand railings to the stairs use as an access and egress.	Item			
C	Provision of providing temporary closure by using sufficient thick and strong material for any floor openings where when erecting guardrail / barricade are not suitable.	Item			
	3.2 Safety Nets				
D	Install and maintain safety net as close as possible to the working level. Should it be on the outside of the structure, the outer edges should be higher than the inner edge. Contractor to calculate the area to be close/cover base on the proposed design of the bridge.(if applicable)	Item			
	3.3 Individual fall arrest systems				
	Fall arrest systems must be provided for every workers working at height above 1.8m. Double lanyards to be equipped on the safety harness.				
E	Provide, anchor /install and maintain individual fall arrest systems that includes : a) Inertia reel systems; b) Safety harness; c) Lanyards; and d) Static lines	Item			
	To Collection				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	3.6 Ladders				
A	Supply, install and maintain suitable lockable step ladder spreader bars on both sides connected to the front and rear stiles. All ladders must be specified with its certification standards.	Item			
	3.7 Scaffolding for Temporary Working Platform, Access and Egress				
	Scaffold board should not be less than 225mm wide. Working platforms for men without materials or only for passage of materials must be 500mm width. For men and materials provided there is 800mm width, provided there is 430mm left clear for the passage of men or 600mm if barrows are used. Toe-board must be fitted in conjunction with all guard rails, a minimum height of 150mm.				
B	Erect, maintain and dismantle suitable scaffolding for temporary working platform including access and egress.	Item			
	3.9 Safety Signage				
C	Provide safety signage for all the above items. Provision for the following but not limited to: a) Beware of falling objects b) Safety harness c) Safe access or egress d) Openings and apertures e) Rubbish chute operation and limitations f) Others (please specify)	Item			
	To Collection				

[illegible]

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From Page 9

To Summary

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	Part 4 Electrical				
	4.1 Reports				
A	Submission of regular safety inspection and maintenance reports on electrical distribution box, switch box, temporarily wiring and generator set both indoors and outdoors on weekly basis.	Item			
	4.2 Electrical Safety Signage				
	Provide electrical safety signs at workplace to ensure workers and public aware about electrical safety within the contract period.	Item			
	Provide, install and maintain the following approved 300mm x 400mm safety warning signs but not limited to :				
B	a) BEWARE ELECTRICITY				
C	b) USE ELECTRICITY SAFELY				
D	c) USE SAFE ELECTRICAL TOOLS				
E	d) BEWARE OF OVERHEAD CABLE				
F	e) Others (please specify)				
	4.3 inspection of equipment				
G	Inspection of all electrical tools and equipment prior to their first use at site and throughout the contract period.	Item			
	To Summary				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	Part 5 Hazardous Chemicals and Materials				
	5.1 Chemical Health Risk Assessment				
A	a) Prepare a Chemical Register for all hazardous chemical to health used in the place of work inclusive of updating during the contract period.	Item			
B	b) Carry out Chemical Health Risk Assessment by a registered assessor.	Item			
C	c) Develop control measures and policies to ensure the hazardous chemical to health are handled and used safely inclusive of updating during the contract period but not limited to : i. Handling ii. Correct and safe storage iii. Transportation procedure iv. Disposal procedure include schedule waste	Item			
	5.2 Labeling and Storage				
D	Provision of labeling, control and safe storage area for hazardous material at site to the requirement of the authority.	Item			
	5.3 Personal Protective Equipment				
E	Suitable PPE for handling hazardous chemical at workplace as per OHS Act	Item			
F	Provide the following PPE for visitors/inspectors and other personnel working with hazardous chemical but not limited to:				
E	i. Goggles	No.			
F	ii. Mask	No.			
G	iii. Gloves	No.			
H	iv. Suitable full face mask (where necessary)	No.			
I	v. Protective clothing (where necessary)	No.			
	5.4 Waste Disposal				
	The cost for handling any chemical waste as required including proper arrangement by the approved contractor (third party).				
J	Handle, transport and disposal of schedule waste by licensed / approved contractor to the requirement of the authority.	Item			
	To Collection				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	5.5 Chemical Safety Signage				
A	All related safety signage in handling hazardous chemicals at the workplace as per OHS Act. Safety signage needs to be installed at the designated chemical area. Provide, install and maintain the following approved 300mm x 400mm safety warning signs but not limited to : a) USE SUITABLE FACE MASK b) USE SUITABLE GLOVES c) WEAR SUITABLE CLOTHINGS d) BEWARE OF HADZADOUS MATERIAL e) USE SUITABLE GOGGLES f) Any other signs related to chemical safety	Item			
	5.6 Hazardous chemical training and handling				
B	Provisions to provide the following: a) Training of hazardous chemicals on site b) Monitoring of exposure hazardous chemical on site c) Health surveillance for workers expose to the hazardous chemical on site	Item			
	To Collection				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	Part 6 Plants				
A	6.1 Compile and maintain on a monthly basis all inspection records for plants but not limited to : a) Mobile and rigging equipment b) Pilling equipment c) Portable mechanical powered fastening tools d) Scaffold e) Compressor and Pressure Vessel f) Dozer, motor grader, etc. Note: The cost for printing/copying, papers, inks, binding, files or related cost in providing and maintaining all inspection records during the contract period.	Item			
B	6.2 Provision of designated personnel a) Provide for trained and appointed personnel to operate the equipment in allowed for in 6.1	Item			
C	6.3 Communication a) Provide for all radio equipment to safely operate all plant and machinery on site where required	Item			
D	6.4 Inspection Inspection by authorised inspector (third party) at least once (1) per year Arrange inspection and approval of special plants, tools and before use at site for : a) Air compressor b) Pilling equipment c) Mobile crane d) Any others	Item			
	To Summary				

	7.2 Traffic movement within site				
E	The cost to ensure safety and proper traffic management at workplace by providing all the following items within the contract period.				
	a) Provision for planning of safe traffic movement within the site.	Item			
F	b) Provision of flagman to control and regulate the movement of site traffic / vehicle within, going out and coming into the site.	Item			
	To Collection				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	7.2 Traffic movement within site				
A	c) Provision of the following to be used by the worker and flagman but not limited to : i. Reflective safety vest ii. Dust mask iii. Traffic control baton light iv. Flags (Both Green and Red flags) v. Any other suitable PPE	Item			
B	Provide all road traffic signage	Item			
	Accommodating traffic and maintaining temporary deviations	Item			
	Provision of other traffic control measures, as instructed by the Engineer	Prov sum			
	7.3 Excavations (more than 1.5m deep)				
	The cost to ensure safety and proper arrangement for any excavation activities at workplace by providing all the following items within the contract period. Minimum one (1) no. per item when the excavation is more than 1.5m deep.				
C	a) Provision for the designing of safe strutting for deep excavation work by professional.	Item			
D	b) Provision for the competent / designated person to supervise the excavation work.	Item			
E	c) Provision for the protection and barricading the excavated work.	Item			
F	d) Provide, install and maintain an approved hazard warning lights for the excavated area during the night.	Item			
G	e) Provide, install and maintain approved warning signage	Item			
	To Collection				

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	Note : Applicable for demolition works only 7.4 General Demolition Works Ensure safety and proper arrangement of the demolition activities by providing all the following items within the contract period or for the demolition works. Minimum one (1) no per item is required. A a) Provision of planning for safe demolition work, stage by stage, including the safety of adjoining structure for the approval of the local authority. B b) Provision of inspection and supervision of demolition work by competent person. C c) Provision of adequate notice before demolition work as required by the local authority. D d) Provision for the suppression of dust to the approval limit of the local authority. E e) Provide, install and maintain all safety warning signage F f) Provision of approved netting for prevention of uncontrolled fall of demolishing material. G g) Provide, install and maintain approved barricade / fencing for preventing unauthorised entry for the whole duration of the demolition work. H h) Provision of security personnel at strategic locations during the demolition operation. I i) Provision of noise monitoring and testing. To Collection	Item			

Item	Description	Unit	Qty	Rate (R)	Amount (R)
	OCCUPATIONAL SAFETY & HEALTH Summary				
	Part 1 General				
	Part 2 Amenities and Facilities				
	Part 3 Prevention of fall at Workplace				
	Part 4 Electrical				
	Part 5 Hazardous Chemicals and Materials				
	Part 6 Plants				
	Part 7 Special Work Situations				
	To Bill No. 1 Summary				

THE EPWP CONDITIONS AND SPECIFICATIONS

Changes to be effected in the Bill of Quantities in P&G's Section C12 (page 11 of 13)

C 12 Heading to be phrased as EPWP Conditions and Specifications not "Local Labour"

C12 to be expanded from C 12.1 to C12.10 as follows;

C 12 EPWP CONDITIONS AND SPECIFICATIONS			
C12.1 a Employment Targets			
The contractor needs to provide a realistic estimate on the number of jobs that the project has the potential to create throughout the project duration as the project will be implemented using Labour Intensive Construction methods on elements where it is economical and feasible for this construction method. No of jobs to be created =			
			Item
C12.1 b Employment requirements			
Tenderers are advised that this contract will be subject to the Expanded Public Works Program (EPWP) aimed at alleviating and reducing unemployment.			
Tenderers must allow for any costs for the following employment requirements of the EPWP			
1. 55% of unskilled labour to be women 2. 40% of unskilled labour to be youth aged between 18 and 35 years 3. 2% of unskilled labour to be people with disability			
100% unskilled labour utilized must reside within the boundaries of the Municipality ward where this contract is executed, with preference to the local community closest or at the walking distance to the contract site. Wherever possible local skilled tradesmen are to be employed on this contract with the view to maximize utilization of local resources.			
C12.1 c Labour rate and payment intervals			
The contractor should ensure that labour rate paid to unskilled local labour is commensurate to the daily task. When determining the rate, consideration should be given to that EPWP beneficiaries are mostly bread winners in their families, as the program intends alleviating poverty. There should also be consideration that the labour rate promotes creation of expanded number of jobs created and person days of work.			
Contractors should make endeavours to ensure that labourers, particularly unskilled are remunerated on fortnight basis and prior notification be made should there be a shortfall on their wages.			
The labour rate for local unskilled shall also be determined in consideration of the location of the project, i.e. for projects implemented in urbanized municipalities will not be the same as that for rural municipalities.			
C12.2 a Labour Intensive Construction (LIC) method			
On site there must a person(s) having competency in managing and implementing LIC methods.			
*Foreman @ NQF Level 4 the Unit Standard on Implementing LIC methods on site.			

*Site Agent/ Managers @ NQF level 5 the Unit Standard on Manage Labour-Intensive Skills Programme both must be CETA accredited C12.2 b Labour Intensive Construction Method Those parts of the contract to be constructed using Labour Intensive methods will be marked in the BoQ with letter LI (indicating Labour Intensive) against every item so designated. Such works will only be constructed using method so indicated. Reference to be made to Guidelines for the implementation of Labour Intensive Infrastructure projects under EPWP. "Scope of Work in Respect of Work Relating to the Expanded Public Works Programme (EPWP)"			
C12. 3 Record Keeping 12.3.1 Every employer must keep in the project site office the following minutes of site progress minutes; contractors' monthly site progress reports; accurately recorded attendance register; proof of payment as means to verify authenticity of data in the EPWP Beneficiary form submitted with payment certificates. Copies of submitted EPWP beneficiary data forms should also be kept in the site office. 12. 3.2 The employer must keep this record for a period of at least three (3) years after the completion of the project in his/her office as the project site office would have been relocated. This should be safely kept for job creation data verifications and periodical audits on projects conducted by National and provincial Department of Public Works after one (1) or two (2) quarters of submitting captured EPWP Data to the National EPWP coordinating Department.			
C12.4 EPWP Reporting as per EPWP data form At the end of each month as part of site progress report and to be attached to every contractors' progress payment certificate; the contractor shall provide the principal agent & Public Works with a written records, as per EPWP data form; which will be reflecting, beneficiaries full name & surname; ID No and job description of labour employed by main contractor and sub-contractors on site			
C12.5 EPWP Promotion 12.5.1 EPWP signage board EPWP Program at the project level shall always be promoted through have the projects signage board that embrace EPWP logo at the bottom, correct measurement for this signage board will be provided by the project leader during the site handing over meeting. 12.5.2 Branding of labour apparel Contractor & Sub-contractors' labourers shall be provided with EPWP branded Personal Protective Equipment (PPE), reflector vest with EPWP acronym at the back is an ideal and cost effective means of promoting program on site.			

	The contractor is then advised to price for both item 12.5.1 and 12.5.2			
	C12.6 COMMUNITY LIAISON OFFICER (CLO) UTILISATION OF A COMMUNITY LIAISON OFFICER The Contractor shall allow for and pay any and all costs necessary for the engagement of the services of a Community Liaison Officer (CLO) for the full duration of this contract A CLO will be identified by the local structures (Project Steering Committee) of the ward areas and appointed following fair and transparent interviewing process, to be conducted in the presence of local structures and the contractor representative, in order to assist the Contractor in the procurement of any local labour, etc. required for this project. The Contractor is to liaise with the CLO and afford him any assistance needed in ensuring sound working relations with the local community. Key Responsibilities of the CLO are envisaged to include and not necessary be limited to: 1. Assisting local leadership in conducting skills and resources audit which facilitates sourcing labour from within the ward or targeted areas for employment, as required by contractor 2. Assisting in sourcing labour-only domestic sub-contractors and the procurement of materials from local resources, as required by the contractor. 3. Assisting the contractor by identifying areas of potential conflict and or threats to the project or to stakeholders in the project and recommend appropriate action to the contractor. 4. Assisting contractor and stakeholders in the project in the resolution of any conflict which may arise. 5. Establishing and ensuring that sufficient and open communication channels between the contractor and the work force are maintained. 6. Establish and ensuring that efficient and open communication channels between the contractor and the community are maintained 7. Identifying and reporting to the Contractor regarding issues where communication between stakeholder is necessary, recommend courses of action and facilitate such communications 8. Assisting the Contractor and the work force in the establishment of grievance procedures and necessary recommendation to the Contractor regarding the grievances and solution thereto. 9. Attending to site meetings and project implementation meetings as required by the Contractor and prepare periodic reports as may be required by the Contractor from time to time. 10. Attending to such other duties which are consistent with the functions of a CLO, as may be required by the Contractor from time to time.			

	Tenderers are to price twice the rate of unskilled local labour rate against this item for any and all costs arising out of compliance with the foregoing and in the event of a Tenderer failing to price against this item or making inadequate financial provision against this item for compliance as aforesaid, then no claim for costs or additional cost incurred will be entertained by the Head: Works F:..... V:..... T:..... Carried forward to collection Item			
	C12.7 Skills development on site Contractor in conforming to the object of EPWP that its beneficiaries need to be capacitated with skills that will render them employable in the future. It is then the responsibility of the contractor that mandatory life skills are provided to 100% of workforce on site and on the job training to labourers from whom the potential for further development has been identified. The latter is not mandatory to all as it covers technical skills. Contractor should also make provision for the possibility that there might be local youth that will need to be placed on the project with an intention to be provided support towards improving their level of competency and productivity. Contractor shall also provide all necessary on-the-job training to targeted labour to enable such labour to master and advance on techniques required to undertake the work in accordance with requirements of the contract in a manner that does not compromise workers health and safety.			
	C12.8 Labour Only Sub Contracting for local emerging enterprises Tenderer's are advised that this contract is subject to the Expanded Public Works Programme (EPWP) and the following criteria will apply: African Equity Ownership - The Tenderer is to allow for 5% of the total value of works to be undertaken by a Priority Population Group. This percentage excludes the costs of employing local unskilled labour. The allocation of this percentage from the Project, the screening of people, the selection of skills, will be for the Contractor to adjudicate. - The Priority Population Group consists of women, youth and disabled people. - The Contractor is to give first option for prospective PPG's from the surrounding areas of the Project. Should there be insufficient suitable people fitting the criteria of PPG's, the Contractor may hire people from further afield. This is to be done only after consultation with the Department of Works EPWP Co-ordinator and the Community Liaison Officer (CLO), - A Mentor is to be employed by the Contractor, in consultation with the Department of Works for the purposes of quality control and liaison between the Contractor and the selected PPG's on site. The mentor will be responsible for ensuring an acceptable level of quality workmanship and that such work carried out by the PPG's is executed within the time frames stipulated. In so far as possible, the Contractor is encouraged to expand the PPG's skills, knowledge and performance levels.			

TENDERER'S TO NOTE CONDITIONS a) The contract to be entered into between the Contractor and the PPG's will be a LABOUR ONLY sub-contract. b) The Contractor will be responsible for ensuring that all materials for use by the PPG's in the works are to be on site timeously. The Contractor shall liaise with The Mentor and PPG to determine the nature and extent of materials required and the lead time necessary. c) The Contractor shall be responsible for the overall programming of the Works and he is to allow for monitoring the PPG's programme and progress. d) In conjunction with the Mentor, he is to allow for the supervision and mentoring (where necessary) of the PPG to ensure quality and adherence to standard building practice e) The Contractor is to allow for extra storage facilities on site for the PPG's tools and equipment. f) Basic tools shall be provided by the PPG's and where these are not available; the Contractor will supply him with the necessary tools and equipment and deduct the costs thereof from the interim claims made by the PPG. g) Work requiring specialized tools will be provided free of charge by the Contractor with the provision that these be returned upon completion of the Work. CO-ORDINATION The Contractor is to co-ordinate the work of all the PPG's, Sub-Contractors and Nominated Sub- Contractors appointed direct by the Employer in such a manner and at all times as will suit the building programme and he is to allow adequate access, for the PPG's, where required, to carry out their work in an efficient manner as no claims for extras in this connection will be entertained. ATTENDANCE The Contractor may allow for attendance upon the PPG's concerned to execute the work. The Contractor is to allow the PPG's the use of any scaffolding belonging to him while it remains so erected on the site. Where scaffolding is necessary for the use by any PPG and the Contractor has not erected any for his own use or has removed same after his own use, the Contractor shall supply sufficient scaffolding to the PPG to be erected and dismantled by the PPG and returned to the Contractor. This attendance upon PPG's to execute the work is to include for the scaffolding provisions as aforesaid and, in addition, is to include for co-operating to the fullest extent with all the parties, attending on off-loading materials, providing suitable storage for tools and materials used by the PPG's, use of general facilities such as latrines, etc., supply and cost of power, lighting, water and the like. Item			
C12.9 EPWP contract for labour It is compulsory that shortly after the contractor and or sub contractor has appointed local labour, the employment contract should be signed by both parties, prior to commencement with works on site. The employment contract forms part of the Ministerial Determination or from the regional EPWP officials.			

C12.10 EPWP Scope of Work

Note:

Contractors are to price any item on the Bill of Quantities having below, bearing in mind that they are regarded as main sources of job creation, whether sub contracted or undertaken by the main contractor.

Elements on the scope of work where application of Labour Intensive Construction methods as will indicated with letters (LI) are regarded feasible are as follows;

- i) Excavating trenches for foundations and any other civil works with the depth not more than 1.5 m
- ii) All masonry works which include concrete mixing on site; brickwork; plastering; screed works; jointing; etc.
- iii) Painting, Plumbing, Ironmongery; roof cladding; glazing; tilling; carpentry; flooring; waterproofing; etc.
- iv) External works such as landscaping; cleaning; paving; fencing; tarmac; etc.

Note

It is a general requirement of this contract that persons normally resident in the ward of the works (local labour) be given preference for employment on the contract. Provided, however, that **should adequate and appropriate labour not be available within the ward**, others may be employed subject to satisfactory proof being provided that every reasonable endeavour has been made to employ local labour (**Local Sub-contractor(s); Skilled; Semi-Skilled and Unskilled**). The contractor shall in consultation with the local community leaders (**Project Steering Committee**) with the purpose of negotiating with them regarding the utilization of local resources in the construction process. In this regard, the contractor shall furthermore give preference, wherever possible to the employment of single heads of households, women and youth as well as families declared as most indigent by War on Poverty/ Sukuma Sakhe program profiling process. The contractor should aim, in general, to maximise the involvement of the local community, however workers from other communities should not exceed 20% of all persons working on the project, where local employees possess skills at level of competency that meet contractors requirements.



EXPANDED PUBLIC WORKS PROGRAMME
Creating opportunities towards human fulfilment

Project name: QADI TAC

Project Employment Data Management and Reporting Requirements – to be included in the tender documents for the Department of Public Works

NB: All information, documents and files stated herein must be available for Auditor

No.	Information / Document	Comments
1	Monthly Reports	
1.1	Monthly reports to be submitted in the specified Employment Data Collection Form This is a monthly schedule where monthly attendance, training and other aspects of participants (labourers) is summarised. The Employment Data Collection Form must provide credible data that corresponds with the Payroll Register and Proof of payment.	
1.2	Payroll Register Which is a list of each participant (labourer) who was paid for each month and which would include the amount of the wage paid.	
1.3	Proof of payment Which is a download from the payment system or a bank statement reflecting all participants paid and the amounts paid	
1.4	Payment Register/Pay sheet signed by workers Where proof of payment is not available, a payment register must be submitted. This is a schedule where participants sign as an acknowledgement of receipt of wages for the number of days worked at a stipulated daily rate.	
1.5	ID size photos Every participant must have an ID size photo taken within the first month of employment and photo to be supplied to the Department.	
2	Records to be filed and updated monthly on site	



No.	Information / Document	Comments
2.1	Identity Document (ID) copies Every new (at the beginning of employment) participant to provide a certified South African ID copy that is not older than 3 months	
2.2	Daily attendance register showing full name and gender (To correspond with Proof of payment and payroll register and monthly report in the Data Collection Form)	
2.3	Employment Contracts indicating date signed by both the employer and the employee and witnesses if applicable	
2.4	Payslips for all payments made to participants indicating the number of days worked	
2.5	Document where beneficiaries completed / provided their bank account details	
2.6	Completed Beneficiary/participants list-simplified form	
2.7	Project coordinates	
2.8	Project progress report	
3	Training	
3.1	Training attendance registers for ALL training attended by participants Number of training days and Training should be reported as follows; - Number of people trained - Number of people that received accredited training - Number of people that received non-accredited training - Profile of the participants (Women, Disabled, Youth) - Percentage of participants who worked on the project after receiving training.	As and when training is provided
4	UIF	
4.1	Evidence to confirm that UIF for participants has been paid for the employment duration	
5	COIDA	
	Evidence that the participants of the project are included in the Employers monthly provisions for COIDA.	



No.	Information / Document	Comments
	Evidence that the Employer paid the relevant contributions as required by the Compensation Commissioner.	
6	COMMUNITY LIASON OFFICER (CLO)	
	UTILISATION OF A COMMUNITY LIAISON OFFICER The Contractor shall allow for and pay any and all costs necessary for the engagement of the services of a Community Liaison Officer (CLO) for the full duration of this contract A CLO will be identified by the local structures (Project Steering Committee) of the ward areas and appointed following fair and transparent interviewing process, to be conducted in the presence of local structures and the contractor representative, in order to assist the Contractor in the procurement of any local labour, etc. required for this project. The Contractor is to liaise with the CLO and afford him any assistance needed in ensuring sound working relations with the local community. Key Responsibilities of the CLO are envisaged to include and not necessary be limited to: 1. Assisting local leadership in conducting skills and resources audit which facilitates sourcing labour from within the ward or targeted areas for employment, as required by contractor 2. Assisting in sourcing labour-only domestic sub-contractors and the procurement of materials from local resources, as required by the contractor. 3. Assisting the contractor by identifying areas of potential conflict and or threats to the project or to stakeholders in the project and recommend appropriate action to the contractor. 4. Assisting contractor and stakeholders in the project in the resolution of any conflict which may arise. 5. Establishing and ensuring that sufficient and open communication channels between the contractor and the work force are maintained. 6. Establish and ensuring that efficient and open communication channels between the contractor and the community are maintained 7. Identifying and reporting to the Contractor regarding issues where communication between stakeholder is necessary, recommend courses of action and facilitate such communications	



EXPANDED PUBLIC WORKS PROGRAMME
Creating opportunities towards human fulfillment

No.	Information / Document	Comments
	8. Assisting the Contractor and the work force in the establishment of grievance procedures and necessary recommendation to the Contractor regarding the grievances and solution thereto. 9. Attending to site meetings and project implementation meetings as required by the Contractor and prepare and submit periodic reports as may be required by the Contractor from time to time. 10. Attending to such other duties which are consistent with the functions of a CLO, as may be required by the Contractor from time to time. Tenderers are to price twice the rate of unskilled local labour rate for the Community Liaison Officer (CLO) against this item for any and all costs arising out of compliance with the foregoing and in the event of a Tenderer failing to price against this item or making inadequate financial provision against this item for compliance as aforesaid, then no claim for costs or additional cost incurred will be entertained by the Head: Public Works F:..... V:..... T:.....	

WAIVER OF CONTRACTOR'S LIEN

DEFINITIONS

Contractor: _____

Employer: Head: Public Works (KZN Department of Public Works: Province of KwaZulu-Natal)

Agreement: GCC FOR CONSTRUCTION WORKS - SECOND EDITION 2010

Works (description): **KWAZULU NATAL: DEPARTMENT OF COGTA: ETHEKWINI REGIONS: QADI TAC - REHABILITATION, REFURBISHMENT AND MAINTENANCE - (COMPLETION CONTRACT)**

Site: Region: District Municipality: Local Municipality: Ward Nr.: Cluster Nr x:

AGREEMENT

The Contractor waives, in favour of the Employer, any lien or right of retention that is or may be held in respect of the Works to be executed on the Site

Thus done and signed at _____ on _____ [Date]

Name of signatory

Capacity of signatory

As witness

For and on behalf of the contractor who by signature hereof warrants authorisation hereto

