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

RETURNABLE DOCUMENT

ONE VOLUME APPROACH

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

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Region:
Head Public Works: Operations
KZN Department of Public Works
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Tel Number: 033 - 355 5455
Fax Number: N/A

Tender Number:	ZNTM01256W	Project Code:	079513
CIDB Grading:	6EP	Document Date:	4-Nov-2025
ECDP Number:	N/A	Contract Period:	12 Calendar Months

Contracting Party: _____

CIDB Registration number: _____

Central Suppliers Database Registration Number: _____

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

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

THE TENDER

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IMPORTANT NOTICE TO TENDERERS

Any reference to words Tender or Tenderder herein and/or in any other documentation shall be construed to have the same meaning as the words Tender or Tenderer. These forms are for internal and external use for the KZN Department of Public Works, Provincial Administration of KwaZulu-Natal.

"Quality" shall mean totality of features and characteristics of a product or service that bears on the ability of the product or service to satisfy stated or implied needs.

No alternativeTenders will be accepted.

The Total (Including Value Added Tax) on the Final Summary of the Bill of Quantities must be carried to the "Offer" part only of the Form of Offer and Acceptance - T2.21

"Enterprise" shall mean the legal Tendering Entity or Tenderer who, on acceptance of the Offer, would become the contractor"

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

THE TENDER

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

PART T1. - TENDER PROCEDURES

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

T1.1 - TENDER NOTICE AND INVITATION TO TENDER

T1.1 TENDER NOTICE AND INVITATION TO TENDER

THE KZN DEPARTMENT OF PUBLIC WORKS & INFRASTRUCTURE INVITES TENDERS FOR THE

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**
Advertisement date:	**03 October 2025**	**Closing date:**	**04 November 2025**
Closing time:	**11:00**	**Validity period:**	**84 Calender Days**

It is estimated that tenderers must have a CIDB contractor grading designation of 6ME or higher. No alternative Class of work, as refered to in Clause 25(3)(a)(i) of the CIDB Regulations, as amended, is anticipated for this project.

	It is estimated that Potentially Emerging enterprises should have a CIDB contractor grading of ***(N/A)*** and satisfy the criterion stated in the Tender Data. *(Only applicable if Client has an Official Mentorship programme in place to assist potentially emerging enterprises)* All Tenderer's should have a CIDB Class of Construction Contractor Grading Designation as indicated above. No Tenderer with a PE status can be considered If **"N/A"** is indicated above because the Department does not have an Official Mentorship Programme in place to assist a Potentially Emerging Enterprise.

Only Tenderder's who are responsive to the following responsiveness criteria are eligible to submit Tenders:

X	Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations for a : 6EP or higher, class of construction work, are eligible to have their Tenders evaluated.
X	Joint ventures are eligible to submit tenders provided that: 1 every member of the joint venture is registered with the CIDB; 2 the lead partner has a contractor grading designation in the 6EP or higher, class of construction work; or not lower than one level below the required the required grading designation in the class of works construction works under considerations and possess the required recognition status 3 the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a : **6EP** or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations.
X	Tender document must be properly received on or before the tender closing date and time specified on the invitation, fully completed and signed in ink (All as per Standard Conditions of Tender).
X	Submission of Compulsory Returnable Schedules documents as per List of returnable documents.
X	Tax Compliance Status (TCS) PIN number and Tenderder's or entity tax reference number.
X	Contractor's Safety, Health and Environmental Declaration.
X	Complete priced Bill of Quantities to be submitted on the day of the Tender closing date.
X	Proof of good standing with the Compensation Commissioner - In terms of Section 84(1)(b) of the Compensation for Occupation Injuries and Disease Act, 1993, a Tenderder may not be awarded a contract if he/she is not registered and in good standing with the Compensation Commissioner.
X	Certified Proof of Paid Municipal Rates and Taxes (Attach) (T2.23)
X	Certified Proof of UIF Registration (Attach) (T2.24)
X	Financial Standing and other resources of Business Declaration (T2.8)
X	Compulsory Enterprise Questionnaire (T2.18)
X	**Tenderers must meet the minimum qualifying score for functionality criteria first before they can be considered for price and preference by means of specific goals**
X	Invitation to Tender - SBD 1

Please note the following for POPIA:
By submitting this tender, I hereby acknowledge consent that the KZN Department of Public Works, may, from time to time, collect/store/use/destroy/delete/share or otherwise process my Company and Director's/Shareholders personal information as the context or circumstances may require and as contemplated in terms of POPIA. ☐ (TICK)

THE FOLLOWING PARTICULARS MUST BE FURNISHED (FAILURE TO DO SO MAY RESULT IN YOUR TENDER BEING DISQUALIFIED)

Name of Tenderer: _____

Postal Address: _____

Street Address: _____

Telephone Number CODE _____ NUMBER _____

Cellphone Number: _____

Facsimile Number: CODE _____ NUMBER _____

E-mail Address: _____

VAT Registration Number: _____

TAX COMPLIANCE STATUS (TCS) PIN TO VERIFY ON LINE COMPLIANCE SUPPLIER STATUS VIA SARS e-FILING (T2.19) YES ☐ or NO ☐

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS / SERVICES / WORKS OFFERED? [If yes, enclose proof] YES ☐ or NO ☐

This tender will be evaluated according to the preferential procurement model in the Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2022:

☒ 80/20 Preference point scoring system ☐ 90/10 Preference point scoring system

NOTE	Refer to T2.34 - Functionality Criteria

Functionality requirement:	70	Points
Price:	80	points

1. The Specific Goal/s Allocated Points in terms of this tender:

Preference points system:
Preferences are offered to Tenderder's who have attained points for the specific goals in accordance with the table below; Documentary Proof required to satisfy the points claimed are also indicated in the table below:

No	Specific Goal	Number of Points Allocated
1	Ownership by Black People Documentary Proof Required: 1) EME or QSE Sworn Affidavit; signed and dated by Commissioner of Oaths	**20**

Notes:

1 The successful Tenderder will be required to fill in and sign a written GCC 2010 2nd Edition Contract.

2 Tenderders should ensure that Tenders are delivered timeously to the correct address. If the Tender is late, it will not be accepted for consideration.

3 The requirements in respect of the application of either 80/20 and 90/10 preference points scoring system, will apply and the points reflected above for preferences will be adjusted accordingly on a pro-rata basis if required.

4 The Tender box is generally open during official working hours.

5 All Tenders must be submitted on the official forms – (Not to be re-typed)

6 This Tender is subject to the PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT FOR CONSTRUCTION WORKS (GCC2010) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT

7 **The documentary proof required to satisfy the points claimed for specific goals in terms of this tender, are duly indicated on the table (1) above.**

8 Where stated in the tender data that a two-envelope system has been followed, open only the non-financial proposal of valid tenders in the presence of tenderer's agents, who choose to attend, at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

Evaluate that non-financial proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals are to be opened.

Open only the financial proposals of tenderers who, in the Functionality evaluation score, have more than the minimum number of points for Functionality stated in the tender data, and announce the score obtained for the non-financial proposals and the total price and any preferences claimed. Return unopened financial proposals to tenderers whose non-financial proposals failed to achieve the minimum number of points for Functionality.

THE PHYSICAL ADDRESS FOR COLLECTION OF TENDER DOCUMENTS:

Tender documents may be collected during working hours at the following address :

191 Prince Alfred Street, PIETERMARITZBURG, 3200

A non-refundable tender deposit of R450 is payable as per the tender advertisement , on collection of the Tender documents. The Tenderders must deposit the the above amount into the Department's bank account. The Account details are:

Account Name:	KZN PROV GOV-WORKS
Bank Name:	ABSA
Account Number:	4121941044
Bank Code:	632005
Reference No:	Ref No 14019605

The Tenderder must attach the account statement with above reference, to this Tender as proof of payment of the deposit.

COMPULSORY CLARIFICATION MEETING

A Compulsory clarification Meeting with representatives of the Employer will take place as follows:

Umgeni Hospital; Finance Boardroom (GPS Coordinates: -29.5010085,30.232447)

on: **Friday, October 17, 2025** at: **11:00**

QUERIES REGARDING THE TENDERING PROCEDURE OR TECHNICAL INFORMATION MAY BE DIRECTED TO:

DOPW Project Manager:	Mr. Simiso Mathonsi	**Telephone no:**	033 - 355 5455
Cell no:	076 097 4697	**Fax no:**	N/A
E-mail:	simiso.mathonsi@kznworks.gov.za		

DEPOSIT / RETURN OF TENDER DOCUMENTS:

Telegraphic, telephonic, telex, facsimile, electronic, posted and / or late tenders will **not** be accepted.

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the **Tender Data document.**

All tenders must be submitted on the official forms – (not to be re-typed)

TENDER DOCUMENTS MAY BE:

DEPOSITED IN THE TENDER BOX AT:

Head Office

191 Prince Alfred Street

Pietermaritzburg

3200

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

T1.2 - TENDER DATA

T1.2 TENDER DATA

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Project Code:	**079513**		
Tender no:	**ZNTM01256W**	**Closing date:**	**04 November 2025**
Closing time:	**11:00**	**Validity period:**	**84 Calender Days**

Clause number:		
	The conditions of Tender are the Standard Conditions of Tender as contained in Annexure C of the CIDB Standard for Uniformity in Engineering and Construction Works Contracts as per Board Notice **423 of 2019** in Government Gazette **42622 of 8 August 2019** as amended from time to time. (see www.cidb.org.za) Refer to Conditions of Tender as bound into this document. The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender. Each item of data given below is cross-referenced to the clause marked "C" in the above mentioned Standard Conditions of Tender.	
C.1.1	The Employer is the Head: Public Works (KZN Department of Public Works-Province of KwaZulu-Natal)	
	For this contract the single volume approach is adopted. This procurement document has been formatted and compiled under the headings for a single volume approach as contained in table 5 of the CIDB's "Standard for Uniformity in Engineering and Construction Works Contracts." The list of Returnable Documents identifies which of the documents a Tenderder must complete when submitting a Tender. The Tenderder must submit his Tender by completing the Returnable Documents including the priced Final Summary of the Bills of Quantities, signing the "Offer" section in the "Form of Offer and Acceptance" and delivering the whole of the procurement document back to the Department bound up as it was when it was received.	
C.1.2	The single volume procurement document issued by the Employer comprises the following:	
	TENDER	
	Part T1: Tendering procedures	
	T1.1 -	Tender Notice and Invitation to Tender
	T1.2 -	Tender Data
	T1.3 -	Annexure C - Standard Conditions of Tender
	Part T2: Returnable documents	
	T2.1 -	List of returnable documents
	T2.2 -	Returnable schedules (See different forms listed in ***T2.1 - Returnable Schedule***)
	CONTRACT	
	Part C1: Agreements and Contract Data	
	C1.1 -	Form of Offer and Acceptance
	C1.2 -	Contract Data
	C1.3 -	Form of Guarantee (C1.3)
	Part C2: Pricing data	
	C2.1 -	Pricing Instructions
	C2.2 -	Bills of Quantities
	Part C3: Scope of works	
	C3.1 -	Scope of Works
	C3.2 -	Specification for HIV/AIDS awareness
	C3.3 -	HIV/STI Compliance report
	C3.4 -	Project Specific Construction Safety, Health and Environmental Specification
	C3.5 -	Supplementary Preambles
	Part C4: Site information	
	C4.1 -	Site Information
	C4.2 -	Builders Lien Agreement

	Part 5: List of Drawings/Annexure's	
	C5.1 -	List of Drawings / Annexures
	C5.2 -	Standard Preambles for all Trades (Rev 3) - DOH 2009
	C5.3 -	Electrical Specifications
	C5.4 -	Lightning Protection Specifications
	C5.5 -	Map of Tender submission location
	C5.6 -	Joint Venture Agreement
	C5.7 -	Health and Safety Specification
	C5.8 -	Health and Safety Bill of Quantities
	C5.9 -	Builders Lien Agreement
	C5.10	Geotechnical Investigation Report (If applicable)
	C5.11	EPWP Employment Contract
	C5.12	Attendance Register - Infrastructure and Other projects
	C5.13	EPWP Data Collection tool for Phase 3 system

C.1.4	The Employer's agent (Engineer/Principal Agent) is:	
	Name:	**Mr. Simiso Mathonsi**
	Capacity:	**Principal Agent/Engineer**
	Address:	**Private Bag X 9041 , PIETERMARITZBURG , PIETERMARITZBURG , 3200**
	Tel:	**033 355 5527**
	Fax:	**N/A**
	E-mail:	**simiso.mathonsi@kznworks.gov.za**
	Responsible person:	**KZN Department of Public Works & Infrastructure**
	The second sentence shall read "Communications can be in any of the official languages recognised in KwaZulu-Natal which is English, Afrikaans or Zulu but writing is preferred in English as this is generally accepted as a business language"	
C.1.6	**PP2-Competitive Selection Procedure**	**Design by Employer**
	PP2B-Open Procedure	
	Tenderers must meet the minimum qualifying score for functionality criteria first before they can be considered for price and preference.	
C.2.1	For eligibility refer to **T1.1 Tender Notice and Invitation to Tender**	
	A contract will only be entered into with a Tenderder who has in his employ management and supervisory staff satisfying the requirements of the scope of work for labour intensive competencies for supervisory and management staff during the contract validity of the contract.	
	Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations for a : 6EP or higher class of construction work, are eligible to have their tenders evaluated. Joint ventures are eligible to submit tenders provided that: 1 every member of the joint venture is registered with the CIDB; 2 the lead partner has a contractor grading designation in the 6EP or higher, class of construction work; or not lower than one level below the required the required grading designation in the class of works construction works under considerations and possess the required recognition status 3 the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a : 6EP or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations.	
	See end of T2.3 AUTHORITY FOR CONSORTIA OR JOINT VENTURES TO SIGN TENDER for combinations of JV's arrangements.	
C.2.7	For particulars regarding a pre-tender site inspection meeting (clarification meeting), see **T1.1 Tender Notice and Invitation to Tender.**	
C.2.12	Alternative tender offer permitted:	**Yes** ☐ **No** ☒

	If a tenderer wishes to submit an own alternative tender offer, the only criteria permitted for such alternative tender offer is that it demonstrably satisfies the Employer's standards and requirements. A tenderer may submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. Provided that the tenderer's main tender offer is according to specification and would under normal circumstances be recommended for acceptance, his alternative tender offer may also be considered for the purpose of the award of the contract. Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal. Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements. The modified Pricing Data must include an amount equal to 5% of the amount tendered for the alternative offer to cover the Employer's costs of confirming the acceptability of the detailed design before it is constructed.
	Only the complete Service as per the Bills of Quantities
C.2.13.2	Tenderers are to ensure that their company details appear on the entire relevant Tender documentation and must be legible.
C.2.13.3	Part of each tender offer communicated on paper shall be submitted as an original, plus ONE copy of the tender document including supporting documents and priced Bill of Quantities where applicable, scanned onto a readable compact disk (CD) in pdf format, at the Tenderders own cost. The CD must be clearly marked with the tender information and company details.
C.2.13.4	The second sentence shall read as follows "The Employer will hold all authorised signatories jointly and severally liable on behalf of the tenderer". Tenderders proposing to contract as a Joint Venture shall submit a valid Joint Venture Agreement before the Joint Venture's offer could be accepted. Individuals, Partnerships and Companies proposing to contract as a party to a Joint Venture shall be jointly and severally liable on behalf of the Joint Venture.
C.2.13.5	The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are as per **T1.1 Tender Notice and Invitation to Tender.**
	A Open Procedure will be followed
C.2.15	The closing time for submission of tender offers is as per **T1.1 Tender Notice and Invitation to Tender.**
C.2.16	The tender offer validity period is as per **T1.1 Tender Notice and Invitation to Tender.**
C.2.17	Sub-clause C2.17 does not preclude the negotiation of the final terms of the contract with the preferred tenderer, following a competitive selection process, should the Employer elect to do so and provided that the competitive position of the preferred tenderer is not affected.
	The tenderer is to submit the Priced Bills of Quantities with the Returnable's at the closing of the tender.
	The tenderer must submit to the Employer, names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that
C.2.19	Access shall be provided for inspections, tests and analysis as may be required by the Employer.
C.2.22	Tenderers **do not** have to return all retained tender documents within 28 days after expiry of the Tender validity period.
	Tenderers are to refer to **List of Returnable Schedules** and **Scope of Works** to establish what is required to be submitted with this tender.
C.3.4	The location for opening of the tender offers, immediately after the closing time thereof shall be at: **KZN Department of Public Works, 191 Prince Alfred Street, Pietermaritzburg, 3200 at the time indicated on T1.1 Notice and Invitation to Bid**

C.3.8	The employer must determine, on opening and before detailed valuation, whether each Tender offer properly received: a) complies with the requirements of the Conditions of Tender. b) has been properly and fully completed and signed, and c) is responsive to the other requirements of the Tender documents. A responsive tender is one that conforms to all the terms, conditions and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would: a) detrimentally affect the scope, quality, or performance of the Works, services or supply identified in the Scope of Work or b) significantly change the Employers or the Tenderers risks and responsibilities under the contract, or c) affect the competitive position of other Tenderers presenting responsive tenders, if it were to be rectified. Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.
C.3.13	**Tender offers will only be accepted if:** (a) Tenderders must be registered on Government's Central Supplier Database (CSD) and include their master registration number (MAAA number) on the cover page of the tender document in order to enable the institution to verify the tenderers tax status on the CSD (b) the Tenderder is registered with the Construction Industry Development Board in an appropriate contractor grading designation is required for this tender and the Tenderder has submitted a CIDB certificate of registration which clearly indicates the status "Active" (c) the Tenderder is not in arrears for more than 3 months with municipal rates and taxes and municipal services charges. (d) the Tenderder has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the Tenderder's ability to perform to the contract in the best interests of the employer or potentially compromise the Tender process. (e) the tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act, 2004 (Act No. 12 of 2004) as a person prohibited from doing business with the public sector; and (f) the Tenderder has not: i) abused the Employer’s Supply Chain Management System; or ii) failed to perform on any previous contract and has been given a written notice to this effect. (g) the Tenderder is registered with: i) the Unemployment Insurance Fund (UIF); and ii) the Workmen's Compensation Fund (h) the Tenderder submitted Authority to Sign the tender. (i) the Tenderder submitted Financial standing & other resources of Business Declaration. (j) the Tenderder submitted Equipment Schedules, if applicable. (k) the Tenderder signed the Form of Offer that is part of the Form of Offer and Acceptance. (l) the Tenderder submitted Preference Certificate, if applicable. (m) the Tenderder submit Final Summary of Bill of Quantities at tender closing. (n) the Tenderder submitted Bidder's Disclosure. (o) the Tenderder submitted Site Inspection Certificate from the Compulsory Briefing Meeting (p) All information required to assess ‘Functionality” as per Tender Data scheduled requirements Providing the form of offer and acceptance does not contain any qualifying statements, it will constitute the formation of a contract between the employer and the successful Tenderder as described in the form of offer and acceptance.
C.3.15	Tenderders are informed that any formal dispute shall be resolved by being referred to Arbitration only.
C.3.17	Provide to the successful Tenderder one copy of the signed contract document and one copy of an unpriced bills of quantities

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

T1.3 - Annexure C - Standard Conditions of Tender

T1.3 - Annexure C - Standard Conditions of Tender

Note: Where this document refers to Bid or Bidder it shall be read as tender or tenderer

C.1 General

C.1.1 Actions

C.1.1.1 The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently and comply with all legal obligations and not engage in anticompetitive practices.

C.1.1.2 The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderer's shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

Note: 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.

2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.

C.1.1.3 The employer shall not seek and the tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

C.1.2 Tender Documents

The documents issued by the employer for the purpose of a tender offer are listed in the **tender data**.

C.1.3 Interpretation

C.1.3.1 The **tender data** and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

C.1.3.2 These conditions of tender, the **tender data** and tender schedules which are required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.

C.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

a) **conflict of interest** means any situation in which:
   i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially;
   ii) an individual or tenderer is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
   iii) incompatibility or contradictory interests exist between an employee and the tenderer who employs that employee.

b) **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;

c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;

d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels.

C.1.4 Communication and employer's agent

Each communication between the employer and a tenderer shall be to or from the employer's agent only, and in a form that can be read, copied and recorded. Communication shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer's agent are stated in the **tender data**.

C.1.5 Cancellation and Re-Invitation of Tenders

C.1.5.1 An employer may, prior to the award of the tender, cancel a tender if-

a) due to changed circumstances, there is no longer a need for the engineering and construction works specified in the invitation;

b) funds are no longer available to cover the total envisaged expenditure; or

c) no acceptable tenders are received.

d) there is a material irregularity in the tender process.

C.1.5.2 The decision to cancel a tender invitation must be published in the same manner in which the original tender invitation was advertised.

C.1.5.3 An Employer may only with the prior approval of the relevant treasury cancel a tender invitation for the second time.

C.1.6 Procurement procedures

C.1.6.1 General

Unless otherwise stated in the **tender data**, a contract will, subject to C.3.13, be concluded with the tenderer who in terms of C.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

C.1.6.2 Competitive negotiation procedure

C.1.6.2.1 Where the **tender data** requires that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of C.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

C.1.6.2.2 All responsive tenderers, or at least a minimum of not less than three responsive tenderers that are highest ranked in terms of the evaluation criteria stated in the **tender data**, shall be invited to enter into competitive negotiations based on the principle of equal treatment, keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of C.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

C.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to revise their tender offer based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

C.1.6.2.4 The contract shall be awarded in accordance with the provisions of C.3.11 and C.3.13 after tenderers have been requested to submit their best and final offer.

C.1.6.3 Proposal procedure using the two stage-system

C.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The employer shall evaluate each responsive submission in terms of the method of evaluation stated in the **tender data**, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

F.1.6.3.2 Option 2

C.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The employer shall invite all responsive tenderes to submit tender offers in the second stage, following the issuing of procurement documents.

C.1.6.3.2.2 The employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the **tender data**, and award the contract in terms of these conditions of tender.

C.2 Tenderer's obligations

C.2.1 Eligibility

C.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the **tender data** and the tenderer, or any of his principals, is not under any restriction to do business with employer.

C.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.

C.2.2 Cost of tendering

C.2.2.1 Accept that, unless otherwise stated in the **tender data**, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.

C.2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

C.2.3 Check documents

Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

C.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

C.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

C.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the **tender data**, in order to take the addenda into account.

C.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the **tender data**.

C.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five (5) working days before the closing time stated in the **tender data**.

C.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the **contract data**. The tenderer is advised to seek qualified advice regarding insurance.

C.2.10 Pricing the tender offer

C.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes (except Value Added Tax (VAT)), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 14 days before the closing time stated in the **tender data**.

C.2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.

C.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the **contract data**.

C.2.10.4 State the rates and prices in Rand unless instructed otherwise in the **tender data**. The conditions of contract identified in the contract data may provide for part payment in other currencies.

C.2.11 Alterations to documents

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations.

C.2.12 Alternative tender offers

C.2.12.1 Unless otherwise stated in the **tender data**, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

C.2.12.2 Accept that an alternative tender offer must be based only on the criteria stated in the **tender data** or criteria otherwise acceptable to the employer.

C.2.12.3 An alternative tender offer must only be considered if the main tender offer is the winning tender.

C.2.13 Submitting a tender offer

C.2.13.1 Submit one tender offer only, either as single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the **contract data** and described in the **scope of works**, unless stated otherwise in the **tender data**.

C.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

C.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the **tender data**, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.

C.2.13.4 Sign the original and all copies of the tender offer where required in terms of the **tender data**. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

C.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the **tender data**, as well as the tenderer's name and contact address.

C.2.13.6 Where a two-envelope system is required in terms of the **tender data**, place and seal the returnable documents listed in the tender data in an envelope marked “financial proposal” and place the remaining returnable documents in an envelope marked “technical proposal”. Each envelope shall state on the outside the employer’s address and identification details stated in the **tender data**, as well as the tenderer's name and contact address.

C.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the **tender data**.

C.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.

C.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the **tender data**.

C.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.

C.2.15 Closing time

C.2.15.1 Ensure that the employer receives the tender offer at the address specified in the **tender data** not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

C.2.15.2 Accept that, if the employer extends the closing time stated in the **tender data** for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

C.2.16 Tender offer validity

C.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the **tender data** after the closing time stated in the **tender data**.

C.2.16.2 If requested by the employer, consider extending the validity period stated in the **tender data** for an agreed additional period with or without any conditions attached to such extension.

C.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substitutes by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted. If the validity period lapses before the employer evaluating the tender offer(s), the contractor reserves the right to review the price based on Consumer Price Index (CPI)

C.2.16.4 Where a tender submission is to be substituted, a tenderer must submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as "SUBSTITUTE".

C.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

Note: *Sub-clause C.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.*

C.2.18 Provide other material

C.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employers request, the employer may regard the tender offer as non-responsive.

C.2.18.2 Dispose of samples of materials provided for evaluation by the employer, where required.

C.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the **tender data**.

C.2.20 Submit securities, bonds and policies

If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the **contract data**.

C.2.21 Check final draft

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

C.2.22 Return of other tender documents

If so instructed by the employer, return all retained tender documents within 28 days after the expiry of the validity period stated in the **tender data**.

C.2.23 Certificates

Include in the tender submission or provide the employer with any certificates as stated in the **tender data**.

C.3 The employer's undertakings

C.3.1 Respond to request from the tenderer

C.3.1.1 Unless otherwise stated in the **tender data**, respond to a request for clarification received up to five (5) working days before the tender closing time stated in the **tender data** and notify all tenderers who collected tender documents.

C.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying

b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or

c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

C.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three (3) days before the tender closing time stated in the **tender data**. If, as a result a tenderer applies for an extension to the closing time stated in the **tender data**, the Employer may grant such extension and, shall then notify all tenderers who collected tender documents.

C.3.3 Return late tender offers

Return tender offers received after the closing time stated in the **tender data**, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

C.3.4 Opening of tender submissions

C.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the **tender data**. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

C.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the **tender data**, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main tender offer only.

C.3.4.3 Make available the record outlined in C.3.4.2 to all interested persons upon request.

C.3.5 Two-envelope system

C.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderer's' agents who choose to attend at the time and place stated in the **tender data** and announce the name of each tenderer whose technical proposal is opened.

C.3.5.2 Evaluate the functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the **tender data**, and announce the score obtained for the technical proposals and the total price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

C.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

C.3.7 Grounds for rejection and disqualification

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

C.3.8 Test for responsiveness

C.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

a) complies with the requirements of these Conditions of Tender,

b) has been properly and fully completed and signed, and

c) is responsive to the other requirements of the tender documents.

C.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,

b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or

c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

C.3.9 Arithmetical errors, omissions and discrepancies

C.3.9.1 Check Responsive tenders for discrepancies between amounts in words and amounts in figures.Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

C.3.9.2 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with C.3.11 for:

a) the gross misplacement of the decimal point in any unit rate;

b) omissions made in completing the pricing schedule or bills of quantities; or

c) arithmetic errors in:

i) line items totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or

ii) the summation of the prices.

C.3.9.3 Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as tendered of accept the corrected total of prices

C.3.9.4 Where the tenderer elects to confirm the tender offer as tendered, correct the errors as

a) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.

b) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

C.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

C.3.11 Evaluation of tender offers

The Standard Conditions of Tender standardize the procurement processes, methods and procedures from the time that tenders are invited to the time that a contract is awarded. They are generic in nature and are made project specific through choices that are made in developing the Tender Data associated with a specific project.

Conditions of tender are by definition the document that establishes a tenderer’s obligations in submitting a tender and the employer’s undertakings in soliciting and evaluating tender offers. Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require employers to conduct the process of offer and acceptance in terms of a set of standard procedures

The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following requirements:	
Requirement	**Qualitative Interpretation of goal**
Fair	The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.
Equitable	Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.
Transparent	The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability, legal impediments and conflicts of interest.
Competitive	The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.
Cost effective	The process, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes.

The activities associated with evaluating tender offers are as follows:

a) Open and record tender offers received
b) Determine whether or not tender offers are complete
c) Determine whether or not tender offers are responsive
d) Evaluate tender offers
e) Determine if there are any grounds for disqualification
f) Determine acceptability of preferred tenderer
g) Prepare a tender evaluation report
h) Confirm the recommendation contained in the tender evaluation report

C.3.11.1 General

The employer must appoint an evaluation panel of not less than three persons conversant with the proposed scope of works to evaluate each responsive tender offer using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

C.3.12 Insurance provided by the employer

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and / or certificates of insurance which the conditions of contract identified in the **contract data**, require the employer to provide.

C.3.13 Acceptance of tender offer

Accept tender offer, if in the opinion of the employer, it does not present any risk and only if the tenderer:

a) Is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement,

b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,

c) has the legal capacity to enter into the contract,

d) is not; insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act No. 2008, bankrupt or being wound up, has his/her affairs administered by a court or a judicial officer, has suspended his/her business activities or is subject to legal proceedings in respect of any of the foregoing;

e) complies with the legal requirements, if any, stated in the **tender data**, and

f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

C.3.14 Prepare contract documents

C.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

a) addenda issued during the tender period,

b) inclusion of some of the returnable documents, and

c) other revisions agreed between the employer and the successful tenderer.

C.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

C.3.15 Complete Adjudicator's Contract

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

C.3.16 Registration of the Award

An Employer must, within twenty-one (21) working days from the date on which a contractor's offer to perform a construction works contract is accepted in writing by the employer, register and publish the award on the cidb Register of Projects.

C.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the tender data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

C.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

PART T2 - RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Project Manager:	**Mr. Simiso Mathonsi**	**Tender no:**	**ZNTM01256W**

1. RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES

(Tenderer to Insert a tick (√) in the "Returnable document" column to check which documents he/she returned with the tender)

Tender document name	Returnable document	
Bidder's Disclosure - SBD 4 (T2.11)	Yes	
Authority to Sign Tender (T2.2)	Yes	
Authority for Consortia or Joint Venture's to Sign Tender (T2.3)	Yes	
Special Resolution of Consortia or Joint Venture's (T2.4)	Yes	
Schedule of Proposed Sub-Contractors (T2.6)	Yes	
Joint Venture Involvement Declaration (T2.5)	Yes	
Capacity of Tenderer (T2.7)	Yes	
Annual Financial Statement for past financial year (2.15)	Yes	
Site Inspection Certificate as proof for attendance of compulsory briefing meeting (T2.10)	Yes	
Preference Points Claim Form (T2.9)	Yes	
Compulsory Enterprise Questionnaire (T2.18)	Yes	
Financial Standing and other resources of Business Declaration (T2.8)	Yes	
Contractor's Safety, Health and Environmental Declaration (T2.17)	Yes	
Complete Priced Bill of Quantities (T2.22)	Yes	
Certified Proof of CIDB Registration Number (T2.27)	Yes	
Contract Form - Purchase of Goods/Works - Part 1 (T2.29)	Yes	
Contract Form - Purchase of Goods/Works - Part 2 (T2.30)	Yes	
Functionality Criteria (T2.34)	Yes	
Invitation to Tender - SBD 1 (T2.35)	Yes	

2. RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES BUT TO BE SUPPLIED BY THE TENDERER

(Tenderer to Insert a tick (√) in the "Returnable document" column to check which documents he/she returned with the tender)

Tender document name	Returnable document	
Tax Compliance Status (TCS) PIN to verify on line Compliance Supplier Status via e-Filing (T2.19)	Yes	
Certified Proof of Good Standing with the Compensation Commissioner (Attach) (T2.20)	Yes	
Proof of payment of Tender deposit (T2.28)	Yes	
Certified Proof of Paid Municipal Rates and Taxes (Attach) (T2.23)	Yes	
Certified Proof of UIF Registration (Attach) (T2.24)	Yes	
Certified Proof of Registration Number on the Central Suppliers Database (T2.26)	Yes	
Annual Financial Statement for past financial year (2.15)	Yes	
Entire tender document including returnable and supporting documents, scanned as PDF onto a CD, clearly marked with the Tender information.	Yes	

3. RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO THE CONTRACT

(Tenderder to Insert a tick (√) in the "Returnable document" column to check which documents he/she returned with the Tender)

Tender document name	Returnable document	
Form of Offer and Acceptance (Bound into Section 1 of 2) (T2.21)	**Yes**	
Record of Addenda to Tender Documents (T2.12)	**Yes**	
Particulars of Electrical Contractor (T2.13)	**Yes**	
Equipment Schedules-Mechanical / Electrical / Security Material (T2.16)	**Yes**	
Schedule of Imported Materials and Equipment (T2.14)	**Yes**	
Confirm Receipt of Offer and Acceptance (T2.21a)	**Yes**	

4. OTHER DOCUMENTS THAT WILL BE INCORPORATED INTO THE CONTRACT

(Tenderder to Insert a tick (√) in the "Returnable document" column to check which documents he/she returned with the Tender)

Tender document name	Returnable document	
Bill of Quantities (T2.22)	**Yes**	
Form of Guarantee (C1.3)	**Yes**	
List of Drawings/Annexure's (C5.1)	**Yes**	
The National Industrial Participation Programme (T2.25)	**Yes**	
Required Structure of Contractor's detailed OHSE Plan (T2.31)	**Yes**	
Client's specific requirements for the Contractor's detailed OHSE Plan (T2.32)	**Yes**	
Base line Risk Assessment (T2.33)	**Yes**	

5. DOCUMENTS REQUIRED FOR THE EVALUATION OF FUNCTIONALITY

(Tenderder to Insert a tick (√) in the "Returnable document" column to check which documents he/she returned with the Tender)

Tender document name	Returnable	
Proof of working capital of at least 10% of the project value in the form of a letter from a registered financial institution or bank statement not older than 3 months from the date of tender closing. The letter or bank statement shall be stamped, signed, and dated.	**Yes**	
Minimum of one (1) to a maximum of four (4) letters of credit reference from registered electrical suppliers with a combined credit limit of R 1.5 million. Letter(s) shall be from suppliers of medium voltage switchgear, transformers, miniature substations, or 11 kV electrical cables. The letters shall be signed, stamped, dated and not older than three (3) months from the tender closing date. • Minimum of one to a maximum of four letters with a combined credit limit of R 500 000 and less than R 1 million = 5 points • Minimum of one to a maximum of four letters with a combined credit limit of R 1 million and less than R 1.5 million = 10 points • Minimum of one to a maximum of four letters with a combined credit limit of R 1.5 million or more = 15 points	**Yes**	
Experience on projects in medium voltage installation and maintenance completed in the past five (5) years from 2025. Tenderers shall submit letters of award and practical completion certificates for all the projects in the schedule. • One (1) award letter and practical completion certificate - 5 points • Two (2) award letters and practical completion certificates - 10 points • Three (3) award letters and practical completion certificates - 15 points NB: Tenderers to note there are no part points (letter of award and practical completion certificate shall be submitted for each project. Where an award letter or practical completion certificate is not submitted, zero (0) points will be awarded).	**Yes**	
Authorised medium voltage switching person with ORHVS certification issued by an EWSETA accredited training provider. Tenderers shall attach a certified copy of the ORHVS certificate for the authorised person.	**Yes**	

Site Agent with a National Diploma or B Tech or Degree in Electrical Engineering with a minimum of 5 years experience in the medium voltage installation and maintenance field. Tenderers shall attach a certified copy of the electrical engineering qualification and a detailed CV with tracable references (names and contact details).	**Yes**	
Three-phase or Master Electrician who will be responsible for issuing electrical certificates of compliance. Tenderers shall attach a certified copy of the electrician's wireman's certificate as issued by the Department of Labour.	**Yes**	
Letter from a registered financial institution confirming intention to issue a provision of a guarantee	**Yes**	

T2.2 AUTHORITY TO SIGN TENDER

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

_____

_____

(Legally correct full name and registration number, if applicable, of the Enterprise)

held at *(town)*: _____ on *(date)*: _____

RESOLVED that:

1. The Enterprise submits a Tender to the KZN Department of Public Works in respect of the following project:

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

Tender Number: **ZNTM01256W**

2.
*Mr./Mrs./Ms: _____

in *his/her capacity as: _____ *(Position in the Enterprise)*

and who will sign as follows: _____ (Authorised Signatory)

be, and is hereby, authorised to sign the Tender, and any and all other documents and/or correspondence in connection with and relating to this Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Tender to the Enterprise mentioned above.

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			

Note:

*1. * Delete which is not applicable.*

2. NB. This resolution / Power of Attorney must be signed by all the Directors / Members / Partners of the Legal Tendering Enterprise authorising the Representative to make this Offer.

3. Should the number of Directors / Members/Partners exceed the space available above, additional names and signatures must be supplied on a separate page.

*4. In the case of the tendering Enterprise being a Close Corporation, a **certified copy of the Founding Statement** of such corpora - tion must be attached to this tender.*

ENTERPRISE STAMP (If Any)

T2.3 AUTHORITY FOR CONSORTIA OR JOINT VENTURES TO SIGN TENDER

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

_____

_____

(*Legally correct full name and registration number, if applicable, of the Enterprise)*

held at *(town)*: _____ on *(date)*: _____

RESOLVED that:

1. The Enterprise submits a Tender, in consortium/Joint Venture with the following Enterprises:

   _____

   _____

   (List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the Consortium/Joint Venture)

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

   UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

   Tender Number: **ZNTM01256W**

2. * Mr. / Mrs. / Ms.: _____ in

   *his/her Capacity as: _____ *(Position in the Enterprise)*

   and who will sign as follows: _____
   be, and is hereby, authorised to sign a consortium/joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the consortium/joint venture, in respect of the project described under item 1 above.
3. The Enterprise accepts joint and several liability with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the Contract to be entered into with the Department in respect of the project described under item 1 above.
4. The Enterprise chooses as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the Department in respect of the project under item 1 above:

   Physical address: _____

   _____

   _____

   _____ (Postal Code)

   Postal Address: _____

   _____

   _____

   _____ (Postal Code)

Telephone number: *(Dialling Code followed by number)* _____

Fax number: *(Dialling Code followed by number)* _____

Email Address : _____

***BOARD OF DIRECTORS / MEMBERS / PARTNERS in Consortium of Joint Venture**

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Note:

*1. * Delete which is not applicable.*

2. NB. This resolution / Power of Attorney must be signed by all the Directors / Members / Partners of the Tendering Enterprise.

3. Should the number of Directors / Members/Partners exceed the space available above, additional names and signatures must be supplied on a separate page.

ENTERPRISE STAMP (If Any)

Deemed to satisfy joint venture arrangements	Designation
Grading 2 + Grading 2 + Grading 2	= 3
Grading 3 + Grading 3 + Grading 3	= 4
Grading 4 + Grading 4	= 5
Grading 4 + Grading 3 + Grading 3	= 5
Grading 5 + Grading 5	= 6
Grading 5 + Grading 4 + Grading 4	= 6
Grading 6 + Grading 6	= 7
Grading 6 + Grading 5 + Grading 5	= 7
Grading 7 + Grading 7 + Grading 7	= 8
Grading 8 + Grading 8 + Grading 8	= 9

Tenderers who envisage entering into a Joint Venture shall complete a submit a Joint Venture Agreement (see copy of CIDB's agreement elsewhere in this document) with this Tender.

THE CIDB JOINT VENTURE GRADING DESIGNATION CALCULATOR sums the capacity of all joint venture partners and calculates a grading designation for the joint venture

T2.4 SPECIAL RESOLUTION OF CONSORTIA OR JOINT VENTURES

RESOLUTION of a meeting of the duly authorised representatives of the following legal entities who have entered into a consortium/joint venture to jointly tender for the project mentioned below: (*legally correct full names and registration numbers, of the Enterprises forming a Consortium/Joint Venture)*

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

held at: _____ *(place)* on _____ *(date)*

RESOLVED that:

A. The above-mentioned Enterprises submits a Tender in Consortium/Joint Venture to the KZN Department of Public Works in respect of the following project:

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

Tender Number: **ZNTM01256W**

Project Code: **079513**

B. Mr/Mrs/Ms: _____ in

*his/her Capacity as: _____ *(Position in the Enterprise)*

and who will sign as follows: _____
be, and is hereby, authorised to sign the Tender, and any and all other documents and/or correspondence in connection with and relating to the Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Tender to the Enterprises in Consortium/Joint Venture mentioned above.

C. The Enterprises constituting the Consortium/Joint Venture, notwithstanding its composition, shall conduct all business under the name and style of:

_____

D. The Enterprises to the Consortium/Joint Venture accept joint and several liability for the due fulfilment of the obligations of the Consortium/Joint Venture deriving from, and in any way connected with, the Contract entered into with the Department in respect of the project described under item A above.

E. Any of the Enterprises to the Consortium/Joint Venture intending to terminate the consortium/joint venture agreement, for whatever reason, shall give the Department 30 days written notice of such intention. Notwithstanding such decision to terminate, the Enterprises shall remain jointly and severally liable to the Department for the due fulfilment of the obligations of the Consortium/Joint Venture as mentioned under item D above.

F. No Enterprise to the Consortium/Joint venture shall, without the prior written consent of the other Enterprises to the Consortium/Joint Venture and of the Department, cede any of its rights or assign any of its obligations under the consortium/joint Venture and of the Department, cede any of its rights or assign any of its obligations under the consortium/joint venture agreement in relation to the Contract with the Department referred to herein.

G. The Enterprises choose as the *domicilium citandi et executandi* of the consortium/joint venture for all purposes arising from the consortium/joint venture agreement and the Contract with the Department in respect of the project under item A above:

Physical address: _____

_____

_____

_____ (Postal Code)

Postal Address: _____

_____

_____

_____ (Postal Code)

Telephone number: *(Dialling Code followed by number)* _____

Fax number: *(Dialling Code followed by number)* _____

Email Address : _____

***BOARD OF DIRECTORS / MEMBERS / PARTNERS in Consortium of Joint Venture**

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Note:

1. ** Delete which is not applicable.*

2. ***NB.*** *This resolution / Power of Attorney must be signed by all the Duly Authorised Representatives of the Legal Entities to the Consortium/Joint Venture submitting this Tender.*
3. *Should the number of Duly Authorised Representatives of the Legal Entities joining forces in this Tender exceed the space available above, additional names and signatures must be supplied on a separate page.*
4. *Resolutions, duly completed and signed, from the separate Enterprises who participate in this Consortium/Joint Venture must be attached to the Special Resolution.*

T2.5 JOINT VENTURES INVOLVEMENT DECLARATION

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

DECLARATION RELATING TO A TENDER SUBMITTED BY A JOINT VENTURE :

I/We the undersigned parties do hereby declare that our respective involvement in the Works, of which I/we tender by Joint Venture, would be as follows :-

Party No. 1	
CENTRAL SUPPLIERS DATABASE REGISTRATION NO:	
TenderDERS CIDB REGISTRATION NUMBER:	
Name	
Address	
Percentage involvement	%

Party No. 2	
CENTRAL SUPPLIERS DATABASE REGISTRATION NO:	
TENDERERS CIDB REGISTRATION NUMBER:	
Name	
Address	
Percentage involvement	%

Party No. 3	
CENTRAL SUPPLIERS DATABASE REGISTRATION NO:	
TenderDERS CIDB REGISTRATION NUMBER:	
Name	
Address	
Percentage involvement	%

Signed - Party No. 1

I/We *(Full Name)* _____

duly authorised in my capacity as _____

of *(Enterprise name)*: _____

do jointly and severally accept responsibility for the due performance of the Works contained in the above project should such Tender submitted by the Joint Venture be accepted.

_____ _____

Signed by Authorised Representative Date

Signed - Party No. 2

I/We *(Full Name)* _____

duly authorised in my capacity as _____

of *(Enterprise name)*: _____

do jointly and severally accept responsibility for the due performance of the Works contained in the above project should such tender submitted by the Joint Venture be accepted.

_____ _____

Signed by Authorised Representative Date

Signed - Party No. 3

I/We *(Full Name)* _____

duly authorised in my capacity as _____

of *(Enterprise name)*: _____

do jointly and severally accept responsibility for the due performance of the Works contained in the above project should such tender submitted by the Joint Venture be accepted.

_____ _____

Signed by Authorised Representative Date

T2.6 SCHEDULE OF PROPOSED SUBCONTRACTORS

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

We notify you that it is our intention to employ the following Subcontractors for work in this contract. The Subcontractors will all be CIDB registered and their CIDB Registration number shall be submitted below.

If we are awarded a contract we agree that this notification does not change the requirement for us to submit the names of proposed subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.

We confirm that all subcontractors who are contracted to construct a house **are registered as home builders with the National Home Builders Registration Council**.

No	Name and address of proposed Subcontractor	Nature and extent of work	Year Completed	Value (R):	Contact Tel No:	Previous experience with Subcontractor
1	CIDB Registration Number:					
2	CIDB Registration Number:					
3	CIDB Registration Number:					
4	CIDB Registration Number:					
5	CIDB Registration Number:					

Name of authorised representative	**Signature**	**Capacity**	**Date**
Name of Enterprise:			

T2.7 CAPACITY OF TENDERER			
Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

1. **WORK CAPACITY:** (The Tenderer is requested to furnish the following capacity particulars and to attach additional pages if more space is required. Failure to furnish the particulars may result in the Tender being disregarded.)

1.1. Artisans and Employees: *(Artisans and Employees to be ,or are ,employed for this project)*

Categories of Employee - Key Personnel (part of Business Enterprise)	Professional Registration No.	Date of Employment	Number
Site Agent			
Project Manager			
Foreman			
Quality Control & Safety Officer-Construction Supervisor			
Artisans			
Unskilled employees			
Others			

1.2. Provide full particulars of the following Assets: *(Assets owned and to be hired - Indicate owned assets)*

Machinery	Plant	Equipment	Vehicles

1.3. Workshops:

Address of Main Workshop:	Address of Regional Workshop (If Applicable):

1.4. Other offers submitted at time of this tender for which results are pending:
(Any other client's tender must also be included)

Tender No.	Project Name	Client Name & Contact No.	Value Tendered in R's	Date Tender submitted	Contact Detail

2. PARTICULARS OF THE TENDERERS CURRENT AND PREVIOUSLY COMPLETED COMMITMENTS:

2.1. Current private sector projects: *(List the 5 projects closest to the contractor grading designation of this project)*

1	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Scheduled date of completion	
2	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Scheduled date of completion	
3	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Scheduled date of completion	
4	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Scheduled date of completion	
5	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Scheduled date of completion	

2.2. Current Government sector projects: *(List the 5 projects closest to the contractor grading designation of this project)*

1	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Scheduled date of completion	
2	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Scheduled date of completion	
3	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Scheduled date of completion	
4	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Scheduled date of completion	
5	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Scheduled date of completion	

2.3. Previously completed projects: *(List the 5 projects closest to the contractor grading designation of this project)*

1	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Date completed	
2	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Date completed	
3	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Date completed	
4	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Date completed	
5	Project Name		Date of commencement	
	Place (town)		Contract Amount (R)	
	Reference / Contact person		Contract period	
	Contact Tel. No.		Date completed	

Name of Tenderer	Signature of authorised representative	Date

T2.8 FINANCIAL STANDING AND OTHER RESOURCES OF BUSINESS DECLARATION

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

(a) Based on the track record determined on the Minimum Average Annual Turnover coupled to the assessed Works Capabilities of Contracting Enterprises, the Construction Industry Development Board (CIDB) awards Grading Designations and accordingly registers it on the system.

(b) However, it regularly occurs that a Contractor will at the same time submit tenders for a number of projects that are advertised during an overlapping period. Moreover, the Contractor may be busy with a Contract that is of the registered CIDB Grading Designation (value) or is even attending to a number of smaller valued Contracts.

(c) It therefore becomes the prerogative of a Tenderer in such instances to prove to the Department that the Enterprise has the capacity in every respect to attend to more than one (1) contract at a time.

(d) A Tenderer who wishes to be considered for this tender Contract award, over and above other tenders that they have submitted, shall submit when requested by the DoPW the necessary proof that:

(i) he/she has access to additional finance (inclusive of a PERFORMANCE GUARANTEE BY A REGISTERED FINANCIAL INSTITUTION),

(ii) he/she has additional Human Resources available to successfully complete this project.

(iii) he/she has adequate Equipment, Plant and Machinery that all of the above can, undoubtedly, be sourced for this tender. (Please submit to the DoPW the name and contact details of the supplier if the Tenderer is going to hire Equipment, Plant or Machinery, when requested.)

(e) Tenderer to submit their latest 12 months audited financial statements with the returnable documents.

I, the undersigned,

_____

(name of person authorized to sign on behalf of the Tenderer

understand that it is the responsibility of the Tenderer to prove and provide when requested by the DoPW, evidence of the good Financial Standing of the Business to complete the Contract successfully.

Furthermore, it is understood that failure to provide when requested by DoPW, at least the information as stated in paragraphs (d)(i)(ii) AND (iii) above will not enable the Evaluation Team to assess the CURRENT financial standing of the Business and the failure to provide said information when requested will, therefore, invalidate the Tender.

I accept and understand that the KZN Department of Public Works, as representative of the Provincial Administration of KwaZulu-Natal in this tender, may act against me and the Tenderer, jointly and severally, should this declaration and/or any information provided be found to be false.

Duly signed at…… on this the…... day of……. 20..

Full Name of Signatory	Name of Enterprise
Capacity of Signatory	Signature of authorised representative

T2.9 PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

Project Title:	UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND F
Tender Number:	ZNTM01256W
Project Code:	079513

SBD 6.1

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 **To be completed by the organ of state**

(*delete whichever is not applicable for this tender*).

a) The applicable preference point system for this tender is the 90/10 preference point system.

b) The applicable preference point system for this tender is the 80/20 preference point system.

c) Either the 90/10 or 80/20 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

(a) Price; and

(b) Specific Goals.

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	**80**
SPECIFIC GOALS	**20**
Total points for Price and SPECIFIC GOALS	**100**

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

1.6 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

2. DEFINITIONS

(a) **"tender"** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;

(b) **"price"** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;

(c) **"rand value"** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

(d) **"tender for income-generating contracts"** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and

(e) **"the Act"** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. **POINTS AWARDED FOR PRICE**

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20 or 90/10

Ps=80(1-(Pt-P min)/(P min) or Ps=90(1-(Pt-P min)/(P min)

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

3.2. **FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT**

3.2.1. **POINTS AWARDED FOR PRICE**

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20 **or** **90/10**

Ps=80(1+(Pt-P max)/(P max) **or** **Ps=90(1+(Pt-P max)/Pmax)**

Where
Ps = Points scored for price of tender under consideration
Pt = Price of tender under consideration
Pmax = Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.

Note to tenderers: The tenderer must indicate how they claim points for each preference point system. **)**

The specific goals allocated points in terms of this tender	Number of Points allocated (90/10 system) (to be completed by the Organ of State)	Number of Points allocated (80/20 system) (to be completed by the Organ of State)	Number of points claimed (90/10 system) (To be completed by the tenderer)	Number of points claimed (80/20 system) (To be completed by the tenderer)
Ownership by Black People		20		

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm……

4.4. Company Registration Number :……

4.5. TYPE OF COMPANY/ FIRM

Partnership/Joint Venture / Consortium	
One-person business/sole propriety	
Close corporation	
Public Company	
Personal Liability Company	
(Pty) Limited	
Non-Profit Company	
State Owned Company	

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

i) The information furnished is true and correct;

ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;

iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;

iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –

(a) disqualify the person from the tendering process;

(b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;

(c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;

(d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and

(e) forward the matter for criminal prosecution, if deemed necessary.

.....

SIGNATURE(S) OF TENDERER(S)
SURNAME AND NAME: .....
DATE: .....
ADDRESS: .....
.....
.....
.....

T2.10 SITE INSPECTION MEETING CERTIFICATE

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**
Site Inspection Date:		**17 October 2025**	

This is to certify that I, _____
(Name of authorised Representative)

representing _____
(Name of Enterprise)

visited the site on: _____ *(Date)*

I have made myself familiar with all local conditions likely to influence the work and the cost thereof. I further certify that I am satisfied with the description of the work and explanations given at the site inspection meeting and that I understand the work to be done, as specified and implied, in the execution of this contract.

I declare that the representative, named above, is my authorised representative and **not** a third party agent and that my representative's attending of this site meeting, shall be deemed conclusive proof that my Enterprise are fully aware of what was said and discussed at this meeting.

Name of Tenderer	Signature	Date

Name of DOPW Representative	Signature	Date

This form is only to be completed when applicable to the tender and if a Compulsory Briefing meeting has been called.

Departmental Stamp:

T2.11 BIDDER'S DISCLOSURE - SBD 4

SEE ATTACHED BIDDER'S DISCLOSURE FORM ON THE NEXT PAGE

SBD4

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest1 in the enterprise, employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	**Identity Number**	**Name of State institution**

2.2 Do you, or any person connected with the bidder, have a relationship

1 the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:
……
……

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:
……
……

3 DECLARATION

I, the undersigned, (name)……. in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

3.1 I have read and I understand the contents of this disclosure;
3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium2 will not be construed as collusive bidding.
3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring

2 Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.

3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.
I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

…… ……
Signature Date

…… ……
Position Name of bidder

T2.12 RECORD OF ADDENDA TO TENDER DOCUMENTS

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

The undersigned confirm that the following communications received from the employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

	Date	Title or Details	No. of Pages
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			

Attach Additional Pages if more space is required

Tenderer to attach proof of receipt of above listed addenda

Signed		**Date**	
Name		**Position**	
Tenderer			

T2.13 PARTICULARS OF ELECTRICAL CONTRACTOR

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

Name of Electrical Contractor: _____

Address: _____

_____

_____

_____

Telephone Number: _____
(Area Code)(Number)

Fax Number: _____
(Area Code)(Number)

Registration number at the Department of Labour:	

Name of authorised representative	**Signature**	**Date**

T2.14 SCHEDULE FOR IMPORTED MATERIALS AND EQUIPMENT

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

This schedule should be completed by the tenderer. *(Attach additional page(s) if more space is required)*

Item	Material / Equipment	Quotation (Excluding VAT)
1		R
2		R
3		R
4		R
5		R
6		R

The Contractor shall list imported items, materials and/or equipment which shall be excluded from the Contract Price Adjustment Provisions (if applicable) and shall be adjusted in terms of currency fluctuations only. Copies of the supplier's quotations for the items, materials or equipment (provided that such costs shall not be higher than the relevant contract rate as listed above) should be lodged with the Principal Agent / Engineer of the Department of Public Works within 60 (sixty) days from the date of acceptance of the tender. No adjustment of the local VAT amount, nor the contractor's profit, discount, mark-up, handling costs, etc. shall be allowed. (See P&G E16)

These net amounts will be adjusted as follows:

FORMULA:

The net amount to be added to or deducted from the contract sum:

$$A = V\left(\frac{Z}{Y} - 1\right)$$

A = the amount (R) of adjustment

V = the net amount (supplier's quotation) (R) of the imported item

Y = exchange rate 14 days prior to closing date of tender submission

Z = exchange rate on the date of the Bill of Lading* of exporters invoice.

** A bill of lading (sometimes abbreviated as B/L or BoL) is a document issued by a carrier which details a shipment of merchandise and gives title of that shipment to a specified party. Bills of lading are one of three important documents used in international trade to help guarantee that exporters receive payment and importers receive merchandise. A straight bill of lading, which is referred to above, is used when payment has been made in advance of shipment and requires a carrier to deliver the merchandise to the appropriate party. It is therefore the date of the paid up invoice when the shipment leaves the exporter's location.*
[http://en.wikipedia.org/wiki/Bill_of_lading]

Name of authorised representative	Signature	Date

T2.15a LATEST 12 MONTH ANNUAL FINANCIAL STATEMENT

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

ATTACH A CERTIFIED COPY OF THE ANNUAL FINANCIAL STATEMENT OF THE COMPANY FOR THE PAST FINANCIAL YEAR TO THIS PAGE FOR ADJUDICATION PURPOSES

NOTE

In the case of a Tender by a Joint Venture, certified copies of the annual financial statements of the past financial year in respect of each party to the Joint Venture must be attached to this page

ATTACH COMPANY LATEST 12 MONTHS ANNUAL FINANCIAL STATEMENTS TO THIS PAGE

T2.16 EQUIPMENT SCHEDULES			
Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

NOT APPLICABLE

T2.17 CONTRACTOR'S SAFETY, HEALTH AND ENVIRONMENTAL DECLARATION

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

In terms of 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 and the Construction Regulations of February 2014 and the Construction Safety, Health and Environmental Specifications attached to this document.
2. I hereby declare that my company and its employees has the necessary competency and resources to safely carry out the construction works 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 Specifications.
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 Construction Safety, Health and Environmental Specifications.
4. I hereby undertake that if my Tender is accepted, to provide before commencement of the Works under the contract or as required by the Conditions of the Contract, a suitable and sufficiently documented Construction Safety, Health and Environmental Management Plan in accordance with Regulation 7(1)(a) of the Construction Regulations of February 2014, which shall be subject for approval by the Client.
5. I confirm that I may not commence with any part of construction work under the contract until my Construction Safety Health and Environmental Management Plan has been approved in writing by the Client.
6. 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 Construction Safety, Health and Environmental Specification.
   b) Approved Construction Safety, Health and Environmental Plan.
   c) Occupational Health and Safety Act, Act 85 of 1993.
   d) Construction Regulations of February 2014.
7. 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 the Construction Regulations of February 2014, and accept that my Tender will be rejected.

Duly signed at…… on this the….. day of……. 20…..

Full Name of Signatory	Name of Enterprise
Capacity of Signatory	Signature of authorised representative of Tenderer

T2.18 Compulsory Enterprise Questionnaire

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise:	
Section 2: VAT registration number, if any:	
Section 3: CIDB registration number, if any:	
Section 4: CSD Number:	

Section 5: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

** Complete only if sole proprietor or partnership and attach separate page if more than 6 partners*

Section 6: Particulars of companies and close corporations

Company registration number	
Close corporation number	
Tax reference number	

Section 7: SBD4 issued by National Treasury must be completed for each tender and be attached as a tender requirement

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise:

i) authorizes the Employer to verify the tenderers tax clearance status from the South African Revenue Services that it is in order;

ii) confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;

iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;

iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and

iv) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed		**Date**	
Name			
Position			
Enterprise name			

T2.19 TAX COMPLIANCE STATUS (TCS) PIN TO VERIFY ON LINE COMPLIANCE SUPPLIER STATUS VIA SARS e-FILING

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

TAX CLEARANCE REQUIREMENTS

It is a condition of Tender that the taxes of the successful tenderer must be in order, or that satisfactory arrangements have been made with South African Revenue Service (SARS) to meet the tenderer's tax obligations. It is a condition of this Offer of Commission that your practice remains in good standing with SARS (South African Revenue Services) in terms of its tax clearance.

1. In order to meet this requirement Tenderders are required to apply via e-filing at any SARS branch office nationally. The Tax Complance Status (TCS) requirements are also applicable to foreign Tenderders / individuals who wish to submit tenders.
2. SARS will then furnish the tenderer with a Tax Compliance Status (TCS) **PIN** that will be valid for a period of 1 (one) year from the date of approval.
3. In tenders where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate Tax Compliance Status (TCS) PIN.
4. Application for Tax Compliance Status (TCS) PIN can be done via e-filing at any SARS branch office nationally or on the website www.sars.gov.za.
5. Tax Clearance Certificates may be printed via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website www.sars.gov.za.

IMPORTANT NOTICE

1. The South African Revinue Services (SARS) has phased out the issuing of paper Tax Clearance Certificates.
2. From 18 April 2016 SARS introduced an enhanced Tax Compliance (TCS) system.
3. The new system allows taxpayers to obtain a Tax Compliance Status (PIN), which can be utilised by authorised third parties to varify taxpayers compliance status online via SARS e-filing.
4. Tenderers are required to fill in clearly, legibly, in bold print and black ink the SARS (TCS) PIN number and Tax Reference number in the space hereunder:

Tax Compliance Status(TCS) PIN Number	
Company / Tendering Entity Tax Reference Number	

Name of Tenderer: .....

Signature of tenderer: .....

Date: .....

T2.20 CERTIFIED PROOF OF GOOD STANDING WITH THE COMPENSATION COMMISSIONER

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

ATTACH A CERTIFIED COPY OF PROOF, THAT THE TENDERER IS IN GOOD STANDING WITH THE COMPENSATION COMMISSIONER, TO THIS PAGE FOR ADJUDICATION PURPOSES

NOTE

In the case of a Tender by a Joint Venture, certified copies of proof of Good Standing with the Compensation Commissioner in respect of each party to the Joint Venture must be attached to this page

T2.21 - FORM OF OFFER AND ACCEPTANCE

Tender no: ZNTM01256W

OFFER

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

The Tenderer, identified in the Offer signature block, has examined the documents listed in the Tender Data and Addenda thereto as listed in the Returnable Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the Tenderer, deemed to be duly authorized, signing this part of this Form of Offer and Acceptance, the tenderer offers to perform all of the obligations and liabilities of the Contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS:

Amount (in words):	
Amount in figures:	**R**

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

Signature (s)				
Name (s)				
Capacity				
For the tenderer				
	(Name and address of tenderer)			
Name and signature of witness			**Date**	

ACCEPTANCE

By signing this part of this Form of Offer and Acceptance, the Employer identified below, accepts the Tenderer's offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's offer shall form an agreement between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the contract that is the subject of this Agreement.

The terms of the contract, are contained in:

Part C1	Agreement and Contract Data, (which includes this agreement)
Part C2	Pricing data
Part C3	Scope of work.
Part C4	Site information and drawings and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the returnable schedules as well as any changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this form of offer and acceptance. No amendments to or deviations from said documents are valid unless contained in this schedule.
The tenderer shall within two weeks after 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 securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five (5) working days of the date of such receipt notifies the employer in writing of any reason why he/she cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

Signature (s)			
Name (s)			
Capacity			
For the employer			
	(Name and address of employer)		
Name and signature of witness			

Schedule of Deviations

Notes:
1. The extent of deviations from the tender documents issued by the employer before the tender closing date is limited to those permitted in terms of the conditions of tender.
2. A tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, become the subject of agreements reached during the process of offer and
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded
4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the Contract.

1.1.1. Subject:
Details:

1.1.2. Subject:
Details:

1.1.3. Subject:
Details:

1.1.4. Subject:
Details:

By the duly authorised representatives signing this agreement, the employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the returnable schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

T2.21a CONFIRMATION OF RECEIPT

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES			
Tender no.:	**ZNTM01256W**	**Project Code:**	**079513**

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

the _____ (day)

of _____ (month)

_____ (year)

at _____

For the Contractor:

_____
Signature

_____
Name

_____
Capacity

Signature and name of witness:

_____
Signature

_____
Name

T2.22 - FINAL BILL OF QUANTITY SUMMARY

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

ATTACH SUMMARY PAGE OF THE BILL OF QUANTITIES

T2.23 - PROOF OF PAID MUNICIPAL RATES & TAXES

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

ATTACH PROOF OF PAID MUNICIPAL RATES & TAXES TO THIS PAGE FOR ADJUDICATION PURPOSES

NOTE

In the case of a Quotation by a Joint Venture, proof of paid municipal rates and taxes for each member of the Joint Venture should be attached to this form.

T2.24 - CERTIFIED PROOF OF VALID UIF REGISTRATION

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

ATTACH A CERTIFIED COPY OF PROOF, THAT THE TENDERER IS IN GOOD STANDING WITH THE **UIF** TO THIS PAGE FOR ADJUDICATION PURPOSES

NOTE

In the case of a Tender by a Joint Venture, certified copies of proof of Good Standing with the **UIF** in respect of each party to the Joint Venture must be attached to this page

The contractor must submit proof of UIF Contributions made to the fund to the Principal Agent on a monthly basis for the duration of the contract.

Should the contractor default on his monthly payments, the Employer will pay the outstanding payments due and the contractor will be liable for payments made by the Employer on behalf of the contractor, plus any additional cost associated with this process.

T2.25 THE NATIONAL INDUSTRIAL PARTICIPATION PROGRAMME

This document must be signed and submitted together with your tender

INTRODUCTION

The National Industrial Participation (NIP) Programme, which is applicable to all government procurement contracts that have an imported content, became effective on the 1 September 1996. The NIP policy and guidelines were fully endorsed by Cabinet on 30 April 1997. In terms of the Cabinet decision, all state and parastatal purchases / lease contracts (for goods, works and services) entered into after this date, are subject to the NIP requirements. NIP is obligatory and therefore must be complied with. The Industrial Participation Secretariat (IPS) of the Department of Trade and Industry (DTI) is charged with the responsibility of administering the programme.

1 PILLARS OF THE PROGRAMME

1.1 The NIP obligation is benchmarked on the imported content of the contract. Any contract having an imported content equal to or exceeding US$ 10 million or other currency equivalent to US$ 10 million will have a NIP obligation. This threshold of US$ 10 million can be reached as follows:

(a) Any single contract with imported content exceeding US$10 million.

or

(b) Multiple contracts for the same goods, works or services each with imported content exceeding US$3 million awarded to one seller over a 2 year period which in total exceeds US$10 million.

or

(c) A contract with a renewable option clause, where should the option be exercised the total value of the imported content will exceed US$10 million.

or

(d) Multiple suppliers of the same goods, works or services under the same contract, where the value of the imported content of each allocation is equal to or exceeds US$ 3 million worth of goods, works or services to the same government institution, which in total over a two (2) year period exceeds US$10 million.

1.2 The NIP obligation applicable to suppliers in respect of sub-paragraphs 1.1 (a) to 1.1 (c) above will amount to 30 % of the imported content whilst suppliers in respect of paragraph 1.1 (d) shall incur 30% of the total NIP obligation on a pro-rata basis.

1.3 To satisfy the NIP obligation, the DTI would negotiate and conclude agreements such as investments, joint ventures, sub-contracting, licensee production, export promotion, sourcing arrangements and research and development (R&D) with partners or suppliers.

1.4 A period of seven years has been identified as the time frame within which to discharge the obligation.

2 REQUIREMENTS OF THE DEPARTMENT OF TRADE AND INDUSTRY

2.1 In order to ensure effective implementation of the programme, successful tenderers (contractors) are required to, immediately after the award of a contract that is in excess of R10 million (ten million Rands), submit details of such a contract to the DTI for reporting purposes.

2.2 The purpose for reporting details of contracts in excess of the amount of R10 million (ten million Rands) is to cater for multiple contracts for the same goods, works or services; renewable contracts and multiple suppliers for the same goods, works or services under the same contract as provided for in paragraphs 1.1.(b) to 1.1. (d) above.

3 Tender SUBMISSION AND CONTRACT REPORTING REQUIREMENTS OF TenderDERS AND SUCCESSFUL TenderDERS (CONTRACTORS)

3.1 Tenderders are required to sign and submit this Standard Tenderding Document (SBD 5) together with the Tender on the closing date and time.

3.2 In order to accommodate multiple contracts for the same goods, works or services; renewable contracts and multiple suppliers for the same goods, works or services under the same contract as indicated in sub-paragraphs 1.1 (b) to 1.1 (d) above and to enable the DTI in determining the NIP obligation, successful Tenderders (contractors) are required, immediately after being officially notified about any successful Tender with a value in excess of R10 million (ten million Rands), to contact and furnish the DTI with the following information:

- Tender / contract number.
- Description of the goods, works or services.
- Date on which the contract was accepted.
- Name, address and contact details of the government institution.
- Value of the contract.
- Imported content of the contract, if possible.

3.3 The information required in paragraph 3.2 above must be sent to the Department of Trade and Industry, Private Bag X 84, Pretoria, 0001 for the attention of Mr. Elias Malapane within five (5) working days after award of the contract. Mr. Malapane may be contacted on telephone (012) 394 1401, facsimile (012) 394 2401 or e-mail at Elias@thedti.gov.za for further details about the programme.

4 PROCESS TO SATISFY THE NIP OBLIGATION

4.1 Once the successful Tenderder (contractor) has made contact with and furnished the DTI with the information required, the following steps will be followed:

a. the contractor and the DTI will determine the NIP obligation;
b. the contractor and the DTI will sign the NIP obligation agreement;
c. the contractor will submit a performance guarantee to the DTI;
d. the contractor will submit a business concept for consideration and approval by the DTI;
e. upon approval of the business concept by the DTI, the contractor will submit detailed business plans outlining the business concepts;
f. the contractor will implement the business plans; and
g. the contractor will submit bi-annual progress reports on approved plans to the DTI.

4.2 The NIP obligation agreement is between the DTI and the successful Tenderder (contractor) and, therefore, does not involve the purchasing institution.

Tender number: _____ Closing date: _____

Name of tenderer: _____

Postal address: _____

_____

Signature: _____ Name (in print): _____

Date: _____

T2.26 - CERTIFIED PROOF OF REGISTRATION ON CENTRAL SUPPLIERS DATABASE

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Bid no:	**ZNTM01256W**	**Project Code:**	**079513**

ATTACH A CERTIFIED COPY OF PROOF, THAT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIERS DATABASE TO THIS PAGE FOR ADJUDICATION PURPOSES

NOTE

In the case of a Tender by a Joint Venture, certified copies of proof of registration on the Central Suppliers Data Base in respect of each party to the Joint Venture must be attached to this page

T2.27 - CERTIFIED PROOF OF CIDB REGISTRATION NUMBER

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

ATTACH A CERTIFIED COPY OF PROOF, THAT THE TENDERER IS REGISTERED WITH THE CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB) TO THIS PAGE FOR ADJUDICATION PURPOSES

NOTE

In the case of a Tender by a Joint Venture, certified copies of proof of registration with the CIDB in respect of each party to the Joint Venture must be attached to this page

Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations for a :

T2.28 - PROOF OF PAYMENT OF TENDER DEPOSIT

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

ATTACH A COPY OF PROOF OF PAYMENT WHERE AVAILABLE OF THE TENDER DEPOSIT BY THE TENDERER, TO THIS PAGE FOR ADJUDICATION PURPOSES

NOTE

In the case of a Tender by a Joint Venture a certified copy of proof of payment where available of the tender deposit is only necessary in respect of any one party to the Joint Venture and must be attached to this page

T2.29 CONTRACT FORM - PURCHASE OF GOODS/WORKS-Part 1

THIS FORM MUST BE FILLED IN DUPLICATE BY BOTH THE SUCCESSFUL TENDERER (PART 1) AND THE PURCHASER (PART 2). BOTH FORMS MUST BE SIGNED IN THE ORIGINAL SO THAT THE SUCCESSFUL TENDERER AND THE PURCHASER WOULD BE IN POSSESSION OF ORIGINALLY SIGNED CONTRACTS FOR THEIR RESPECTIVE RECORDS.

PART 1 (TO BE FILLED IN BY THE TENDERER)

1. I hereby undertake to supply all or any of the goods and/or works described in the attached tendering documents to Head: Public Works (Department of Public Works: Province of KwaZulu-Natal) in accordance with the requirements and specifications stipulated in tender number ZNTM01256W at the price/s quoted.
2. The following documents shall be deemed to form and be read and construed as part of this agreement:
   (i) Tendering documents, viz
   - Invitation to tender;
   - Tax Compliance Status (TCS) **PIN**;
   - Pricing schedule(s);
   - Technical Specification(s);
   - Preference claims for SPECIFIC GOAL/S, for this tender in terms of the Preferential Procurement Regulations 2022;
   - Bidder's Disclosure;
   - Special Conditions of Contract;

   (ii) General Conditions of Contract for construction works Edition 2 - GCC2010; and
3. (iii) Other (specify)
4. I confirm that I have satisfied myself as to the correctness and validity of my Tender; that the price(s) and rate(s) quoted cover all the goods and/or works specified in the Tenderding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.
5. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfilment of this contract.
6. I declare that I have no participation in any collusive practices with any Tenderder or any other person regarding this or any other Tender.

I confirm that I am duly authorised to sign this contract.

NAME (PRINT): _____

CAPACITY: _____

SIGNATURE: _____

NAME OF FIRM: _____

DATE: _____

Witnesses:

1. _____

2. _____

Date:

T2.30 CONTRACT FORM - PURCHASE OF GOODS/WORKS-Part 2

PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I _____ in my capacity as

_____

accepts your tender under reference ZNTM01256W dated _____for the supply of goods/works indicated hereunder and/or further specified in the annexure(s).

2. An official order indicating delivery instructions is forthcoming.
3. I undertake to make payment for the goods/works delivered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice accompanied by the delivery note.

ITEM NO.	PRICE (ALL APPLICABLE TAXES INCLUDED)	BRAND	DELIVERY PERIOD	B-BBEE STATUS LEVEL OF CONTRIBUTION	MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)

4. I confirm that I am duly authorised to sign this contract.

SIGNED AT _____ON_____
[Place] *[Date]*

NAME (PRINT): _____

SIGNATURE: _____

OFFICIAL STAMP:

Witnesses:

1. _____

2. _____

Date: _____

T2.31 - OHSE PLAN STRUCTURE			
Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

A detailed OHSE Plan is to be submitted by the successful tenderer as per Construction Regulation 7(1)(a). The following are the minimum standard legal documentation that must form part of the OHSE Plan based on the risks attached in executing this project titled;

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

SEE ATTACHED ANNEXURE 6

T2.32 - OHSE CLIENT SPECIFIC REQUIREMENTS	
Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**
Tender no:	**ZNTM01256W**
Project Code:	**079513**

SEE ATTACHED ANNEXURE 6

T2.33 - BASELINE RISK ASSESSMENT			
Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

SEE ATTACHED ANNEXURE 6

T2.34 - Functionality Criteria

The threshold score, below which tenderers are eliminated from further consideration, shall be 70 points.

TENDER EVALUATION CRITERIA AND SCORING

The weighting for Functionality out of 100 sub-points is as follows:

	Evaluation Criteria	Deliverables	Points	Sub-Points		Sub-Criteria & Deliverables
1.	Financial Standing	The submission of all financial requirements stipulated in the tender.	30 Points	15		Proof of working capital of at least 10% of the project value in the form of a letter from a registered financial institution or bank statement not older than 3 months from the date of tender closing. The letter or bank statement shall be stamped, signed, and dated.
				15		Minimum of one (1) to a maximum of four (4) letters of credit reference from registered electrical suppliers with a combined credit limit of R 1.5 million. Letter(s) shall be from suppliers of medium voltage switchgear, transformers, miniature substations, or 11 kV electrical cables. The letters shall be signed, stamped, dated and not older than three (3) months from the tender closing date. • Minimum of one to a maximum of four letters with a combined credit limit of R 500 000 and less than R 1 million = 5 points • Minimum of one to a maximum of four letters with a combined credit limit of R 1 million and less than R 1.5 million = 10 points • Minimum of one to a maximum of four letters with a combined credit limit of R 1.5 million or more = 15 points
2.	Competency, Experience and Resource Capacity	Tenderer to demonstrate their technical competency, human resource capacity and relevant project experience	30 Points	15		Experience on projects in medium voltage installation and maintenance completed in the past five (5) years from 2025. Tenderers shall submit letters of award and practical completion certificates for all the projects in the schedule. • One (1) award letter and practical completion certificate - 5 points • Two (2) award letters and practical completion certificates - 10 points • Three (3) award letters and practical completion certificates - 15 points NB: Tenderers to note there are no part points (letter of award and practical completion certificate shall be submitted for each project. Where an award letter or practical completion certificate is not submitted, zero (0) points will be awarded).
				15		Authorised medium voltage switching person with ORHVS certification issued by an EWSETA accredited training provider. Tenderers shall attach a certified copy of the ORHVS certificate for the authorised person.
3.	Tenderer's Resources Proposed for the Project	Tenderer to demonstrate their technical competency and human resource capacity.	35 Points	15		Site Agent with a National Diploma or B Tech or Degree in Electrical Engineering with a minimum of 5 years experience in the medium voltage installation and maintenance field. Tenderers shall attach a certified copy of the electrical engineering qualification and a detailed CV with tracable references (names and contact details).
				10		Three-phase or Master Electrician who will be responsible for issuing electrical certificates of compliance. Tenderers shall attach a certified copy of the electrician's wireman's certificate as issued by the Department of Labour.
				10		Medium Voltage Switchgear Manufacturer's Engineer. Tenderer to provide a letter of confirmation from the manufacturer of the switchgear mentioning the name of the manufacturer's engineer.
4.	Tenderers ability to provide a Letter of Intent for the provision of a guarantee	Original letter of intent on a financial institution's letterhead.	5 Points	5		Letter from a registered financial institution confirming intention to issue a provision of a guarantee

TENDER EVALUATION CRITERIA AND SCORING PRICE AND SPECIFIC GOALS				
	Evaluation Criteria	**Deliverables / Goal**	**Points**	
	Price	A maximum of 80 Points is allocated for Price.	80	Points
	Specific Goal 1	Ownership by Black People	20	Points

PART A
INVITATION TO TENDER - SBD 1

YOU ARE HEREBY INVITED TO TENDER FOR REQUIREMENTS OF THE KWA-ZULU NATAL DEPARTMENT OF WORKS					
TENDER NUMBER:	ZNTM01256W	**CLOSING DATE:**	45965	**CLOSING TIME:**	11:00
DESCRIPTION	UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES				
THE SUCCESSFUL TENDERER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT					
TENDER RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE TENDER BOX SITUATED AT *(STREET ADDRESS)*					
191 Prince Alfred Street Pietermaritzburg 3200					

SUPPLIER INFORMATION				
NAME OF TENDERER				
POSTAL ADDRESS				
STREET ADDRESS				
TELEPHONE NUMBER	CODE		NUMBER	
CELLPHONE NUMBER				
FACSIMILE NUMBER	CODE		NUMBER	
E-MAIL ADDRESS				
VAT REGISTRATION NUMBER				
	TCS PIN:		**CSD No:**	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE (Tick YES or NO)	Yes		B-BBEE STATUS LEVEL SWORN AFFIDAVIT (Tick YES or NO)	Yes
	No			No
If YES, State the name of the verification agency accredited by SANAS				

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	Yes		NO		ARE YOU A FOREIGN BASED SUPPLIER FOR **THE GOODS**	YES		NO	
	[IF YES ENCLOSE PROOF]				**(IF YES ANSWER PART B:3 BELOW)**				
SIGNATURE OF TENDERER					**DATE**				
CAPACITY UNDER WHICH THIS TENDER IS SIGNED (Attach proof of authority to sign this tender; e.g. resolution of directors, etc.)									
TOTAL NUMBER OF ITEMS OFFERED					**TOTAL TENDER PRICE (ALL INCLUSIVE)**				

TENDERING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		**TECHNICAL INFORMATION MAY BE DIRECTED TO:**	
DEPARTMENT/ PUBLIC ENTITY	KZN Department of Public Works	CONTACT PERSON	Mr. Simiso Mathonsi
CONTACT PERSON	Mrs A Sewmohan	TELEPHONE NUMBER	076 097 4697
TELEPHONE NUMBER	033 355 5455	FACSIMILE NUMBER	N/A
FACSIMILE NUMBER	N/A	E-MAIL ADDRESS	simiso.mathonsi@kznworks.gov.za
E-MAIL ADDRESS	scmenquiries@kznworks.gov.za		

PART B

TERMS AND CONDITIONS FOR TENDERING - SBD 1

1. TENDER SUBMISSION:

1.1. TENDERS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE TENDERS WILL NOT BE ACCEPTED FOR CONSIDERATION.

1.2. ALL TENDERS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED (NOT TO BE RE-TYPED) OR ONLINE

1.3. TENDERERS MUST REGISTER ON THE CENTRAL SUPPLIER DATABASE (CSD) TO UPLOAD MANDATORY INFORMATION NAMELY: (BUSINESS REGISTRATION/ DIRECTORSHIP/ MEMBERSHIP/IDENTITY NUMBERS; TAX COMPLIANCE STATUS; AND BANKING INFORMATION FOR VERIFICATION PURPOSES). B-BBEE CERTIFICATE OR SWORN AFFIDAVIT FOR B-BBEE MUST BE SUBMITTED TO TENDERING INSTITUTION.

1.4. WHERE A TENDERER IS NOT REGISTERED ON THE CSD, MANDATORY INFORMATION NAMELY: (BUSINESS REGISTRATION/ DIRECTORSHIP/ MEMBERSHIP/IDENTITY NUMBERS; TAX COMPLIANCE STATUS MAY NOT BE SUBMITTED WITH THE TENDER DOCUMENTATION. B-BBEE CERTIFICATE OR SWORN AFFIDAVIT FOR B-BBEE MUST BE SUBMITTED TO TENDERING INSTITUTION.

1.5. THIS TENDER IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT ARE THE CLAUSES CONTAINED IN THE GENERAL CONDITIONS OF CONTRACT (2010) (SECOND EDITION) PUBLISHED BY THE SOUTH AFRICAN INSTITUTION OF CIVIL ENGINEERING. COPIES OF THESE CONDITIONS OF CONTRACT MAY BE OBTAINED THROUGH MOST REGIONAL OFFICES OF THE SOUTH AFRICAN INSTITUTION OF CIVIL ENGINEERING, OR BY VISITING THEIR WEBSITE AT WWW.SAICE.ORG.ZA; AND, IF APPLICABLE, ANY OTHER LEGISLATION OR SPECIAL CONDITIONS OF CONTRACT.

2. TAX COMPLIANCE REQUIREMENTS

2.1 TENDERERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.

2.2 TENDERERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS.

2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA.

2.4 TENDERERS MAY ALSO SUBMIT A PRINTED TCS TOGETHER WITH THE TENDER.

2.5 IN TENDERS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE PROOF OF TCS / PIN / CSD NUMBER.

2.6 WHERE NO TCS IS AVAILABLE BUT THE TENDERER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE.

3. QUESTIONNAIRE TO TENDERING FOREIGN SUPPLIERS

3.1. IS THE TENDERER A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)?	YES		NO	
3.2. DOES THE TENDERER HAVE A BRANCH IN THE RSA?	YES		NO	
3.3. DOES THE TENDERER HAVE A PERMANENT ESTABLISHMENT IN THE RSA?	YES		NO	
3.4. DOES THE TENDERER HAVE ANY SOURCE OF INCOME IN THE RSA?	YES		NO	

IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN, IT IS NOT A REQUIREMENT TO OBTAIN A TAX COMPLIANCE STATUS / TAX COMPLIANCE SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE TENDER INVALID.

PROVINCIAL ADMINISTRATION OF KWAZULU-NATAL
DEPARTMENT OF PUBLIC WORKS

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

Engineer/Principal Agent
Mr. Simiso Mathonsi
Private Bag X 9041
PIETERMARITZBURG
PIETERMARITZBURG
3200
033 355 5527 - Tel Number
N/A - Fax Number
simiso.mathonsi@kznworks.gov.za

KZN Department of Public Works
Mr. Simiso Mathonsi
Private Bag X9041
Pietermaritzburg

3200
033 355 5527 - Tel Number
N/A - Fax Number
simiso.mathonsi@kznworks.gov.za

Employer:
Head: Public Works
KZN Department of Public Works
Private Bag X 9041
PIETERMARITZBURG
3200
Tel Number: 033 - 355 5455
Fax Number: N/A

Region:
Head Public Works: Operations
KZN Department of Public Works
X9041
Pietermaritzburg
3200
Tel Number: 033 - 355 5455
Fax Number: N/A

Tender Number: **ZNTM01256W**
CIDB Grading: **6EP**
ECDP Number: **N/A**

Project Code: **079513**
Document Date: **04 November 2025**

Contracting Party: _____
CIDB Registration number: _____
Central Suppliers Database Registration Number: _____

KWAZULU-NATAL PROVINCE
PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

THE CONTRACT

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

C1 - AGREEMENT AND CONTRACT DATA

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

FORM OF OFFER AND ACCEPTANCE

FORM OF OFFER AND ACCEPTANCE

Tender No - ZNTM01256W

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

C.1.1 - FORM OF OFFER AND ACCEPTANCE

THE OFFER AND ACCEPTANCE FORM IS BOUND INTO **SECTION 1** (See end of Returnable Documents) OF THIS DOCUMENT AS PART OF THE RETURNABLE DOCUMENTS. ONCE A CONTRACT IS CONCLUDED WITH A SUCCESSFUL TENDERER, THIS PAGE WILL BE REPLACED WITH THE FILLED AND SIGNED OFFER AND SIGN ACCEPTANCE BY THE EMPLOYER AND IT WILL BECOME PART OF THE CONTRACT.

PLEASE SUBMIT THE OFFER AND ACCEPTANCE FORM WITH THE OTHER RETURNABLE DOCUMENTS.

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

C1.2 - CONTRACT DATA

C 1.2 CONTRACT DATA:
with GCC for Construction Works - Second Edition 2010

CONTRACT DATA FOR:

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

Tender no: **ZNTM01256W**

The General Conditions of Contract are the clauses contained in the General Conditions of Contract (2010) (Second Edition) published by the South African Institution of Civil Engineering. Copies of these conditions of contract may be obtained through most regional offices of the South African Institution of Civil Engineering, telephone number 011 805 5947 or by visiting their website at www.saice.org.za.

CONTRACT SPECIFIC DATA
The following contract specific data are applicable to this contract:

CONTRACT VARIABLES

This schedule contains all variables specific to this document and is divided into pre-tender and post-tender categories. The pre-tender category must be completed in full and included in the tender documents. Both the pre-tender and post-tender categories form part of this **agreement.**

Spaces requiring information must be filled in, shown as 'not applicable' or deleted but not left blank. Where choices are offered, the non-applicable items are to be deleted. Where insufficient space is provided the information should be annexed hereto and cross referenced to the applicable clause of the schedule. Key cross reference clauses are italicised in *[ ]* brackets.
The Engineer/Principal Agent, in accordance with Clause 1.1.1.16, shall obtain the specific approval from the Employer before executing any of his functions according to the "Conditions under which Consultants are appointed", or in the event where an employee of the Employer represents the Employer, the relevant General Delegations applicable at the time of executing his/her duties as described in Clause 3.1.2.

Part 1: CONTRACT DATA PROVIDED BY THE EMPLOYER:

PRE-TENDER INFORMATION

CONTRACTING AND OTHER PARTIES

[1.1.1.15] **Employer:**

Head: Public Works (KZN Department of Public Works: Province of KwaZulu-Natal)

Postal address:
Private Bag X 9041
PIETERMARITZBURG
3200

Tel: ***N/A*** Fax: ***033 - 355 5455***

[1.2.1.2] Physical address:
191 Prince Alfred Street
PIETERMARITZBURG
3200

[1.1.1.16] **Employers Agent 1**
Mr. Simiso Mathonsi

Agent's service:
KZN Department of Public Works

Postal address:
Private Bag X9041
Pietermaritzburg
3200

Tel: ***033 355 5455*** Fax: ***N/A***

PART 1: DATA PROVIDED BY THE EMPLOYER

[1.1.1.13] **Defects Liability Period**

The defects liability period is: **A time measured from the date of the Certificate of Completion.**
Defects Liability Period is 12 Months for the whole of the Works

Latent Defect Period

[5.16.3] The latent defect period is: 5 years after the Final Approval Certificate

Documentation required before Commencement of the Works:

[5.3.1] The documentation required before commencement with the Works execution are;

[4.3]	Health and Safety Plan	The Contractor shall deliver his Health and Safety Plan of the Works within 14 calendar days after notice from the Employer, prior to the Commencement Date.
[5.6]	Initial Programme	The Contractor shall deliver his programme of work within 14 calendar days after notice from the Employer, prior to the Commencement Date.
[6.2]	Guarantee	The Contractor shall deliver his chosen Guarantee (security) for this Works within 14 calendar days after notice from the Employer, prior to the Commencement Date.
[8.6]	Insurance	The Contractor shall deliver his insurance for the Works within 14 calendar days after notice from the Employer, prior to the Commencement Date.
	Cash flow by contractor	The Contractor shall deliver his Cash flow for the Works within 14 calendar days after notice from the Employer, prior to the Commencement Date.
	Priced Bill of Quantity	The Contractor shall deliver his Priced Bill of Quantities with the tender document.
	Programme	The Contractor is required to submit his Programme of Works in terms of Clause 5.6.1 and 5.3.1 and the Principal Agent is required to approve this within 7 days in terms of Clause 5.6.3
	Other requirements	

[5.3.2]	The time to submit the documentation required before commencement with Works execution is:	14 calendar days

Non-Working days

[5.8.1] Non-Working days: **Saturdays & Sundays**
Special non- working days: **All Nationally Recognized Public Holidays and the year end break**

[5.8.1]

First Year end break - commences	***16-Dec-25***
ends on	***11-Jan-26***
Second Year end break - commences	***16-Dec-26***
ends on	***10-Jan-27***
Third Year end break - commences	***N/A***
ends on	***N/A***
Fourth Year end break - commences	***N/A***
ends on	***N/A***

Engineer/Principal Agent to consult with Employer

[3.1.3] The Engineer shall obtain the specific approval from the Employer before executing any of his functions according to the "Conditions under which Consultants are appointed", or in the event where an employee of the Employer represents the Employer, the relevant General Delegations applicable at the time of executing his/her duties.

Security

[6.2.1] The time to deliver the deed of guarantee is Prior to site hand over in terms of clause 5.3.1 and 5.3.2.

[6.2.1] Please see CONTRACT DATA - below to select Guarantee Option

Commencement Date

Commencement date means the date of Site Hand over that should not occur prior to the tenderer receiving one fully signed copy of the Offer and Acceptance in terms of the Form of Offer and Acceptance.

*The **Agreement comes into effect** on the date when;*
The tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any)

The agreement ("this document") consists of;
1. Agreement and Conditions of Contract.
2. Form of Offer and Acceptance.
3. Contract Data.
4. Scope of Works.
5. Site Information.
6. Drawings & documents referred to in the 1 to 4 above.

(See Form of Offer and Acceptance)

[5.3.1] The contractor shall commence executing the Works within 14 calendar days from the Commencement Date.

[5.4.1] ***Possession of the*** **site** will be given within 10 calendar days after the **contractor** has fulfilled the conditions (4.3, 5.6, 6.2, 8.6) and received the notification from the Employer of Site Hand Over where the contractor will receive one fully signed copy of the Form of Offer and Acceptance from the **employer.**

[5.6.1] The Contractor shall deliver his programme of work within 14 calendar days after notice from the Employer, prior to the Commencement Date.

CONTRACT DETAILS

[1.1.1.33] ***Works*** description: Refer to document C3 – Scope of Work.

[1.1.1.30] ***Site*** description: Refer to document C4 – Site Information.

Specific options that are applicable to a **State** organ only
Where so :

[6.10.6.2]

1) Interest rate legislation:

(a) in respect of interest owed by the **employer**, the interest rate as determined by the Minister of Justice and Constitutional Development from time to time, in terms of section 1(2) of the Prescribed Rate of Interest Act, 1975 (Act No. 55 of 1975), will apply; and

(b) in respect of interest owed to the **employer**, the interest rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999), will apply

2)	Lateral support insurance to be effected by the contractor:	***Yes***	***No X***
3)	Payment will be made for materials and goods	***Yes X***	***No***
4)	Dispute resolution by litigation	***Yes***	***No X***
5)	Extended **defects** liability period applicable to the following elements:	***Electrical and Civil work***	

[8.6.1.1.2] The Value of material, supplied by the Employer, and not included in the Contract Price, is: ***R0.00***

[8.6.1.1.3] The amount to cover Professional Fees, not included in the Contract Price, for repairing damage and loss to be included in the insurance:
0% of the Contract Price

[8.6.1.3] The limit for indemnity for liable insurance is: ***R 20,000,000.00***

[6.5.1.2.3] The percentage allowance to cover overhead charges for contractor and subcontractors, is: ***33.30%***

[1.1.1.14] **Practical Completion Date**

The Practical Completion date is: **A time measured from the Commencement date**

	For the **works** as a whole: The whole of the works shall be completed within: ***12*** *Months (which shall be deemed to include all Non – Working Days, Special Non – Working Days and the year-end Builders Annual Industry Holiday Periods).*
[5.5.1]	The date for **practical completion** shall be ***To be determined***
[5.13.1]	The penalty per calendar day shall be : ***0.04% of the Contract Price, rounded to the nearest R10***
	***For the* works** in **sections:**
	***The date for* practical completion** from the **commencement date** and the **penalty** per **calendar day:**
	Portion 1:
[5.5.1]	***N/A***
[5.13.1]	***0.04% of the Contract Price, rounded to the nearest R10***
	Portion 2:
[5.5.1]	***N/A***
[5.13.1]	***0.04% of the Contract Price, rounded to the nearest R10***
	Portion 3:
[5.5.1]	***N/A***
[5.13.1]	***0.04% of the Contract Price, rounded to the nearest R10***
	Portion 4:
[5.5.1]	***N/A***
[5.13.1]	***0.04% of the Contract Price, rounded to the nearest R10***
	Portion 5:
[5.5.1]	***N/A***
[5.13.1]	***0.04% of the Contract Price, rounded to the nearest R10***
	Portion 6:
[5.5.1]	***N/A***
[5.13.1]	***0.04% of the Contract Price, rounded to the nearest R10***
[1.3.2]	***The* law** applicable to this **agreement** shall be that of the: **Republic of South Africa**
[6.10.1.5]	The percentage advance on materials not yet built into the Permanent Works is: ***80.00%***
[6.10.3]	Percentage retention on amounts due to contractor is: ***The Percentage retention is 5%. The security required by the Employer will a bank or insurance guarantee of 5% of the Contract Price and a payment reduction of 5% of the value certified in the payment certificate (exluding VAT).*** Maximum retention is: ***5.00%*** *of the Contract Price*
[6.8.1]	Notwithstanding anything to the contrary contained in the General conditions of Contract and Preliminaries, this contract could only, when the construction period exceeds 6 months **and** the contract exceeds R1,000,000.00, be subject to a Contract Price Adjustment Factor.
[6.8.2] *[6.8.3]*	Clause 6.8.2 the last part of the sentence saying *"calculated according to the formula and the conditions set out in the Contract Price Adjustment Schedule."* must be replaced by *"calculated according to the Contract Price Adjustment Provisions (CPAP) Indices Application Manual for use with P0151 indices (Revised 1 January 2013)" as published by Statistics South Africa. The Contract Price Adjustment Provision (CPAP) will be subject to the most recently released indices by Statistic South Africa. Tenderers are advised that with reference to Clause 3.4.6 of the Contract Price Adjustment Provisions (CPAP) Indices Applications Manual, the Head: Public Works will not accept the submission by Tenderers of lists of additional items."*
[6.8.2] *[6.8.3]*	Where this contract is a Lump Sum contract, the contract will only be subject to Contract Price Adjustment Provisions (CPAP)(Revised 1 January 2013) where the contract period equals or exceeds 6 calendar months. The applicable work group shall be WG 180 for domestic buildings or WG 181 for commercial and industrial buildings only.
[5.14.5]	***The following clause must be added to clause 5.14.5:*** *[5.14.5.6]* The employers agent shall submit the **final account** within 3 calendar months to the principal agent.
[10.5]	The determinations of disputes shall be by ADJUDICATION & ARBITRATION.
[10.5.3]	The number of Adjudication Board Members to be appointed is: **One**
[10.9.1]	Replace the last part of the clause with the following: *"..on the application of either party, by the Chairman, or his nominee of the Association of Arbitrators."*
	Where* CPAP** is applicable, the **contract sum** will be adjusted in accordance with the Contract Price Adjustment Provisions (**CPAP**) as set out in the **CPAP** Indices Application Manual as published by Statistics South Africa, dated 1 January 2013 and any amendments thereto: 1) Glass etc. measured in specialist section Metalwork, will be adjusted in terms of the index for that work group unless specifically stated otherwise in the bills of quantities. 2) In case of uninterruptible power supplies, elevators, escalators and hoists, generating sets, motor-alternator sets and intercommunication systems shall be adjusted in accordance with Work Group 170. 3) Further to clause 3.4.6 of the CPAP Indices Application Manual, the listing of additional items for exclusion by Tenderer's, will not be permitted. ***Alternative Indices: **Not Applicable**
	Details of changes made to the General Conditions of Contract for construction works (2010) Second Edition
	Clause
[1.1]	*[1.1.1.5]* **COMMENCEMENT DATE** – means the actual date of Site Hand over that should not occur prior to the Tenderer receiving one fully signed copy of the Offer and Acceptance in terms of the Form of Offer and Acceptance.
	[5.12.2.2] **ABNORMAL CLIMATIC CONDITIONS** - means conditions over and above what could reasonably be expected for the specific locality where the Works are being executed and include inter alia exessive rain, heat, cold, wind and any other climatic condition that would not normally be experienced during the season that the Works are executed in that area. The South African Weather Service's (http://www.weathersa.co.za) 10 year average climatic conditions statistics would be what could be reasonably expected for the specific locality where the Works are executed.
	[6.2.1] **CONSTRUCTION GUARANTEE** – means an on demand guarantee at call obtained by the **contractor** from an institution approved by the **employer** in terms of the **employer's** construction guarantee form as selected in the Offer and Acceptance Form and the **contract data.**
	CONSTRUCTION PERIOD – means the period commencing on the **commencement date** and ending on the date of **due completion date.** This period will be deemed to commence on actual site hand over date to the contractor and end on the date of practical completion and shall include all annual industrial holiday periods, Sundays and public holidays.

CORRUPT PRACTICE – means the offer, giving, receiving, or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

FINAL ACCOUNT - The document prepared by the principal agent, which reflects the contract value of the works at final approval or termination.

FRAUDULENT PRACTICE – means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any tenderer and includes collusive practise among tenderers (prior to or after the tender submission) designed to establish tender prices at artificial non-competitive levels and to deprive the tenderer of the benefits of free and open competition.

INTEREST – the interest rates applicable on this contract, whether specifically indicated in the relevant clauses or not, will be in terms of the legislation of the Republic of South Africa, and in particular:

(a) in respect of interest owed by the **employer,** the interest rate as determined by the Minister of Justice and Constitutional Development from time to time, in terms of section 1(2) of the Prescribed Rate of Interest Act, 1975 (Act No. 55 of 1975), will apply; and

(b) in respect of interest owed to the employer, the interest rate as determined by the Minister of Finance, from time to time, in terms of section 80(1)(b) of the Public Finance Management Act, 1999 (Act No. 1 of 1999), will apply

[1.1.1.16] **ENGINEER/PRINCIPAL AGENT –** means the person or entity appointed by the **Employer** and named in the **Contract Data** as the **Engineer /Principal Agent** to act as agent of the **Employer**. In the event of an Engineer/**Principal Agent** not being appointed, then all the duties and obligations of an Engineer/**Principal Agent** as detailed in the **Contract** shall be fulfilled by a representative of the **Employer** as named in the **Contract Data. (Hereafter referred to as Engineer)**

[1.1.1.21] **GENERAL ITEMS -** or preliminaries means items stipulated in the Pricing Data relating to general obligations, site services, facilities and/or items that cover elements of the cost of the work which are not considered as proportional to the quantities of the Permanent Works.

[4.4.1] Add the following to the clause 4.4.1: *"The Contract shall only use subcontractors who are duly registered with the CIDB and who has an ACTIVE status at the time of submitting the tender"*

[6.2.1] Refer to Offer and Acceptance form for the various options that the contractor may choose from in providing a form of **Guarantee** under "GUARATEE OPTIONS".

[6.10.6.2] Replace *"at the prime overdraft rate, as charged by the Contractor's Bank,"* with *"..at the interest rate as determined by the Minister of Justice and Constitutional Development from time to time, in terms of section 1(2) of the Prescribed Rate of Interest Act, 1975 (Act No. 55 of 1975). "*
Omit *",on all overdue payments from the date on which the same should have been paid..." and replace with " only after 30 calendar days from receiving written notice from the Contractor that the amount is overdue,.."*

SPECIAL CONDITIONS OF CONTRACT

[5.12.3] Omit clause 5.12.3 and add the following:
"5.12.3. If an extension of time is granted, the Contractor shall be paid such additional time-related General Items, including for special non-working days, if applicable as are appropriate regarding to any other compensation which may already have been granted in respect of the circumstances concerned.The reasons for extension of time that would invoke payment of time related General Items are inter alia;

5.12.3.1 Failure to give possession of the site to the contractor.
5.12.3.2 Making good physical loss and repairing damage to the works where the contractor is not at risk.
5.12.3.3 Contract instructions not occasioned by default by the contractor.
5.12.3.4 Failure to issue construction information timeously or the late issue of a contract instruction following a request from the contractor.
5.12.3.5 Late acceptance by the principal agent of a design undertaken by a selected subcontractor where the contractor's obligations have been met.
5.12.3.6 Suspension or cancellation termination invoked by a nominated or selected n/s subcontractor due to default by the employer or the principal agent.
5.12.3.7 Insolvency of a nominated subcontractor.
5.12.3.8 A direct contractor.
5.12.3.9 Opening up and testing of work and materials and goods where such work is according to in accordance with the contract documents.
5.12.3.10 The execution of additional work for which the quantity included in the bills of quantities is not sufficiently accurate.
5.12.3.11 Late or failure to supply materials and goods for which the employer is responsible.
5.12.3.12 Suspension of the works."

[5.14.5.1] Omit entire clause 5.14.5.1

[5.16.4] Add the following new clause *"5.16.4. Upon the issue of a Final Approval Certificate, unless otherwise provided in the Contract:*
5.16.4.1. The performance Guarantee (if any) shall be returned within 14 days to the guarantor in terms of Clause 7."

[6.2.2] Replace the following *"..it shall be deemed that the Contractor has selected a security of ten percent retention of the value of the Works."* with *"..it shall be deemed that the Contractor has selected a security of a bank or insurance guarantee of 5% of the value of the Works and a payment reduction of 5% of the value certified in the payment certificate excluding value added tax."*

[6.2.3] Add to clause 6.2.3 the following "*The Contractor shall provide proof of paid-up premium payments to accompany his payment certificate as proof that his performance guarantee has not expired yet. The Contractor will not receive payment without proof of the validity of their performance*

[9.3.2.2] Omit *"without prejudice to the exercise of any lien the Contractor may have acquired over the Employer's property."*

Duties and functions of the **Engineer** requiring the specific approval of the **Employer** BEFORE execution of any part of these duties are as follows:

(a) Determinations of contractors claims for extension of time (revision of the contract completion date). All claims for extension of time shall be submitted by the **Engineer,** together with the **Engineer's** recommendations, to the **Employer** for determination. Omit "Engineer" in clause 42.2 and replace with

(b) Drawings, instructions or communications of any kind requiring variations of the works and involving EXTRA's shall NOT be given effect by the **Contractor** UNTIL BOTH the "Official Variation Order" and the "Financial Request for Variation Order and Additional Funds" form, as issued by the Department of Public Works, have been approved and signed by the **Employer**.

(c) Insurance policies to be approved by the **Employer** within 21 days of the date of the **Commencement** of the Works.

(d) Any notice of disagreement raised by the **Contractor** or written Dispute Notice given by the **Contractor** to the **Engineer** shall be submitted by the **Engineer**, together with the **Engineer's** recommendations, to the **Employer** for determination.

(e) The issue of the certificate of practical completion, certificate of completion and the final approval certificate shall be signed and submitted by the **Engineer**, to the **Employer** for final approval and signature. The certificates shall not be considered as officially issued until signed by the **Employer**.

MANAGING PROJECT DURATION

(a) The Contractor shall co-ordinate his programme with all other contractors whose work may precede or be executed simultaneously to his own. The Contractor will be called upon to plan and control the project using the Project Evaluation and Review Technique (PERT) or other approved Critical Path Method (CPM) network analysis of his events and activities and those of the dub-contractors in his employ and must co-ordinate his planning with any other contractor employed on the project. A fortnightly project control report will be expected from the Contractor in writing, evaluating any gains or delays against the critical path and he should allow for all costs involved in planning reviewing and updating the programme to the satisfaction of the Principal Agent against this item.

(b) Activity-and total float shall belong to the Employer.

(c) The Contractor shall deliver his programme of work within 14 calendar days after notice from the Employer, prior to the Commencement Date.
It is a condition of this contact that, the contracter submit to the Engineer/principal agent a detailed CPM Programme which shall be to the approval of the Engineer/principal agent. In this regard tenderers are advised to consult with the Engineer/Principal Agent as to the format and requirements of the programme as no claim whatsoever will entertained should the programme fail to meet the requirements of the Engineer/Principal Agent. Failure to submit the programme within the stipulated time may result in the contractor being held in breach of contract.

The approved programme will form the basis of time management of the project and extension of time will not be guaranteed unless the Contractor has strictly complied with this provision.

The programme shall make allowance for rain and the number of rain days allowed within the critical path shall be on the provisions of the clause dealing with inclement weather and claiming for delays in performance in this bill.

Allowance for the above must be made under this item as no claims for failing to comply with this precondition will later be entertained.

INCLEMENT WEATHER AND CLAIMS FOR DELAYS IN PERFORMANCE

(a) The Contract Sum includes a monthly allowance of 3 working days inclement weather during which rainfall exceeds 10mm per day for months as indicated in the Scope of Works. These days shall be reflected on the critical path of the Contractor's programme as specified in MANAGING PROJECT DURATION above.

(b) Claims for delays in performance due to inclement weather shall be calculated separately for each calendar month and for the project as a whole. Delays or gains to the critical path shall be reflected in all revisions of the programme. An extension of time will only be granted where the following conditions are met:

(i) The criteria to be used for WORK stoppages shall be for safety hazards or poor quality of work.

(ii) The Employer's site representative or the Employer's Principal Agent, if the site representative is not available shall be notified when the Contractor stops the work and intends to claim performance delays. The Employer representative shall inspect the situation together with the Contractor and give an immediate decision.

1. The stoppage claimed must cause a delay in the Completion Date of work. If the critical activities can proceed and a non-critical activity is delayed due to inclement weather no claims for delay shall be granted.
2. No claims for stoppages less than 2 (two) hours per day shall be considered.
3. Claims granted for more than 2 (two) hours, but less than 10 (ten) hour (lunch included) day, shall be added together and expressed as full days.
4. All claims shall be submitted in writing to the Principal Agent within one working day of the actual stoppage.
5. The total delay in performance granted to the Contractor expressed in days shall be added to the contractual Completion Date of each section of the Works. The contractual penalty clause shall only come into effect after this newly arrived date.
6. Total delays (in hours) will be rounded up or down to the nearest integer for the calculation of Working Days. The total hours (including lunch) per Working Day shall be 10 unless otherwise indicated on the Contractor's programme.
7. Where the programmed delays for inclement weather exceed the actual delays incurred the Completion Date(s) will not be adjusted.
8. Where the project includes builder's holidays the programmed durations for inclement weather shall be adjusted pro-rate to the actual Working Days.
9. The total of all monthly delays due to inclement weather shall be calculated in accordance with the example given below:

Description		Months					Total
		Sept	Oct	Nov	Dec	Jan	
		Hours	Hours	Hours	Hours	Hours	Hours
Programmed	Rain days	0	30	30	15	15	90
Actual	Rain days	16	22	35	15	18	106
Difference		-16	8	-5	0	-3	-16
8 hrs/day*						Estimated Extension of time - in working days	2

See point 5.2 in the Scope of Works for the specific days the tenderer must allow for in this contract.

Tender no: **ZNTM01256W** **Part 2: CONTRACT DATA PROVIDED BY THE CONTRACTOR:**

POST-TENDER INFORMATION

Note: All information for this section requires consultation with the **Contractor**. The **Engineer/Principal Agent** shall not pre-select any of the alternatives available to the **Contractor.**

1 CONTRACT DETAILS

[1.1.1.9] **Contractor Name:** .....

[1.2.1.2] Postal address:

.....

.....

.....

Tel no ..... Fax no .....

Tax / VAT Registration No: ..... e-mail .....

Physical address:

.....

.....

.....

[1.1.1.10] The accepted **contract price** inclusive of **tax** is R :

.....

[Amount in words]

Payment Of Preliminaries (Clause 6.7, 6.8, 6.10 and 6.11)

The preliminaries amounts shall be paid in terms of:

***Alternative A**	**Yes**
****Alternative B**	**N/A**

** Assessed by the Engineer/Principal Agent as an amount prorated to the value of the Work duly executed in the same ratio as the Preliminaries bears to the Contract Price excluding VAT, Preliminary amount, Contingencies and any CPAP.*

*** Calculated from the priced Bill of Quantity/Lump Sum document. The Contractor and the Engineer/Principal Agent shall agree on a division of the priced Preliminaries items into: initial establishment charge, monthly charge and final disestablishment charge.*

If the Contractor and the Engineer/Principal Agent can not agree, within 10 Working Days from the Commencement Date, on such a division then the Engineer/Principal Agent shall make a division of the Preliminaries to be incorporated in the valuations for each monthly payment certificate as follows;

10% of the General Items/Preliminaries amount shall not be varied

15% of the General Items/Preliminaries shall only be varied in proportion of the Contract Price to the Contract Sum

75% of the General Items/Preliminaries shall be varied in proportion to the revised Construction Period compared with the initial Construction Period.

Alternative A

Adjustment of Preliminaries (Clause 6.7, 6.8, 6.10 and 6.11)

For the adjustment of Preliminaries both the Contract Sum and the Contract Value (including tax) shall exclude the amount of Preliminaries, all Contingency Sum(s) and any provision for Cost Price Adjustment Provisions:-

- An amount which shall not be varied.

- An amount varied in proportion to the contract value as compared to the Contract Sum.

- An amount varied in proportion to the Construction Period as compared to the initial Construction Period (excluding revisions to the Construction Period to which the Contractor is not entitled) to adjustment of the Contract Value in terms of the agreement.

The Contractor shall provide a breakdown of charges (including tax) within 15 working days of the date of acceptance of tender and, where applicable, an apportionment of Preliminaries per section

If the Contractor and the Principal Agent cannot agree, within ten (10) Working Days from the Commencement Date, on such a division then the Principal Agent shall make a division of the Preliminaries to be incorporated in the valuations for each monthly payment certificate as follows;

0% of the amount shall not be varied

10% of the amount shall not be varied

15% varied in proportion of the Contract Value to the Contract Sum

75% varied in proportion to the revised Construction period compared with the initial Construction Period

Sectional Completion : Subdivision of Preliminaries Costs

For the adjustment of preliminaries for sections of the work the value of fixed, value, and time related amounts of the preliminaries for each section is required. The contractor is to provide such information within fifteen (15) working days of taking possession of the site, failing which the categorised preliminaries amounts shall be prorated to the value of each section.

The above shall apply equally for projects where sectional completion was not contemplated at tender stage but subsequently occurred on an adhoc basis during construction of the works as agreed between the client and the employer. The original priced categorised amounts for fixed, value, and time related amounts shall be prorated to the value of each section.

When an extension of time has been granted in terms of the GCC and the preliminaries require to be adjusted accordingly, the pertinent sectional (subdivided) categorised preliminaries amounts shall be utilised, where applicable and not the overall preliminary amounts.

Where sectional completion is required in terms of the agreement, the Contractor shall provide the Principal Agent with the division of the above categorized amounts into sections. Should the Contractor fail to provide such information within the period stipulated the categorized amounts shall be prorated to the value of each section.

YES *yes / no*

or

Alternative B

The Contractor shall within 15 working days of the date of possession of the site provide the Principal Agent with a detailed breakdown of Preliminaries amounts for the works as a whole, or per section where applicable, including administrative and supervisory staff charges and for the use of construction equipment in terms of the programme.

NO *yes / no*

The contractor is informed that only option 'A' shall apply

2 DOCUMENTS

Contract documents marked and annexed hereto:

Priced **Bills of Quantities:**	**Yes**	X	**No**	
Lump Sum document: :	**Yes**		**No**	X

Guarantee Options:

2.2 DESIGN BRIEF

Not applicable	**YES**	**YES or NO**
2.3 DRAWINGS	**YES**	**YES or NO**
See list of drawings/Annexure's attached to this document.	**YES**	**YES or NO**
2.4 DESIGN PROCEDURES	**NO**	**YES or NO**

Not applicable

Contract drawings:	**Yes**	X	**No**	
Other documents**:**				

	Waiver of the Contractors lien or right of continuing possession is required.	**YES**

GUARANTEE OPTIONS

The Tenderer agrees to provide a bank or insurance guarantee in accordance with clause 6.2.3 of the Conditions of the GCC2010 Contract within the period stated in the Contract Data. This guarantee shall be for a sum equal to an amount stated in the Contract Data.

Guarantees submitted must be issued by either an insurance company duly registered in terms of the Insurance Act (Long Term Insurance Act No 52 of 1998 or Short Term Insurance Act No 53 of 1998) or by a bank duly registered in terms of the Banks Act No 94 of 1990, on the pro-forma referred to above. No alterations or amendments of the wording of the pro-forma will be accepted.

(a) the tenderer accepts that in respect of contracts up to R1 million, a payment reduction of 5% of the contact value will be applicable and will be reduced by the Employer in terms of the applicable conditions of contract.

(b) in respect of contracts above R1 million, the Tenderer offers to provide security as indicated below: select one option

(i) cash deposit of 10 % of the Contract Price	**NO**
(ii) bank or insurance Performance Guarantee of 10 % of the Contract Price	**NO**
(iii) cash deposit of 5% of the Contract Price and a payment reduction of 5% of the value certified in the payment certificate (excluding VAT)	**NO**
(iv) bank or insurance guarantee of 5% of the Contract Price and a payment reduction of 5% of the value certified in the payment certificate (excluding VAT)	**YES**

NOTE: Where the Tenderer has not selected one of the guarantee options above, the default option will be as if the Tenderer has selected a security of a bank or insurance guarantee of 5% of the value of the Works and a payment reduction of 5% of the value certified in the payment certificate excluding value added tax. - See GCC2010 clause 6.2.2 as amended in Contract Data.

3 SIGNATURES OF THE CONTRACTING PARTIES

Thus done and signed at……on ……..of……20…..

Name of signatory — for and behalf of the **Employer** who by signature hereof

Capacity of signatory — as Witness.

Thus done and signed at……on ……..of……20…..

Name of signatory — for and behalf of the **Contractor** who by signature hereof

Capacity of signatory — as Witness.

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

C1.3 - FORM OF GUARANTEE

C1.3 PERFORMANCE GUARANTEE - GCC FOR CONSTRUCTION WORKS (2nd Edition - 2010)

Head: Public Works
KZN Department of Public Works:
Private Bag X 9041
PIETERMARITZBURG
3200

Sir,

ON DEMAND PERFORMANCE GUARANTEE

Tender Number ZNTM01256W	**Project Code 079513**

For use with the General Conditions of Contract for Construction Works, Second Edition, 2010.

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means: _____

Physical Address: _____

"Employer" means: The Provincial Administration of KwaZulu-Natal in its Department of Public Works

"Contractor" means: _____

"Engineer" means: _____

"Works" means: **UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**

"Site" means: _____

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties.

"Contract Sum" means: The accepted amount inclusive of tax of: _____

Amount in Words:

"Guaranteed Sum" means: The maximum aggregate amount of: 10% _____
Of Contract Sum

Amount in Words: _____

"Expiry Date" means: _____

CONTRACT DETAILS

Engineer Issues: Interim Payment Certificates, Final Payment Certificates and the Certificate Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

1 The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.

2 The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.

3 The Guarantor hereby acknowledges that:

3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;

3.2 its obligation under the Performance Guarantee is restricted to the payment of money.

4 Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:

4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2:

4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;

4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum Certified in 4.

5 Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:

5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or

5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and

5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.

6 It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.

7 Where the Guarantor has made payments in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Payment Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.

8 Payment by the Guarantor in terms of 4 or 5 shall be made with seven (7) calendar days upon receipt of the first written demand to the Guarantor.

9 Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.

10 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.

11 The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.

12 This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.

13 This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

14 Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Court Act No 32 of 1944, as amended, to this jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at _____

Date _____

Guarantor's signatory (1) _____

Capacity _____

Guarantor's signatory (2) _____

Capacity _____

Witness signatory (1) _____

Witness signatory (2) _____

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

PART C2 - PRICING DATA

C2.1 PRICING INSTRUCTIONS GCC FOR CONSTRUCTION WORKS (Second Edition 2010)			
Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

C2.1 Pricing Instructions

	Where any item is not relevant to this specific contract, such item is marked N/A (signifying “not applicable”) The adjustment of the preliminaries each item priced is to be allocated to one or more of the three categories by insertion of “F”, “V”, “T” as the case may be against the price in the “rate” column immediately preceding the “amount” column, where “F” denotes a fixed amount (amount not varied), “V” denotes an amount variable in proportion to value and “T” denotes an amount variable in proportion to time.
1	**MASSES AND MEASURING UNITS** These shall be in accordance with the Measuring Units and National Measuring Standards Act No. 76 of 1973 and amendments thereto. The pages of each of these documents are numbered consecutively and before the Tenderer submits his tender he should check the number of pages, and if any are found missing or duplicated, or the figures or writing indistinct, or the documents contain any obvious error, he should apply to the Head : Public Works AT ONCE and have same rectified as no liability whatsoever will be admitted by the Administration in respect of errors in Tender due to the foregoing.
2	**PRICES FOR VARIATIONS** Where prices or quotations for variations are submitted by the Contractor during the currency of the Contract, it is to be clearly understood that these are for the purpose of consideration by the Head : Public Works and that there is no assumption of acceptance. The Contractor will be notified of acceptance of prices or quotations either by insertion of the amount on the variation order or by written intimation.
3	**SCALE** The scale to which the Drawings are made is only to be made use of when no figured dimensions are given either on the Drawings or in the tender documents and the figured dimensions are always to be followed though they may not coincide with the scale of the Drawings, but dimensions where possible are to be taken from the buildings.
4	**PROVISIONAL ITEMS** All items described as "Provisional" shall be used as directed by the Employer and measured and valued or paid for. No work for which "Provisional" items are allowed shall be commenced without written instructions from the Head : Public Works.

5 TIMELY ORDERING OF MATERIALS

The Contractor is warned to place all orders for materials or special articles as early as possible, as he will be held solely responsible for any delay in the delivery of such goods.
Nevertheless this tender is conditional upon no liability being attached to the Contractor if delivery of materials is rendered impossible by reason of any act of the Government.

6 ELECTRICAL LIGHTING, POWER AND WATER

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 Employer.

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.

Tenderers are 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.

7 IMPORT PERMITS, DUTIES AND SURCHARGES.

All tenders by means of which imported products are being called for, must use the rate of exchange 14 days prior to the closing date indicated in the tender documents. If this day falls on a weekend or public holiday, the next working day must be used.
Furthermore, Tenderers must submit documentary proof (in the form of a certified copy) from their bank or legally recognised financial institution, clearly indicating what the rate of exchange was 14 days prior to the closing date, as mentioned above.

Together with this, the Tenderer must confirm that the tender price relating to an imported product, was based on the rate of exchange 14 days prior to the closing date as mentioned above.

8 STANDARD SYSTEM OF MEASUREMENT WHERE BILLS OF QUANTITIES FORM PART OF THE TENDER DOCUMENTS

The work executed under this Contract has been measured in accordance with the;

Standard System of Measuring Builders Work (7th Edition)

including all amendments unless descriptions of items indicate a deviation and it shall be understood that the system of measurement which is herein adopted is the only system of measurement which will be recognised in connection with this contract. Any contradictions to this system of measurement contained in the “Model Preambles for Trades 2008” shall be disregarded (unless same have been accommodated in the system of measurement) but applicable rates shall be included for all requirements stated and not measured separately in compliance with this system.

9 PRICING OF ROCK EXCAVATIONS

It is a condition of this tender that should the tenderer elect to price the Rock Excavation included in this tender, the rates must be market related and should be identically priced for the same classification of excavations and not vary for similar billed items in the different sections.

10 BROAD BASED BLACK ECONOMIC EMPOWERMENT

1. It is the deliberate policy of the Provincial Administration of KwaZulu-Natal to foster and to encourage the economic empowerment of Black South Africans. This policy will be implemented without prescription and without prejudicing the principles and the integrity of the Provincial Administration of KwaZulu-Natal. Subject to these constraints and also subject to good business practise and commercial consideration, it is therefore considered appropriate that the Provincial Administration of KwaZulu-Natal should encourage business relationships with companies which actively pursue Affirmative Action and Black Economic Empowerment Programmes.
2. In responding to this tender you are therefore encouraged to devote attention to these two subjects of Affirmative Action and Economic Empowerment. In addition, in considering the appointment of sub-contractors, you are requested to extend the spirit of these policies.
3. The foregoing enunciations of this policy are not intended to be prescriptive nor to preclude any individual or operation from responding to this tender.

11 REGISTRATION ON THE CENTRAL SUPPLIERS DATABASE

1. In terms of the Public Finance Management Act (PFMA), 1999 (Act No 1 of 1999) Section 38 (1) (a) (iii) and 51 (1) (iii) and Section 76 (4) of PFMA National Treasury developed a single platform, The Central Supplier Database (CSD) for the registration of prospective suppliers including the varification functionality of key supplier information.
2. Prospective suppliers will be able to self - register on the CSD website: www.csd.gov.za
3. Once the supplier information has been varified with external data sources by National Treasury a unique supplier number and security code will be allocated and communicated to the supplier. Suppliers will be required to keep their data updated regularly and should confirm at least once a year that their data is still current and updated.
4. Suppliers can provide their CSD supplier number and unique security code to organs of state to view their varified CSD information.
5. Tenderers are required to fill in clearly, legibly, in bold print and black ink their CSD supplier number in the space hereunder:

Name of Supplier	
Central Supplier Database (CSD) Supplier Number:	

12 TAX CLEARANCE REQUIREMENTS

It is a condition of tender that the taxes of the successful tenderer must be in order, or that satisfactory arrangements have been made with South African Revenue Service (SARS) to meet the Tenderder's tax obligations. It is a condition of this Offer of Commission that your practice remains in good standing with SARS (South African Revenue Services) in terms of its tax clearance, during the project, which is required to process your payment certificates.

1. In order to meet this requirement tenderers are required to apply via e-filing at any SARS branch office nationally. The Tax Complance Status (TCS) requirements are also applicable to foreign Tenderders / individuals who wish to submit Tenders.
2. SARS will then furnish the Tenderder with a Tax Compliance Status (TCS) PIN that will be valid for a period of 1 (one) year from the date of approval.
3. In tenders where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate Tax Compliance Status (TCS) PIN.
4. Application for Tax Compliance Status (TCS) PIN can be done via e-filing at any SARS branch office nationally or on the website www.sars.gov.za.
5. Tax Clearance Certificates may be printed via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website www.sars.gov.za.

6 Tax Clearance Certificates may be printed via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website www.sars.gov.za.

Security PIN Number	
Company / Entity Tax Reference Number	

13 BILLS OF QUANTITIES/LUMP SUM DOCUMENT

The Bills of Quantities document forms part of and must be read and priced in conjunction with all the other documents forming part of the contract documents, the Standard Conditions of Tender, Conditions of Contract, Standard Preambles to all Trades, Specifications, Drawings and all other relevant documentation.

14 VALUE ADDED TAX

The tender price must include for Value Added Tax (VAT). All rates, provisional sums, etc. in the Bills of Quantities must however be net (exclusive of VAT) with VAT calculated and added to the Total Value thereof in the Final Summary.

15 FIXED PRICE CONTRACT

Should the Bills of Quantities/Lump Sum Document be a fixed price contract, the following clause must be inserted in the Pricing Instructions:

Tenderders are to take note that the contract price adjustments are not applicable to this contract. Tenderders should therefore make provision in the Contract Sum, schedule of rates, etc. for possible price increases during the contract period, as no claims in this regard shall be entertained.

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

C2.2 - Preliminaries for GCC for Construction works - 2nd Edition 2010

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

BILL NO. 1
C2 .2 PRELIMINARY AND GENERAL

	NOTES	UNIT	QUANTITY	RATE	AMOUNT
i)	The agreement is to be the General Conditions of Contract for Works of Civil Engineering Construction (2010) (Second Edition), published by the S. A. Institution Of Civil Engineering.				
ii)	The Preliminaries are to be the Construction and management requirements for works contracts - Part 1: General engineering and construction works (SANS 1921-1: 2004 Edition 1) prepared by Standards South Africa and shall be deemed to be incorporated herein.				
iii)	Tenderers are referred to the abovementioned documents for the full intent and meaning of each clause thereof (hereinafter referred to by heading and clause number only) for which such allowance must be made as may be considered necessary.				
iv)	Where standard clauses or alternatives are not entirely applicable to this contract such modifications, corrections or supplements as will apply are given under each relevant clause heading.				
v)	Where any item is not relevant to this specific contract such item is marked N/A (signifying "not applicable").				
vi)	Adjustment of the preliminaries: each item priced, is to be allocated to one or more of the three categories, where "F" denotes a fixed amount (amount not to be varied), "V" denotes an amount variable in proportion to value and "T" denotes an amount in proportion to time.				
vii)	Time (T) related Preliminaries will only be adjusted for omissions or additions, issued by the Employer, or delays caused by the Employer, for which variation and extension of time has been granted. ***See Contract Data*** .				
	SECTION A: GENERAL CONDITIONS OF CONTRACT				
A1	General (clause 1) F:..... V:..... T:.....	Item			
1	Engineer (clause 3) F:..... V:..... T:.....	Item			
A4	Contractor's General Obligation (clause 4) F:..... V:..... T:.....	Item			
A5	Time and Related Matters (clause 5) - As referred to in the Contract Data under Special Condition of Contract. The Contract Period shall be deemed to include all Non – Working Days, Special Non – Working Days and the year-end Builders Annual Industry Holiday Periods. F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
A6	Payment and Related Matters (clause 6)	Item			
	F:..... V:..... T:.....				
A7	Quality and Related Matters (clause 7)	Item			
	F:..... V:..... T:.....				
A8	Risk and Related Matters (clause 8)	Item			
	F:..... V:..... T:.....				
A9	Termination of Contract (clause 9)	Item			
	F:..... V:..... T:.....				
A10	Claims and Disputes (clause 10)	Item			
	F:..... V:..... T:.....				
	SECTION B: SANS 1921-1:2004 (Edition 1): CONSTRUCTION AND MANAGEMENT REQUIREMENTS FOR WORKS CONTRACTS: PART 1				
	Refer to the SCOPE OF WORK for detail requirements:				
B1	Scope				
	F:..... V:..... T:.....	Item			
B2	Normative references				
	F:..... V:..... T:.....	Item			
B3	Definitions				
	F:..... V:..... T:.....	Item			
B4	Requirements for construction and management				
	F:..... V:..... T:.....	Item			
B4.1	General				
	F:..... V:..... T:.....	Item			
B4.2	Responsibilities for design and construction				
	F:..... V:..... T:.....	Item			
B4.3	Planning, programme and method statements				
	F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
B4.4	Quality assurance F:..... V:..... T:.....	Item			
B4.5	Setting out F:..... V:..... T:.....	Item			
B4.6	Management and disposal of water F:..... V:..... T:.....	Item			
B4.7	Blasting F:..... V:..... T:.....	Item			
B4.8	Works adjacent to services and structures F:..... V:..... T:.....	Item			
B4.9	Management of the Works and site F:..... V:..... T:.....	Item			
B4.10	Earthworks F:..... V:..... T:.....	Item			
B4.11	Testing F:..... V:..... T:.....	Item			
B4.12	Materials, samples and fabrication drawings F:..... V:..... T:.....	Item			
B4.13	Equipment F:..... V:..... T:.....	Item			
B4.14	Site establishment F:..... V:..... T:.....	Item			
B4.15	Survey control F:..... V:..... T:.....	Item			
B4.16	Temporary works F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
B4.17	Existing services F:..... V:..... T:.....	Item			
B4.18	Health and safety F:..... V:..... T:.....	Item			
B4.19	Environmental requirements F:..... V:..... T:.....	Item			
B4.20	Alterations, additions, extensions and modifications to existing works F:..... V:..... T:.....	Item			
B4.21	Inspection of adjoining structures, services, buildings and property F:..... V:..... T:.....	Item			
B4.22	Attendance on nominated and selected subcontractors F:..... V:..... T:.....	Item			
	SECTION C: SCOPE OF WORK in accordance with SANS 10403 *(The reference to Clauses refer to Table B.1 of SANS 1921-1:2004)*				
C1	Certification by recognised bodies - CLAUSE 4.4 F:..... V:..... T:.....	Item			
C2	Agrément certificates - CLAUSE 4.5 F:..... V:..... T:.....	N/A			
C3	Other services and facilities - CLAUSE 4.8 F:..... V:..... T:.....	Item			
C4	Recording of weather - CLAUSE 5.2 F:..... V:..... T:.....	Item			
C5	Management meetings - CLAUSE 5.3 F:..... V:..... T:.....	Item			
C6	Daily records CLAUSE 5.6 F:..... V:..... T:.....	Item			
C7	Bond and guarantees - CLAUSE 5.7 F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
C8	Permits - CLAUSE 5.9 F:..... V:..... T:.....	Item			
C9	Proof of compliance with the law - CLAUSE 5.10 F:..... V:..... T:.....	Item			
	SECTION D: SPECIFICATION DATA ASSOCIATED WITH SANS 1921-1:2004 (Table A.1)				
D1	Requirements for drawings, information and calculations for which the contractor is responsible CLAUSE 4.1.7 F:..... V:..... T:.....	Item			
D2	The responsibility strategy assigned to the contractor for the works CLAUSE 4.2.1 F:..... V:..... T:.....	Item			
D3	The planning, programme and method statements - CLAUSE 4.3 F:..... V:..... T:.....	Item			
D4	Samples of materials, workmanship and finishes - CLAUSE 4.12.1 F:..... V:..... T:.....	Item			
D5	Fabrication drawings that the contractor is to provide and deliver to the employer - CLAUSE 4.12.2 F:..... V:..... T:.....	Item			
D6	Office for the foreman CLAUSE 4.14.3 F:..... V:..... T:.....	Item			
D7	Telephone - CLAUSE 4.14.3 F:..... V:..... T:.....	Item			
D8	Office for inspector of works - CLAUSE 4.14.3 F:..... V:..... T:.....	Item			
D9	Telephone in office for inspector of works - CLAUSE 4.14.3 F:..... V:..... T:.....	Item			
D10	Sheds - CLAUSE 4.14.3 F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
D11	Provision and erection of signboards - CLAUSE 4.14.6 F:..... V:..... T:.....	Item			
D12	Termination, diversion or maintenance of existing services - CLAUSE4.17.1 F:..... V:..... T:.....	Item			
D13	Services which are known to exist - CLAUSE 4.17.3 F:..... V:..... T:.....	Item			
D14	Detection apparatus - CLAUSE 4.17.4 F:..... V:..... T:.....	Item			
D15	Additional health and safety requirements - CLAUSE 4.18 F:..... V:..... T:.....	Item			
	SECTION E: SPECIFIC PRELIMINARIES Section E contains Specific Preliminary items which apply to this contract except where "N/A" (Not Applicable) appears against the item.				
E1	**PROPRIETARY BRANDED PRODUCTS** The contractor shall take delivery of, handle, store, use apply and/or fix all proprietary branded products in strict accordance with the manufacturers' instruction after consultation with the manufacturer's authorised representative. F:..... V:..... T:.....	Item			
E2	**OVERTIME** Should overtime be required to be worked for any reason whatsoever, the costs of such overtime are to be borne by the Contractor unless the Engineer/Principal Agent has specifically authorised in writing, prior to the execution thereof, that costs for such overtime are to be borne by the Employer. F:..... V:..... T:.....	Item			
E3	**AS BUILT DRAWINGS** The position of construction breaks and the extent of individual concrete pours are to be recorded by the Contractor on the Structural Engineer's drawings and are to be submitted to the Engineer/Principal Agent and the Structural Engineer for their records. F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

	SECTION E: SPECIFIC PRELIMINARIES	UNIT	QUANTITY	RATE	AMOUNT
E4	**SITE INSTRUCTIONS** Site Instructions issued on site are to be recorded in triplicate in a Site Instruction book which is to be maintained on site by the Contractor. F:..... V:..... T:.....	Item			
E5	**LABOUR RECORD** At the end of each week the Contractor shall provide the Engineer/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. F:..... V:..... T:..... *<u>Note</u> : 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 in the contract. Sanctions may include the application of a financial penalty of .04% of the Contract Sum per calendar day of which the required report has not been submitted.*	Item			
E6	**PLANT RECORD** At the end of each week the Contractor shall provide the Engineer/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. F:..... V:..... T:.....	Item			
E7	**NON CESSION OF MONIES** The Contractor shall not cede nor assign his rights or claims to any monies due or to become due under this contract. F:..... V:..... T:.....	Item			
E8	**SECTIONAL COMPLETION** When it is required that the contract be executed in sections or portions, the tenderer shall allow for all costs in this regard as no claim for additional costs will be entertained. F:..... V:..... T:.....	Item			
E9	**LOCAL LABOUR** It is a general requirement of this contract that persons normally resident in the locality 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 locality, others may be employed subject to satisfactory proof being provided that every reasonable endeavour has been made to employ Local Labour. The Contractor shall identify the local community leaders with the purpose of negotiating with them regarding the utilization of Local Labour 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. The Contractor shall, in general, maximize the involvement of the local community. F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
E10	**IMPORT PERMITS AND DUTIES** The responsibility for obtaining the necessary import permits shall rest with the successful Tenderer. No foreign exchange will be arranged or provided by the Administration. Tenderers are to allow in their tenders and pay the ordinary levy imposed on imported items in terms of item 196.10 of Part 8 of Schedule No. 1 of the Customs and Excise Act, 1964 with effect from 1 October 1989. F:..... V:..... T:.....	Item			
E11	**CONTRACT PRICE ADJUSTMENT PROVISIONS (CPAP)** Notwithstanding anything to the contrary contained in the GCC for Construction Works 2010 2nd Edition, this Contract shall only when the Construction Period exceeds 6 months and the Contract sum exceeds R1,000,000,00 be subject to the Contract Price Adjustment Provisions Indices Application Manual for use with P0151 indices (CPAP) (Revised 1 January 2013) as published by Statistics South Africa. Tenderers are advised that with reference to Clause 3.4.6 of the Contract Price Adjustment Provisions (CPAP) Indices Applications Manual, the Head: Public Works ***will not accept the submission by Tenderers of lists of additional items.*** Where this contract is a Lump Sum contract, the contract will be subject to Contract Price Adjustment Provisions (CPAP) only where the contract period equals or exceeds 6 calendar months. The applicable work group shall be WG 180 for domestic buildings or WG 181 for commercial and industrial buildings. F:..... V:..... T:.....	Item			
E12	**EPWP CONDITIONS AND SPECIFICATIONS** **12.1 EMPLOYMENT TARGETS** E12.1 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 = ……. *[Contractor to fill in an estimated number]* F:..... V:..... T:.....	Item			
	E12.1 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 employement of unskilled labour as per the requirements of the EPWP program; 1. 55% of unskilled labour to be women 2. 55% of unskilled labour to be youth aged between 18 and 35 years 3. 2% of unskilled labour to be people living with disability 4. 100% Unskilled labour utilised must reside within the boundries 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. F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
	E12.1 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. F:..... V:..... T:.....	Item			
	12.2 LABOUR INTENSIVE CONSTRUCTION METHOD E12.2 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 F:..... V:..... T:.....	Item			
	E12.2 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)" F:..... V:..... T:.....	Item			
	E12.3 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. F:..... V:..... T:.....	Item			
	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. F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
	E12.4 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. At the end of each month the contractor must submit the following documents to be attached to the Progress payment certificate: 1. EPWP monthly data collection form 2. Worker monthly payment upload 3. Worker monthly proof of payment i.e 3.1 Acknowledgement of receipt of payment or 3.2 Payslips 3.3 Bank statement highlighted the workers paid 4. Worker monthly training form 5. Monthly attendance register 6. Certified copies of ID's (once off) 7. ID size photos (once off) 8. Proof of UIF 9. Proof of COIDA F:..... V:..... T:.....	Item			
	E12.5 EPWP PROMOTION <u>12.5.1 EPWP signage board</u> 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. the standard "HELVETIVA MEDUIM " letters are to be used . Professional title to be 10 mm above line . Line thickness to be 8 mm thick . Space between bottom of the line and bottom of the lettering below the line has to be 100 mm. Letter sizes are as follows : Helvetica meduim 100 mm black upper case to be for project name and owner . Helvetica meduim 75mm black upper case only to be used for professional titles.Project name and owner shall be black lettering on white background.board sizes are as follows : Board to be minomum 2000mm from ground level and to be constructed from reinforced formed chromadek panels minimum 0,6mm thick chromadek. The contractor is responsible for ensuring that the project board remains neatly and safely erected for the full duration including maintenance period,after which the project board and post are to be dismantled and handed to the client in good order. F:..... V:..... T:.....	Item			
	<u>12.5.2 Branding of labour apparel</u> Contractor & Sub-contractors' labourers shall be provided with EPWP branded Personal Protective Equipment (PPE), reflector vest with EPWP wording 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 17.5.1 and 17.5.2 F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
	E12.6 COMMUNITY LIAISON OFFICER (CLO) UTILISATION OF A COMMUNITY LIAISON OFFICER In addition to the requirements of Clause E9, contained in this document; 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 In the interest of providing a sound service to both the community and the Contractor, a CLO may only manage one project at a given time. A CLO will be identified by the local structures 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 recommenda-tion 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:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
	E12.7 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. F:..... V:..... T:.....	Item			
	E12.8 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: <u>African Equity Ownership</u> a) 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. b) The Priority Population Group consists of women, youth and disabled people. c) 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). d) 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. F:..... V:..... T:..... <u>TENDERER'S TO NOTE CONDITIONS</u> 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.	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
	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 chargeby 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. F:..... V:..... T:.....	Item			
	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. F:..... V:..... T:.....	Item			
	E12.9 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. Each contract will lapse at the end of each financial year therefore requiring the Contractor to do a renewal of each contract should the need of employment still exist for that particular labourer. F:..... V:..... T:.....				
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
	E12.10 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. F:..... V:..... T:.....	Item			
	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 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. <u>Payment for the labour-intensive component of the works</u> Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict. <u>Linkage of payment for labour-intensive component of works to submission of project data</u> The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframe stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted. <u>Applicable labour laws</u> The current Ministerial Determination (also downloadable at <u>www.epwp.gov.za</u>) Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice , shall apply to works described in the scope of work as being labour-intensive and which are undertaken by unskilled or semi-skilled workers. F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
E13	**HIV/AIDS AWARENESS** Tenderers are to price against the following items for compliance with the SPECIFICATION FOR HIV/AIDS AWARENESS bound into this document (The clauses referred to are those of the Specification for HIV/AIDS)				
E13.1	Provide and maintain a condom dispenser in terms of Clause 5.1a) F:..... V:..... T:.....	Item			
E13.2	Provide and maintain HIV/AIDS awareness posters terms of Clause 5.1b) F:..... V:..... T:.....	Item			
E13.3	HIV /Aids Awareness Programme on Site for not less than 90% of workers inclusive of all direct and indirect costs; Engage a qualified service provider as described in the scope of works to conduct an HIV Awareness Programme in terms of Clause 5.2.1a) F:..... V:..... T:.....	Item			
E13.4	Arrange for workers to attend the HIV Awareness Programme in terms of Clause 5.2.1b) F:..... V:..... T:.....	Item			
E13.5	**Reporting** Prepare and attach to claims for payment a brief report in terms of Clause 5.3 (see also HIV/STI Compliance Report included with this document). F:..... V:..... T:..... ***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 per calendar day of which the required reports has not been submitted.***	Item			
E14	**OCCUPATIONAL HEALTH AND SAFETY ACT NO. 85 OF 1993** Tenderers are to allow for costs in providing a project specific ' Construction Phase Safety, Health and Environmental Plan' in accordance with "Section 2 - Specification Data associated with SANS 1921-1:2004" clause C4.18 in "Part C3 - Scope of Work" F:..... V:..... T:.....	Item			
E15	**NOTICE BOARD, SITE OFFICE, ETC.** Tenderers are to allow for the provision and removal of a project notice board and a site office in accordance with the Principal Agent's requirements. F:..... V:..... T:.....	Item			
E16	**IMPORTED MATERIALS AND EQUIPMENT** Where imported items are listed in the tender documents, the tenderer shall provide all information called for, failing which the price of any such item, material or equipment shall be excluded from currency fluctuations. (***Refer to T2.14 - Schedule of Imported Materials and Equipment***. F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
E17	**CONTRACT DOCUMENTS** The drawings issues with these Tender documents do not comprise the complete set but serves as a guide only for tendering purposes and for indicating the scope of works to enable the Tenderer to acquaint him with the nature and extent of the works and the manner in which they are to be executed. Should any part of the drawings not be clearly legible to the Tenderer he shall, before submitting his Tender, obtain clarification in writing from the principal agent. F:..... V:..... T:.....	Item			
E18	**GENERAL PREAMBLES** The Document Preambles will be the "ASAQS Model Preambles for Trades – 2008" and is obtainable from the various Regional Office's of the Department of Public Works and shall be read in conjunction with the Bills of Quantities and be referred to for the full descriptions of work to be done and materials to be used. F:..... V:..... T:.....	Item			
E19	**TRADE NAMES** Wherever a Trade Name for any product has been described in the Bills of Quantities the Tenderer's attention is drawn to the fact that any other product of equal quality may be used subject to the written approval of the Principal Agent being obtained prior to the closing date for submission of Tenders. F:..... V:..... T:.....	Item			
E20	**EXISTING PREMISES OCCUPIED** Refer to Scope of Works Part C3 of this Tender Document for information on the occupation of existing buildings. F:..... V:..... T:.....	Item			
E21	**INACCURATE AND DEFECTIVE WORK EXECUTED UNDER PREVIOUS CONTRACT** The contractor shall, after taking possession of the site and before commencing the work, check all levels, liners, profiles and the like and satisfy himself as to the dimensional accuracy of all work executed under the previous contract which may affect his work. Should any inaccurate or defective work be found, the contractor shall immediately notify the principal agent in writing requesting his instructions with regard thereto and afford every facility to those rectifying such inaccurate or defective work. F:..... V:..... T:.....	Item			
E22	**VIEWING THE SITE IN SECURITY AREAS** If the site is situated in a security area and the Tenderder must arrange with the Authorities to obtain permission to enter the site for Tenderding purposes. F:..... V:..... T:.....	Item			
	Carried forward to collection			R	

		UNIT	QUANTITY	RATE	AMOUNT
E23	**COMMENCEMENT OF WORKS IN SECURITY AREAS** If the works falls within a security area, the contractor must arrange with the Authorities and give the necessary notices before commencement of the works. Should the contractor fail to make such arrangements, admission to the site may be refused and any additional costs will be for the contractor's account. F:..... V:..... T:.....	Item			
E24	**ENTRANCE PERMITS TO SECURITY AREAS** If the works fall within a security area, the contractor shall obtain entrance permits for his personnel and workmen entering the area and shall comply with all regulations and instructions which may be issued from time to time regarding the protection of persons and property under control of the Authority. F:..... V:..... T:.....	Item			
E25	**SECURITY CHECK OF PERSONNEL** The principal agent may require the contractor to have his personnel and workmen, or a certain number of them, security classified. In the event of the principal agent requesting the removal of a person or persons from the works for security reasons, the contractor shall do so forthwith and shall thereafter ensure that such person or persons are denied access to the works and the site and/or to any document or information relating to the works. F:..... V:..... T:.....	Item			
E26	**PROHIBITION ON TAKING PHOTOGRAPHS** In terms of article 119 of the Defence Act, 44 of 1957, it is prohibited to sketch or to take photographs of any military site or installation or any building or civil works thereon or to be in possession of a camera or other apparatus used for taking photographs, except when authorised thereto by or on behalf of the Minister. The same prohibition is also applicable to all Correctional Institutions in terms of article 44.1(e) of the Correctional Services Act 8 of 1959. F:..... V:..... T:.....	Item			
E27	Management of Water Water for Construction purposes must be obtained from alternative water sources (i.e. supply other than water that is produced and distributed by a regulated water service authority from a licenced water treatment works for human consumption), eg dams, rivers, boreholes, springs, rainwater harvesting, recycled sewerage water,etc. The alternative water source shall not be of an inferior quality / standard than that required for construction purposes. The client reserves the rigfht through his agents to test such supplies or request certificates confirming the grade and nature of the water supply. Relevant knowledge of the respective area will be an advantage.				
	Carried forward to collection			R	

SECTION 1

SUMMARY – PRELIMINARY & GENERAL

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	11	R	
	12	R	
	13	R	
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Section No. 1
Preliminary & General
Summary

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

PART C2.3 BILL OF QUANTITIES

	BILL NO. 2 GENERAL ELECTRICAL ITEMS	UNIT	QTY	RATE	AMOUNT
1	Allowance for Eskom's Distribution Standard Connection Charge (for the NMD increase from 600 kVA to 1 MVA).	Item	1	R 150 000,00	R 150 000,00
2	Handling fee on the above item	Item	%		
3	Allowance for Eskom connection fees	Item	1	R 200 000,00	R 200 000,00
4	Handling fee on the above item	Item	%		
5	Trace and mark the existing medium voltage cable between Minisub 1 and Minisub 2 (approx. 300 m of cable). Rate to be exclusive of cable marker. Cable markers priced under Bill No. 7 Item 52.	Item	1		
6	Trace and mark the existing medium voltage cable between Minisub 2 and Minisub 3 (approx. 100 m of cable). Rate to be exclusive of cable marker. Cable markers priced under Bill No. 7 Item 52.	Item	1		
7	Trace and mark the existing medium voltage cable between Minisub 3 and Minisub 4 (approx. 250 m of cable). Rate to be exclusive of cable marker. Cable markers priced under Bill No. 7 Item 52.	Item	1		
8	Trace all circuits fed from Minisub 1 and markup the single-line diagram of existing Minisub 1. Confirm the cable sizes and markup on the single-line diagram.	Item	1		
9	Trace all circuits fed from Minisub 2 and markup the single-line diagram of existing Minisub 2. Confirm the cable sizes and markup on the single-line diagram.	Item	1		
10	Supply and install traffolyte type labels for all feeder circuit breakers of Minisub 2 indicating the circuits fed. The labels shall be fixed to the low-voltage assembly with nuts and bolts or pop-riveted.	Item	1		
11	Trace all circuits fed from Minisub 3 and markup the single-line diagram of existing Minisub 3. Confirm the cable sizes and markup on the single-line diagram.	Item	1		
12	Undertake data logging / power quality analysis for a period of 30 days to determine the existing load and the current power factor.	Item	5		
13	Compile and provide a report for the data logging with full analysis and graphs showing loading on a daily basis, weekly basis and for the entire duration of load logging and the power factor	Item	1		
14	Supply certificates of complince for the entire installation in accordance with all relevant standards.	Item	1		
15	Supply as-built drawings for the entire installation in hardcopy and electronic (PDF & DWG) format	Item	1		
	CARRIED FORWARD TO FINAL SUMMARY				

	BILL NO. 3 MEDIUM VOLTAGE (MV) SWITCHGEAR	UNIT	QTY	RATE	AMOUNT
	New MV Switchgear and Controlgear				
	NOTE: Tenderers to note that the following items shall be read in conjunction with Section C of the project specification.				
1	Supply and deliver 12 kV, 25kA/3s, 95 kV BIL, fixed-pattern vacuum insulated incomer switchgear panel complete with a motorised 630 A vacuum circuit breaker, 630 A 3-position switch-disconnector, integral earthing switch, protection relays, current and voltage transformers. The MV switchgear panel shall be in accordance with Section C of the project specification.	No.	1		
2	Supply and deliver 12 kV, 25kA/3s, 95 kV BIL, fixed-pattern vacuum insulated feeder switchgear panel complete with a motorised 630 A vacuum circuit breaker, 630 A 3-position switch-disconnector, integral earthing switch, protection relays, current and voltage transformers. The MV switchgear panel shall be in accordance with Section C of the project specification.	No.	2		
3	Move the switchgear panels per Items 1 & 2 into position inclusive of providing necessary rigging facilities.	Item	1		
4	Install the complete 3-panel switchgear assembly inclusive of levelling, final alignment, interconnecting busbars, control wiring, etc.	Item	1		
5	Allow for factory acceptance testing (FAT) of the compete 3-panel switchgear at the manufacturer's premises prior to delivery to site as specified in Section C of the project specification.	Item	1		
6	Allowance for 2 Employer's representatives to witness the factory acceptance testing of the complete 3-panel switchgear, inclusive of travel costs and accommodation if necessary. Travel and accomodation to be in line with the Department's S&T Policy.	Item	1		
7	Allow for site acceptance testing (SAT) and commissioning of the complete 3-panel switchgear assembly as specified in Section C of the project specification. Rate to be inclusive of protection coordination and setting of relays. Tenderer shall allow for a manufacturer's engineer or technicain to oversee the SAT and commissioning.	Item	1		
8	Supply and install a 110V DC battery tripping unit complete with a 230V AC single-phase battery charger and lithium-ion batteries as specified in Section C of the project specification.	No.	1		
9	Allow for a specialist to design, supply, install, test, and commission a distribution network monitoring system as per drawing no. W079513-ELEC112.	Item	1		
10	Budgetary allowance for protection coordination settings	Item	1	R 300 000,00	R 300 000,00
	Existing MV Switchgear				
11	Isolate, disconnect, mark off power cables, remove, and dispose of existing 6-panel withdrawable oil medium voltage switchgear.	Item	1		
	CARRIED FORWARD TO FINAL SUMMARY				

	BILL NO. 4 MINIATURE SUBSTATIONS	UNIT	QTY	RATE	AMOUNT
	New Mini-Substations 1 & 3				
1	Supply 315 kVA mini-substation in 3CR12 enclosure equipped with the following: • 12 kV, 25 kA/3s, 95 kV BIL, 3-way vacuum ring main unit complete with 1 x 200 A vacuum circuit breaker and 2 x 630 A switch-disconnector • 315 kVA, 11000/420V ONAN cooled transformer • Low-voltage assembly as per drawing no. W079513-ELEC107. The mini-substation shall be in accordance with Section F of the project specification.	No.	1		
2	Supply 500 kVA mini-substation in 3CR12 enclosure equipped with the following: • 12 kV, 25 kA/3s, 95 kV BIL, 3-way vacuum ring main unit complete with 1 x 200 A vacuum circuit breaker and 2 x 630 A switch-disconnector • 500 kVA, 11000/420V ONAN cooled transformer • Low-voltage assembly as per drawing no. W079513-ELEC108. The mini-substation shall be in accordance with Section F of the project specification.	No.	1		
3	Delivery and rigging into a position of a mini-substation per Items 1 & 2	No.	2		
4	Allow for factory acceptance testing of a mini-substation at the manufacturer's premises prior to delivery to site as specified in Section F of the project specification.	No.	2		
5	Allowance for 2 Employer's representatives to witness the factory acceptance testing of a mini-substation, inclusive of travel costs and accommodation if necessary. Travel and accomodation to be in line with the Department's S&T Policy.	Item	2		
6	Allow for site acceptance testing (SAT) and commissioning of the mini-substation as specified in Section F of the project specification. Rate to be inclusive of protection coordination and setting of relays. Tenderer shall allow for a manufacturer's engineer or technicain to oversee the SAT and commissioning.	Item	2		
7	Supply a precast concrete plinth for a Type B mini-substation as specified by SANS 1029.	No.	2		
8	Deliver and offload into position a precast concrete plinth for a Type B mini-substation as per Item 7.	Item	2		
	Existing Mini-Substations 1 & 3				
9	Isolate, disconnect, and mark off all existing cables fed from the mini-substation low-voltage assembly.	Item	2		
10	Isolate, disconnect, remove, transport offsite, and dispose of existing mini-substation 1 complete with an oil-insulated ring main unit, ONAN cooled transformer, and low-voltage section. Tenderer shall produce a disposal certificate.	Item	1		
	CARRIED FORWARD TO THE NEXT PAGE				

	BILL NO. 4 MINIATURE SUBSTATIONS	UNIT	QTY	RATE	AMOUNT
	BROUGHT FORWARD FROM PREVIOUS PAGE				
11	Isolate, disconnect, remove and transport to the maintenance workshop within Umgeni Hospital for storage the existing mini-substation 3 complete with an oil-insulated ring main unit, ONAN cooled transformer, and low-voltage section.	Item	1		
	Existing Mini-Substation 2 & 4				
12	Supply and install power meter as PM5110 or Diris A30 or similar to a low-voltage assembly of an existing mini-susbtation.	No.	2		
13	Isolate, disconnect, and mark off cables fed from mini-substation 4.	Item	1		
14	Allow for day hire of a crane truck capable of lifting a 3500 kg Type B mini-substation and a Type B mini-substation precast concrete plinth. Tenderer's rate shall be inclusive of a crane operator.	Day	1		
	NOTE: Items 15, 16, 17 & 18 shall be undertaken using the crane truck hired per Item 14. Tenderer's rates shall be exclusive of a crane truck hire.				
15	Lift/rig the existing mini-substation 4 from the existing position to the side / onto the crane truck to allow for soil compaction below the mini-substation plinth.	Item	1		
16	Lift/rig the existing mini-substation 4 precast concrete plinth to the side to allow for soil compaction on the existing position of the plinth.	Item	1		
17	Lift/rig the existing mini-substation 4 precast concrete plinth to the original position.	Item	1		
18	Lift/rig the existing mini-substation 4 to the original position.	Item	1		
19	Connect existing cables to the low-voltage assembly of mini-substation 4 as per the mark-offs.	Item	1		
20	Allow for corrosion treatment of mini-substation 4 metal enclosure and re-coating with an Avocado (Colour C12 as per SANS 1091) finish.	Item	1		
	CARRIED FORWARD TO FINAL SUMMARY				

	BILL NO. 5 TRANSFORMER & RING MAIN UNIT	UNIT	QTY	RATE	AMOUNT
	New Local Transformer				
1	Supply, deliver, and install a 500 kVA 11000/420V Dyn11 ONAN cooled indoor distribution transformer with a conservator tank. The transformer shall be as specified in Section E of the project specifications. The rate shall be exclusive of cable terminations.	No.	1		
2	Factory acceptance testing of the transformer at the manufacturer's premises prior to delivery to site as specified in Section E of the project specifications.	Item	1		
	Allowance for 2 Employer representatives to witness the factory acceptance testing of the transformer, inclusive of travel costs and accommodation if necessary. Travel and accomodation to be in line with the Department's S&T Policy.	Item	1		
3	Site acceptance testing (SAT) and commissioning as specified in Section E of the project specifications. Tenderer shall allow for a manufacturer's engineer or technician to oversee the SAT and commissioning.	Item	1		
	New Local Transformer Ring Main Unit				
4	Supply, deliver, and install a 12 kV, 25 kA/3s, 95 BIL, 3-way vacuum-insulated ring main unit complete with 1 x transformer feeder equipped with a 200 A vacuum circuit breaker; and 2 x ring feeders equipped with 630 A switch-disconnectors. The ring main unit shall be in accordance with Section D of the project specification.	No.	1		
5	Factory acceptance testing of the ring main unit at the manufacturer's premises prior to delivery to site as specified in Section D of the project specifications.	Item	1		
6	Allowance for 2 Employer representatives to witness the factory acceptance testing of the transformer, inclusive of travel costs and accommodation if necessary. Travel and accomodation to be in line with the Department's S&T Policy.	Item	1		
7	Site acceptance testing (SAT) and commissioning as specified in Section D of the project specifications. Rate to be inclusive of protection coordination and setting of relays. Tenderer shall allow for a manufacturer's engineer or technician to oversee the SAT and commissioning.	Item	1		
	Existing Local Transformer				
8	Isolate, disconnect, remove, transport offsite, and dispose of an existing 500 kVA 11000/400V ONAN cooled transformer. Tenderer shall produce a disposal certificate.	No.	1		
	CARRIED FORWARD TO FINAL SUMMARY				

	BILL NO. 6 LOW-VOLTAGE (LV) EQUIPMENT	UNIT	QTY	RATE	AMOUNT
	New Local Transformer LV Panel				
1	Supply, deliver, and install a 400 V distribution panel complete with circuit breaker, current transformer, power meters, etc. as per drawing no. W079513-ELEC106.	No.	1		
2	Allow for factory acceptance testing of the LV panel prior to delivery to site.	Item	1		
3	Allowance for 2 Employer representatives to witness the factory acceptance testing of the PFC units, inclusive of travel costs and accommodation if necessary. Travel and accomodation to be in line with the Department's S&T Policy.	Item	1		
4	Allow for site acceptance testing and commissioning.	Item	1		
	Outdoor Kiosks				
5	Supply and install a ground mounted kiosk in an IP65 lockable enclosure manufactured from 3CR12 steel as per drawing no. W079513-ELEC110 inclusive of testing and commissioning. Tenderer shall allow for the construction of a concrete plinth.	No.	1		
6	Supply and install a ground mounted kiosk in an IP65 lockable enclosure manufactured from 3CR12 steel as per drawing no. W079513-ELEC111 inclusive of testing and commissioning. Tenderer shall allow for the construction of a concrete plinth.	No.	1		
7	Isolate, disconnect, remove, and dispose of an existing outdoor kiosk (Kiosk UM) complete with 4 x MCCBs, 1 x MCB, and a surge arrestor.	Item	1		
	Distribution Boards				
8	Supply and install a 400 V distribution board complete with circuit breakers, busbars, etc. as per drawing no. W079513-ELEC109 inclusive of testing and commissioning.	No.	1		
	Power Factor Correction Units (for Mini-substations 2 & 4)				
9	Supply, deliver, and install a 200 kVAr 400V power factor correction (PFC) unit in a 3CR12 IP65 enclosure mounted on a concrete plinth near an existing mini-substation. Tenderer shall allow for the construction of a concrete plinth. The PFC unit shall be as specified in Section 0 of the project specification.	No.	2		
10	Factory acceptance testing of the PFC unit at the manufacturer's premises prior to delivery to site.	Item	1		
11	Allowance for 2 Employer representatives to witness the factory acceptance testing of the PFC units, inclusive of travel costs and accommodation if necessary. Travel and accomodation to be in line with the Department's S&T Policy.	Item	1		
12	Site acceptance testing and commissioning of the PFC unit	Item	1		
	CARRIED FORWARD TO FINAL SUMMARY				

	BILL NO. 7 CABLES AND WIREWAYS	UNIT	QTY	RATE	AMOUNT
	Medium Voltage Cabling				
1	Supply 95mm^2 3 core Cu XLPE PVC SWA PVC 6,35/11kV cable manufactured to SANS 1339 Type A. Cables shall be of continuous lengths i.e no joints.	m	900		
2	Install 95mm^2 3 core XLPE PVC SWA PVC 6,35/11kV cable direct in ground and in sleeves. Excavations measured elsewhere.	m	900		
3	Terminate 95mm^2 3 core XLPE PVC SWA PVC 6,35/11kV cable including connection of cores to equipment terminals.	No.	15		
4	Joint for 95mm^2 3 core XLPE PVC SWA PVC 6,35/11kV cable	No.	2		
5	Label cable at each end to identify size and origin	No.	15		
	Low Voltage Cabling				
	Supply, and deliver the following 600/1000V Cu PVC PVC SWA ECC PVC cable manufactured to SANS 1507. Cables shall be of continuous lengths i.e no joints.				
6	185 mm^2 4 core	m	35		
7	150 mm^2 4 core	m	60		
8	120 mm^2 4 core	m	30		
9	95 mm^2 4 core	m	20		
10	70 mm^2 4 core	m	20		
11	50 mm^2 4 core	m	30		
12	35 mm^2 4 core	m	30		
13	25 mm^2 4 core	m	35		
14	16 mm^2 4 core	m	30		
15	16 mm^2 2 core	m	50		
15	10 mm^2 4 core	m	50		
16	6 mm^2 4 core	m	50		
17	6 mm^2 2 core	m	50		
	CARRIED FORWARD TO THE NEXT PAGE				

	BILL NO. 7 CABLES AND WIREWAYS	UNIT	QTY	RATE	AMOUNT
	BROUGHT FORWARD FROM THE PREVIOUS PAGE				
	Install the following 600/1000V Cu PVC PVC SWA ECC PVC cables in sleeves, ducts, on cable ladders, fixed to the surface, etc. Excavations and terminations measured elsewhere.				
18	185 mm^2 4 core	m	35		
19	150 mm^2 4 core	m	60		
20	120 mm^2 4 core	m	30		
21	95 mm^2 4 core	m	20		
22	70 mm^2 4 core	m	20		
23	50 mm^2 4 core	m	30		
24	35 mm^2 4 core	m	30		
25	25 mm^2 4 core	m	35		
26	16 mm^2 4 core	m	30		
27	16 mm^2 2 core	m	50		
28	10 mm^2 4 core	m	50		
29	6 mm^2 4 core	m	50		
30	6 mm^2 2 core	m	50		
	Terminate the following 600/1000V Cu PVC PVC SWA ECC PVC cables including connection of cores to equipment terminals.				
31	185 mm^2 4 core	m	10		
32	150 mm^2 4 core	m	10		
33	120 mm^2 4 core	m	10		
34	95 mm^2 4 core	m	10		
35	70 mm^2 4 core	m	10		
36	50 mm^2 4 core	m	10		
37	35 mm^2 4 core	m	10		
38	25 mm^2 4 core	m	10		
	CARRIED FORWARD TO THE NEXT PAGE				

	BILL NO. 7 CABLES AND WIREWAYS	UNIT	QTY	RATE	AMOUNT
	BROUGHT FORWARD FROM THE PREVIOUS PAGE				
	Terminate the following Cu PVC PVC SWA ECC PVC cables including connection of cores to equipment terminals.				
39	16 mm^2 4 core	m	10		
40	16 mm^2 2 core	m	10		
41	10 mm^2 4 core	m	10		
42	6 mm^2 4 core	m	10		
43	6 mm^2 2 core	m	10		
	Excavations and Backfilling				
	Trenching in the following soil conditions including temporary support of trench sides and keeping excavations dry. Any damage to existing services shall be made good by the Contractor at his own expense and to the approval of the Engineer.				
44	500mm wide x 600mm deep in soft and pickable soil (LI)	m	10		
45	500mm wide x 600mm deep in hard or rocky soil (LI)	m	5		
46	500mm wide x 1000mm deep in soft and pickable soil (LI)	m	850		
47	500mm wide x 1000mm deep in hard or rocky soil (LI)	m	50		
48	Backfill 150 mm deep with approved sifted soil (sieve of 12mm mesh wire shall be used to sift soil) and compact. Rate shall include the supply and delivery of bedding sand where required.	m	900		
49	Backfill 250mm deep with approved sifted soil (sieve of 12mm mesh wire to be used) after laying of cable and hand compact. Rate shall include the supply and delivery of sand for blanket layer where required.	m	900		
50	Backfill with the remaining soil and compact in layers of 300mm to 90% MOD AASHTO.	m	900		
51	Supply and install 450mm wide, 1000mm long, and 12mm thick PVC cable protection covers as Stokboard cable cover. Covers shall be marked "ELECTRICAL CABLE BELOW".	No.	900		
52	Supply and install 25MPa, 300mm height, precast concrete cable route markers with a 2mm aluminium, 100mm x 100 mm label plate cast at the top of the cable marker. Label plate shall indicate the cable size, origin, and destination.	No.	60		
53	Allow for cutting and breaking down of walkway concrete floor (600mm x 1500mm). Rate to include the removal and disposal of the rubble.	Item	1		
	CARRIED FORWARD TO THE NEXT PAGE				

	BILL NO. 7 CABLES AND WIREWAYS	UNIT	QTY	RATE	AMOUNT
	BROUGHT FORWARD FROM THE PREVIOUS PAGE				
54	Allow for the reinstatement of the walkway concrete floor (600mm x 1500mm) to the original condition including the supply of all required materials.	Item	1		
55	Allow for the reinstatement of tar surfaces, including the supply of all required materials. Road crossings shall be compacted to 98% MOD AASHTO.	m^2	100		
56	Supply and install 110mm black perforated cable sleeves as indicated on the drawings.	m	1200		
	CARRIED FORWARD TO FINAL SUMMARY				

	BILL NO. 8 TEMPORARY SUPPLIES	UNIT	QTY	RATE	AMOUNT
1	Daily rate for a 500 kVA containerised generator set hire excluding fuel	Day	10		
2	Diesel fuel rate per litre	Litre	15000		
	Carry out a major service on the following generator sets:				
3	60 kVA three-phase	Item	1		
4	100 kVA three-phase	Item	1		
5	205 kVA three-phase	Item	1		
	CARRIED FORWARD TO FINAL SUMMARY				

	BILL NO. 9 SMALL POWER AND LIGHTING	UNIT	QTY	RATE	AMOUNT
	Supply, install and terminate the following 300/500V Cu surfix cable				
1	2.5 mm^2 2 core	m	100		
2	4 mm^2 2 core	m	100		
3	6 mm^2 2 core	m	20		
4	Supply and install on a concrete surface a Ø25 mm straight PVC conduit including, bends, saddles, couplings, etc.	m	25		
	Supply and install on a concrete surface the following PVC round conduit boxes complete with lids.				
5	1 way side entry 25 mm	No.	5		
6	2 way through 25 mm	No.	5		
7	2 way angle 25 mm	No.	10		
8	3 way side entry 25 mm	No.	5		
9	Supply and install a 30A 2 Pole surface mount industrial isolator in IP65 enclosure.	No.	1		
10	Supply and install 16A industrial combination switched socket outlet (SSO) on white steel surface box compete with 1 x SANS 164-1 & 1 x SANS 164-2 SSO and white steel cover plate.	No.	8		
11	Supply and install a 20A 1 lever 1 way light switch on yoke compete with a white steel cover plate.	No.	6		
12	Supply and install a 20A 1 lever 2 way light switch on yoke complete with a white steel cover plate.	No.	1		
13	Supply and install a 20A 1 lever 2 way 75x75 industrial light switch on white steel surface box.	No.	1		
14	Supply and install a 5ft 2 x 24W double LED T8 4000K CRI > 80; pf > 0,9 surface mount light fitting complete with tubes/bulbs and IP65 vapourproof housing.	No.	10		
	Disconnect, remove, and dispose the following installed in the substation building.				
15	Fluorescent light fittings including a disposal certificate.	Item	1		
16	Light switches	Item	1		
17	Socket outlets	Item	1		
	CARRIED FORWARD TO FINAL SUMMARY				

	BILL NO. 10 EARTHING & LIGHTNING PROTECTION	UNIT	QTY	RATE	AMOUNT
1	Allow for measuring of earth resistivity over the site and provide a report.	Item	1		
2	Design, supply and installation of earthing and lightning protection system by a specialist including the certificate of compliance for the entire works including the main substation building and all miniature substations. The earthing and lightning protection systems shall comply to all relevant standards including SANS 10199, SANS 10313, SANS/IEC 62305.	Item	1		
	CARRIED FORWARD TO FINAL SUMMARY				

	BILL NO. 11 BUILDER'S / CIVIL WOKKS	UNIT	QTY	RATE	AMOUNT
	Mini-Substation 4				
1	Allow for cleaning around mini-substation 4 including the removal and disposal of rubbish, debris, hedges, vegetation, etc.	Item	1		
2	Excavate 150mm deep on soft, pickable soil with a pick and shovel and compact to 90% MOD AASHTO.	m^2	25		
3	Fill 150mm deep excavated area around mini-substation 4 with aggregate 15-20mm aggregate	m^2	25		
	Main Substation Building				
4	Allow for a concrete roof waterproofing specialist to assess the existing waterproofing on the main substation building (15600 mm x 6500mm) and provide a detailed report.	Item	1		
5	Provision for waterproofing of the main substation concrete roof.	Item	1		
6	Supply and install 100mm x 75mm x 0.4mm galvanised square steel gutter including gutter bracket mounted on concrete roof.	m	30		
7	Supply and install 100mm x 75mm x 0.4mm galvanised steel square gutter with stop end and square outlet.	No.	4		
8	Supply and install 100mm x 75mm x 0.4mm galvanised steel gutter offset.	No.	4		
9	Supply and install 100mm x 75mm x 0.4mm galvanised square downpipe including 100mm x 75mm galvanised holderbat.	m	15		
10	Supply and install 100mm x 75mm x 0.4mm galvanised downpipe shoe crimped including 100mm x 75mm galvanised holderbat.	No.	4		
11	Remove and dispose of the existing 3000mm high wooden substation door (double door) and frame.	No.	6		
12	Supply and install a substation steel door complete with a frame as per drawing no. W079513-ELEC200.	No.	7		
13	Remove and dispose of the existing wooden louvres in the transformer room.	No.	4		
14	Supply and install steel louvres to fit the existing openings in the transformer room. The internal section of the louvres shall be covered with a 30 x 10 x 1.6 mm steel mesh.	No.	4		
15	Allow for extending the existing trenches in the main MV switchroom to be 700 mm wide and 1000 mm deep.	m	7		
16	Allow for cutting the surface bed in the proposed RMU room, breaking and removing concrete, and excavating to create a 700 mm wide and 1000 mm deep trench.	m	4		
	CARRIED FORWARD TO FINAL SUMMARY				

FINAL SUMMARY

	BILL NO. 1 - PRELIMINARY AND GENERAL				
	BILL NO. 2 GENERAL ELECTRICAL ITEMS				
	BILL NO. 3 - MEDIUM VOLTAGE (MV) SWITCHGEAR				
	BILL NO. 4 MINIATURE SUBSTATIONS				
	BILL NO. 5 - TRANSFORMER AND RING MAIN UNIT				
	BILL NO. 6 - LOW-VOLTAGE (LV) EQUIPEMENT				
	BILL NO. 7 - CABLES AND WIREWAYS				
	BILL NO. 8 - TEMPORARY SUPPLIES				
	BILL NO. 9 - SMALL POWER AND LIGHTING				
	BILL NO. 10 - EARTHING & LIGHTNING PROTECTION				
	BILL NO. 11 - BUILDER'S / CIVIL WORK				
	TOTAL TENDER PRICE EXCLUDING VAT				
	VAT (15%)				
	TOTAL TENDER PRICE INCLUDING VAT (CARRIED TO T2.21 - FORM OF OFFER AND ACCEPTANCE)				

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

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:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender no:	**ZNTM01256W**	**Project Code:**	**079513**

SECTION 1

1 EXTENT OF THE WORKS

1.1 EMPLOYERS OBJECTIVES

• To upgrade the hospital's 11 kV / 400V distribution network to enhance its performance and ensure the reliability of the power supply.

1.2 OVERVIEW OF THE WORKS

• Replacement of the primary MV switchgear.
• Replacement of two miniature substations.
• Replacement of medium voltage cables.
• Replacement of an indoor distribution transformer and associated low-voltage panel.
• Installation of a ring main unit.
• Refurbishment of the main substation building.

1.3 EXTENT OF THE WORKS

The scope of work includes but is not limited to the work listed below.

a) Decommission the existing 11kV 400A 6-panel oil medium voltage switchgear.
b) Decommission the existing Type B miniature substation 1 equipped with an 11kV oil-insulated RMU, 315kVA transformer, and low voltage section.
c) Decommission the existing Type B miniature substation 3 equipped with an 11kV oil-insulated RMU, 500kVA transformer, and low voltage section.
d) Decommission the existing 11000/400V, 500kVA oil-immersed indoor distribution transformer.
e) Decommission Eskom's existing 11 kV one-panel oil-insulated medium voltage switchgear.
f) Supply, installation and commissioning of new 11kV, 630A 3-panel vacuum medium voltage switchgear panels and battery tripping unit.
g) Supply, installation and commissioning of new 11kV, 630A 2-panel vacuum medium voltage switchgear panels and battery tripping unit.
h) Supply, installation and commissioning of Type B miniature substation complete with 11kV vacuum RMU, 315kVA oil-immersed transformer, and low voltage section.
i) Supply, installation and commissioning of Type B miniature substation complete with 11kV vacuum RMU, 500kVA oil-immersed transformer, and low voltage section.
j) Supply and installation of power quality meters for load logging and harmonic content monitoring.
k) Supply and installation of power factor correction units.
l) Supply and installation of 95 mm2 3 core XLPE Cu PVC SWA PVC 6.35/11kV cables.
m) Supply and install 600/1000V low voltage cables.
n) Refurbishment of the main substation building including replacing substation doors and waterproofing.
o) Supply and install a new 11000/400V indoor distribution transformer.
p) Supply and install an 11kV vacuum insulated ring main unit.
q) Replacement of low voltage main distribution panels, distribution boards, and outdoor kiosks.
r) Supply and install digital power meters in Minisub 2 and 4 low-voltage sections.
s) Supply and installation of earthing system and lightning protection.
t) Miniature substation 4 refurbishment – clearing vegetation around the mini-substation; disconnection of all feeder cables, rigging mini-substation and plinth to a temporary position; ground levelling and soil compaction on original position; rigging plinth and mini-substation to original position; and reconnection of all feeder cables.

1.4 LOCATION OF THE WORKS

The site is situated within the premises of the Umgeni Hospital in Howick under Umgeni Local Municipality. The hospital's address is 1 Main Street, Howick, 3290. GPS Co-ordinates for the site are -29.5024689, 30.2296251

1.5 TEMPORARY WORKS

The Contractor will be required to provide a temporary supply to the hospital during the replacement of the primary MV switchgear. The proposed method entails installing a ring main unit which is designed to feed the local transformer and installing a temporary cable from Eskom's switchgear to the ring main unit. This work shall be coordinated with Eskom. Tenderers shall note that the proposed method requires that the procurement and installation of the ring main unit be prioritised such that it is installed prior to the replacement of the primary switchgear.

The Contractor shall provide temporary power supplies during the replacement of miniature substations. This may include the use of the existing generator sets / hiring temporary generator sets.

2 ENGINEERING

2.1 EMPLOYER'S DESIGN

The Empoyer's designs shall be as per the drawings and the specifications issued. Tenderers to note that the designs may change during the contract whenever necessary. The addition and omission of work shall be dealt with in terms of the relevant clauses of the contract.

2.2 DESIGN BRIEF

Not applicable

2.3 DRAWINGS

The following drawings shall be attached to this document. The onus is on the Tenderer to ensure that all listed drawings are attached.

W079513-ELEC100 - Existing Site Plan
W079513-ELEC101 - Existing Main Substation Layout
W079513-ELEC102 - Existing Medium Voltage (MV) Network – SLD
W079513-ELEC103 - Existing Minisub 1 & Minisub 2 – SLD
W079513-ELEC104 - Proposed Medium Voltage (MV) Network – SLD
W079513-ELEC105 - Proposed Main Substation Layout – SLD
W079513-ELEC106 - Proposed Local Transformer Low-Voltage Panel – SLD
W079513-ELEC107 - Proposed Miniature Substation 1 – SLD
W079513-ELEC108 - Proposed Miniature Substation 3 – SLD
W079513-ELEC109 - Proposed Main Substation Distribution Board (DB Main SS)
W079513-ELEC110 - Proposed Genset Kiosk (Kiosk Main SS)
W079513-ELEC111 - Proposed Kiosk UM
W079513-ELEC112 - Proposed Distribution Network Monitoring System
W079513-ELEC200 - Retrofit Steel Substation Door

2.4 DESIGN PROCEDURES

Not applicable

3 PROCUREMENT

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 CONSTRUCTION

4.1 APPLICABLE SANS 2001 STANDARDS FOR CONSTRUCTION WORKS

The Contractor is referred to the "Model Preambles to Trades - 2008", any "Supplementary Preambles", the Electrical Specifications and Mechanical Specification 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 and Mechanical Specification, 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.

The Contractor is hereby informed that risk of collapse and keeping excavations free from water (excluding subterranean water) generally are deemed to be included in the descriptions unless accommodated in the system of measurement. Please refer to the Geotechnical Investigation report when included at the end of these tender documents.

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

Occupational Health and Safety Act, 1993 (Act 85 of 1993) as amended.

4.3 PARTICULAR / GENERIC SPECIFICATIONS

The Contractor is referred to the following documents whether attached to this document or not:

SPECIFICATION	PAGES
Specification for HIV/AIDS Awareness (CIDB)	HIV1 TO HIV3
Specific Construction, Safety, Health and Environmental Plan	
Standard Preambles for all Trades (Rev 3) - DOH 2009	1 to 95
General Electrical Specification	E/1 to E/20
Lightning Protection Installation	LP/1 to LP/6

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 MANAGEMENT

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	3
February	*w/days*	3	3	3
March	*w/days*	3	3	3
April	*w/days*	3	3	3
May	*w/days*	3	3	3
June	*w/days*	3	3	3
July	*w/days*	3	3	3
August	*w/days*	3	3	3
September	*w/days*	3	3	3
October	*w/days*	3	3	3
November	*w/days*	3	3	3
December	*w/days*	3	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

SECTION 2

SPECIFICATION DATA ASSOCIATED WITH SANS 1921-2004

Clause Numbers	
4.1.7	**The requirements for drawings, information and calculations for which the Contractor is responsible**
	Workshop drawings for all equipment shall be submitted for approval prior to the manufacturer of the equipment. As-built drawings shall be submitted after the completion of works.
4.2.1	**The responsibility strategy assigned to the Contractor for the works is:**
	Strategy A
4.2.2	**The structural engineer is:**
	Not Applicable
4.2.3	**Drawings & other info are to be submitted in accordance with the contractors programme**
	Workshop drawings for all equipment shall be submitted for approval prior to the manufacturer of the equipment.
4.3	**The planning, programme and method statement are to comply with the following:**
	N/A
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.
4.12.2	**Fabrication drawings that the contractor is to provide to the employer are:**
	Fabrication drawings for equipment as called for by the Engineer shall be submitted. These include drawings for the following: Primary MV switchgear Local transformer ring main unit Local transformer Local transformer low-voltage distribution panel Miniature substations Kiosk and distribution boards

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 Applicable
	TELEPHONE IN OFFICE FOR INSPECTOR OF WORKS
	Not Applicable
	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 at the Contractor's own cost.
4.17.3	**Services which are known to exist on the site:**
	The contractor shall investigate and provide detailed drawings.
4.17.4	**Requirement for detection apparatus**
	The Contractor shall detect and trace existing MV and LV cables on site. Moreover, the Contractor shall check for underground services on the proposed cable routes.

4.18	**ADDITIONAL HEALTH AND SAFETY REQUIREMENTS ARE:**
	By the submission of a tender, any Tenderder 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 Tenderder 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. Tenderders 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 Tenderder and submitted with the other tender documents at the time of tender. Failure to do so will invalidate the tender. Tenderders 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' . Tenderders 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:**
	Not Applicable

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:	079513		
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).

6. Schedule of construction workers exposed to the HIV awareness programme.

Name	Identity number	Trade / occupation	Name of employer

I hereby declare the above to be a true reflection of actions taken to ensure compliance with the specification.

For Contractor:

Name: _____

Signature: _____

Date: _____

Employer's representative:

Name: _____

Signature: _____

Date: _____

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

PART C4. SITE INFORMATION

C4.1 SITE INFORMATION
GCC FOR CONSTRUCTION WORKS (2 Edition of 2010)

Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Tender No.	**ZNTM01256W**	**Project Code:**	**079513**

C4.1 Site Information

C4.1 GENERAL

(a) Access roads to the sites are a mixture of tar surfaces, paving, and sandy roads. The hospital only has one entrance, which is assumed to have sufficient clearance for large delivery vehicles, earthmovers, and rigging equipment. The onus is on the Tenderer to verify this during the compulsory pre-tender briefing / site inspection.

(b) Umgeni Hospital is a live hospital. Some of the miniature substations to be replaced are located near hospital wards catering for mentally challenged patients. Tenderers shall note that there may be unattended mentally challenged patients around the site. Caution must be taken to ensure that disruptions to the daily functions of surrounding buildings, staff, patients, and the general public accessing the facility are minimised or eliminated. The site is to be kept clean and neat at all times. A portion of the MV cable to be installed crosses a walkway with concrete flooring.

(c) Umgeni Hospital is located in Howick under the uMngeni Local Municipality. GPS coordinates for the site are -29.5008349,30.2302796.

C4.2 GEOTECHNICAL INVESTIGATION REPORT

(a) Not applicable

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

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

PART C5 - DRAWINGS / ANNEXURES

C5.1 - LIST OF DRAWINGS/ANNEXURES

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

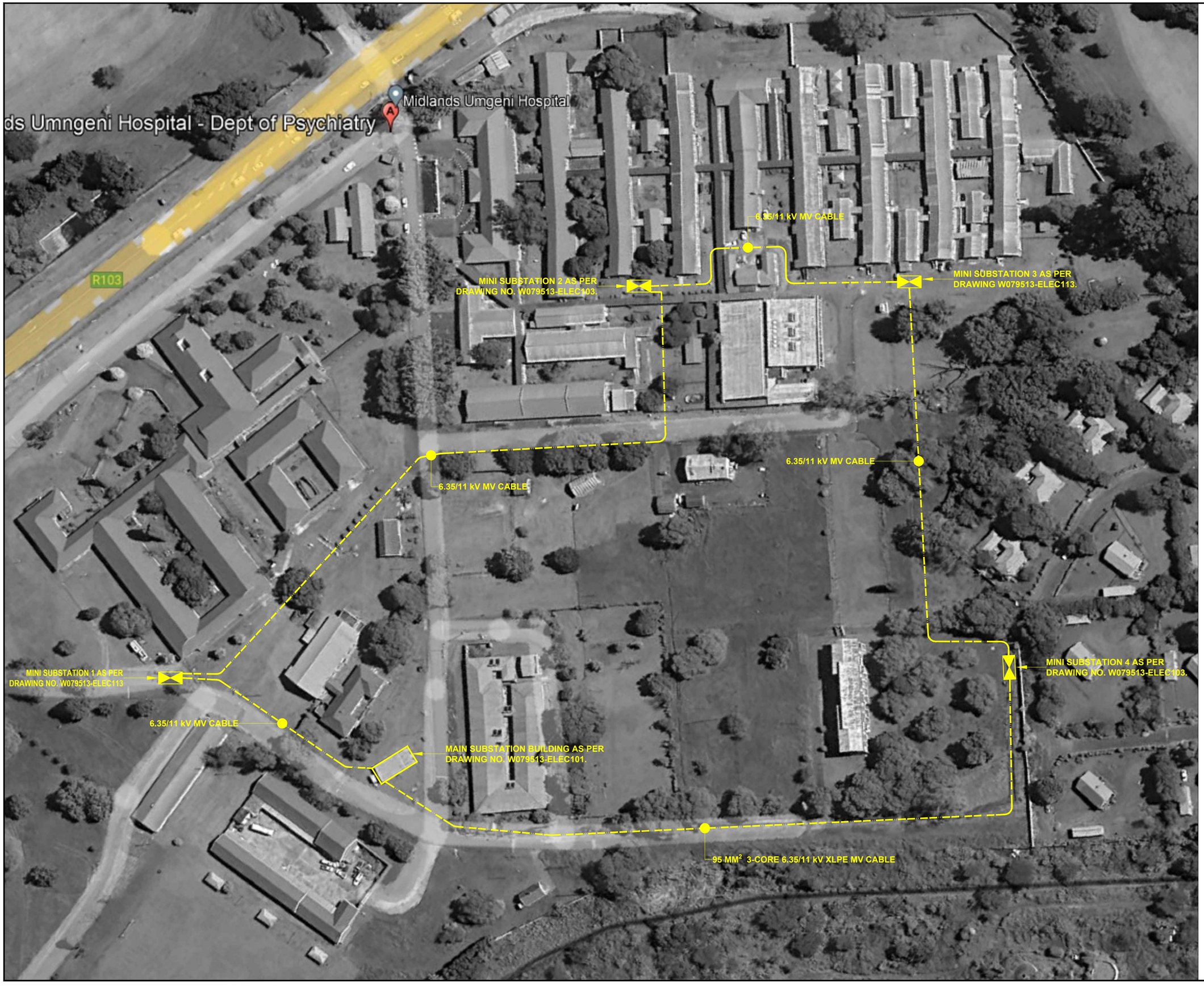
Tender No.:	**ZNTM01256W**	**Project Code:**	**079513**

(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**
W079513-ELEC100	Existing Site Plan
W079513-ELEC101	Existing Main Substation Layout
W079513-ELEC102	Existing Medium Voltage (MV) Network – SLD
W079513-ELEC103	Existing Minisub 1 & Minisub 2 – SLD
W079513-ELEC104	Proposed Medium Voltage (MV) Network – SLD
W079513-ELEC105	Proposed Main Substation Layout – SLD
W079513-ELEC106	Proposed Local Transformer Low-Voltage Panel – SLD
W079513-ELEC107	Proposed Miniature Substation 1 – SLD
W079513-ELEC108	Proposed Miniature Substation 3 – SLD
W079513-ELEC109	Proposed Main Substation Distribution Board (DB Main SS)
W079513-ELEC110	Proposed Genset Kiosk (Kiosk Main SS)
W079513-ELEC111	Proposed Kiosk UM
W079513-ELEC112	Proposed Distribution Network Monitoring System
W079513-ELEC200	Retrofit Steel Substation Door

ANNEXURES	
Annexure 1	Standard Preambles for all Trades (Rev 3) - DOH 2009
Annexure 2	Electrical Specifications
Annexure 3	Lightning Protection Specifications
Annexure 4	Map of Tender submission location
Annexure 5	Joint Venture Agreement
Annexure 6	Health and Safety Specification
Annexure 7	Health and Safety Bill of Quantities
Annexure 8	Builders Lien Agreement
Annexure 9	Geotechnical Investigation Report (If applicable)
Annexure 10	EPWP Employment Contract
Annexure 11	Attendance Register - Infrastructure and Other projects
Annexure 12	EPWP Data Collection tool for Phase 3 system



Notes

1. Cable routes shown are ONLY an indication of possible cable routes on site except for the cable linking Minisub 4 and the Main Substation.
2. Contractor shall verify and mark cables routes of the existing MV cables.

REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE, PUBLIC WORKS, REPUBLIC OF SOUTH AFRICA

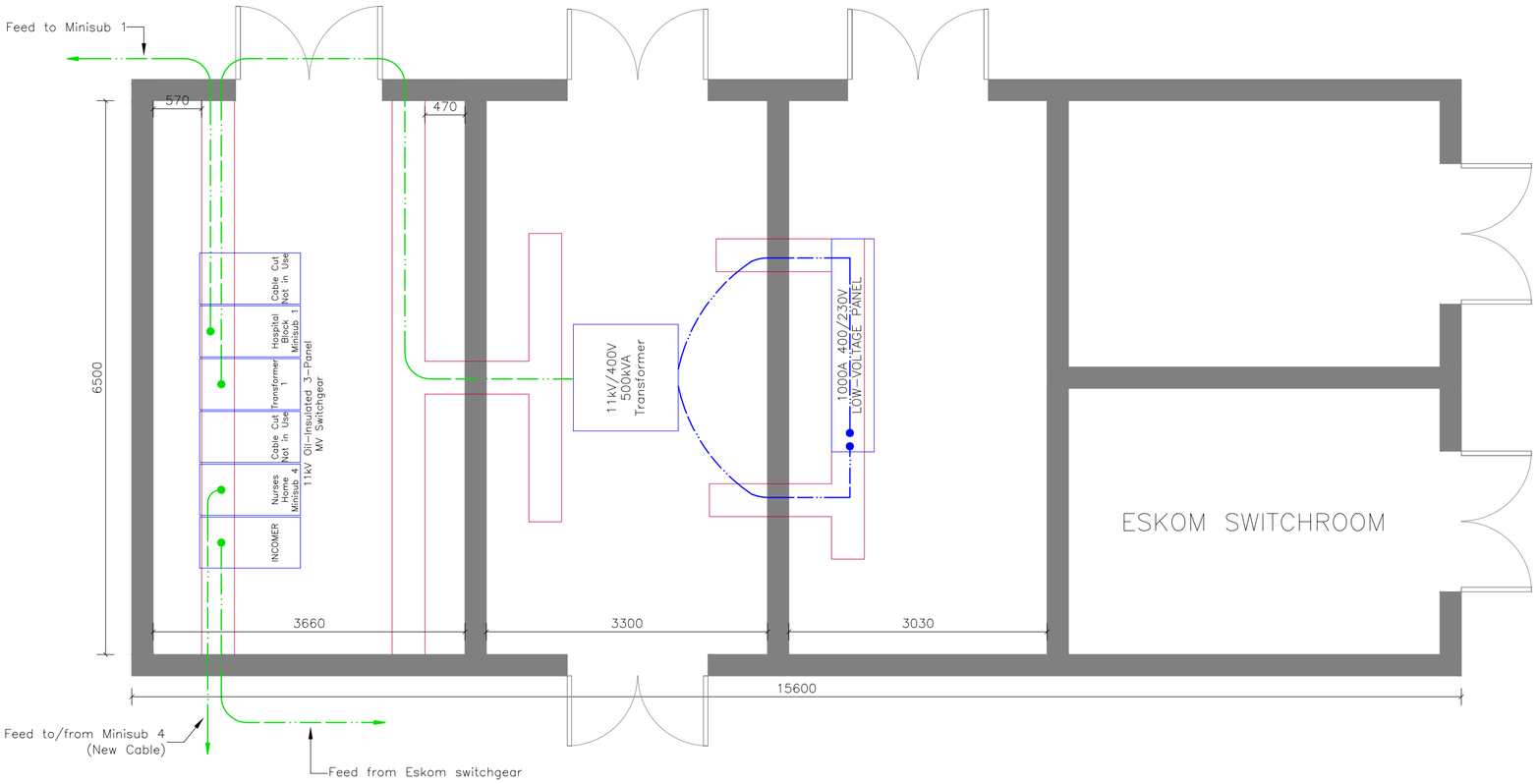
CLIENT: KWAZULU-NATAL PROVINCE, HEALTH, REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
EXISTING SITE PLAN
MV RETICULATION

DRAWING NO:	SCALE:	PAPER SIZE:	REVISION:
W079513-ELEC100	NTS	A2	0
PROJECT NO:	DRAWN BY : N DANISA		DATE:
079513	CHECKED BY : S MATHONSI		02/10/25

APPROVAL COMMITTEE STAMP:



Notes

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0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE
PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

CLIENT: KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

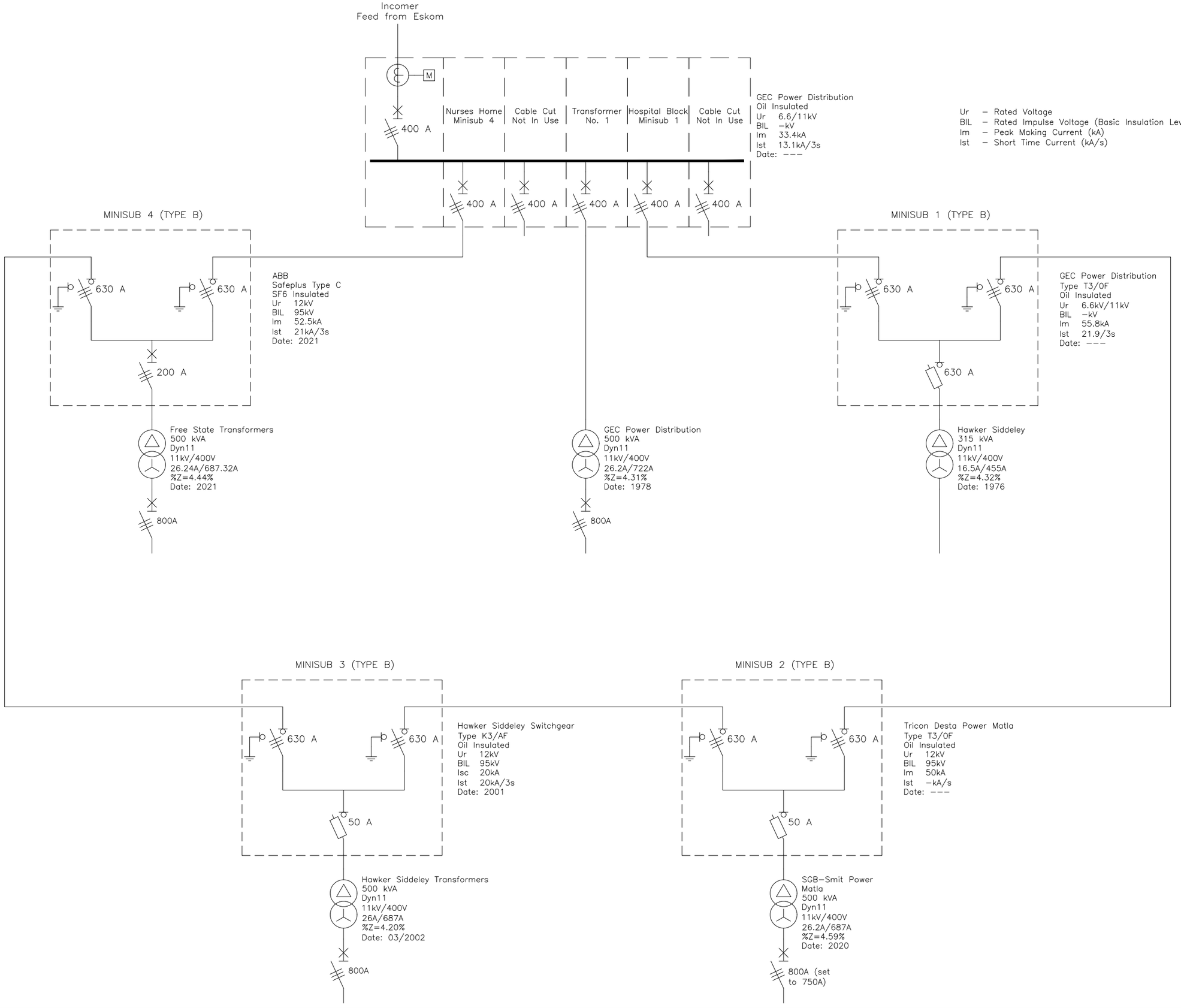
PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
EXISTING MAIN SUBSTATION BUILDING LAYOUT

DRAWING NO:	SCALE:	PAPER SIZE:	REVISION:
W079513-ELEC101	NTS	A2	0

PROJECT NO:	DRAWN BY : N DANISA	DATE:
079513	CHECKED BY : S MATHONSI	02/10/25

APPROVAL COMMITTEE STAMP:



Notes

3 Pole Isolator Switch
1 Pole Circuit Breaker
3 Pole Circuit Breaker
Fuse
Fuse Switch Combo
1 Pole + Neutral Earth Leakage
Bypass Switch
Transformer
Surge Arrestor
Earth
Generator
Current Transformer
Interlock
Ammeter
Voltmeter
Contactor
Meter
Distribution Board
Equipment/ Device Terminal

REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE PUBLIC WORKS REPUBLIC OF SOUTH AFRICA

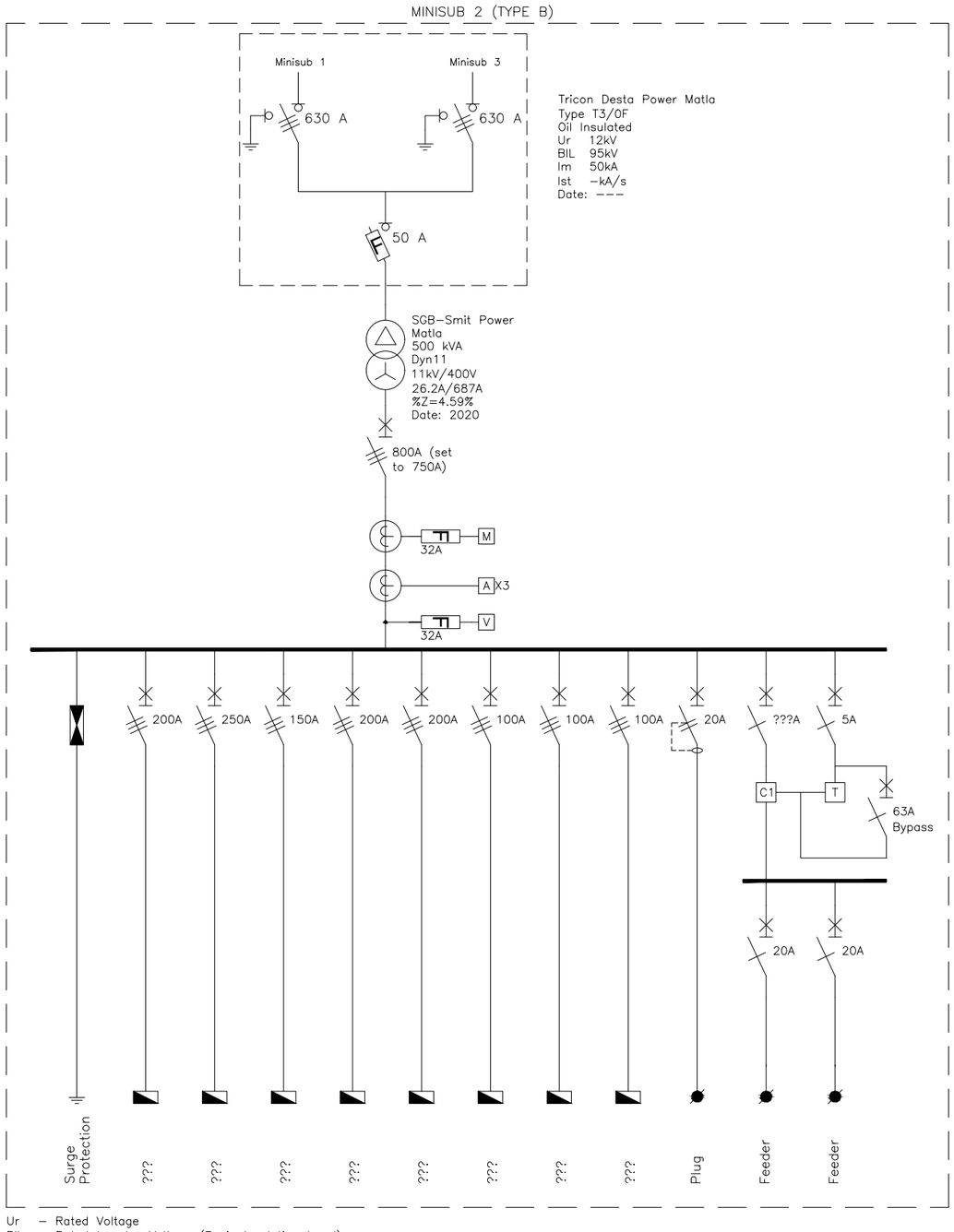
CLIENT: KWAZULU-NATAL PROVINCE HEALTH REPUBLIC OF SOUTH AFRICA

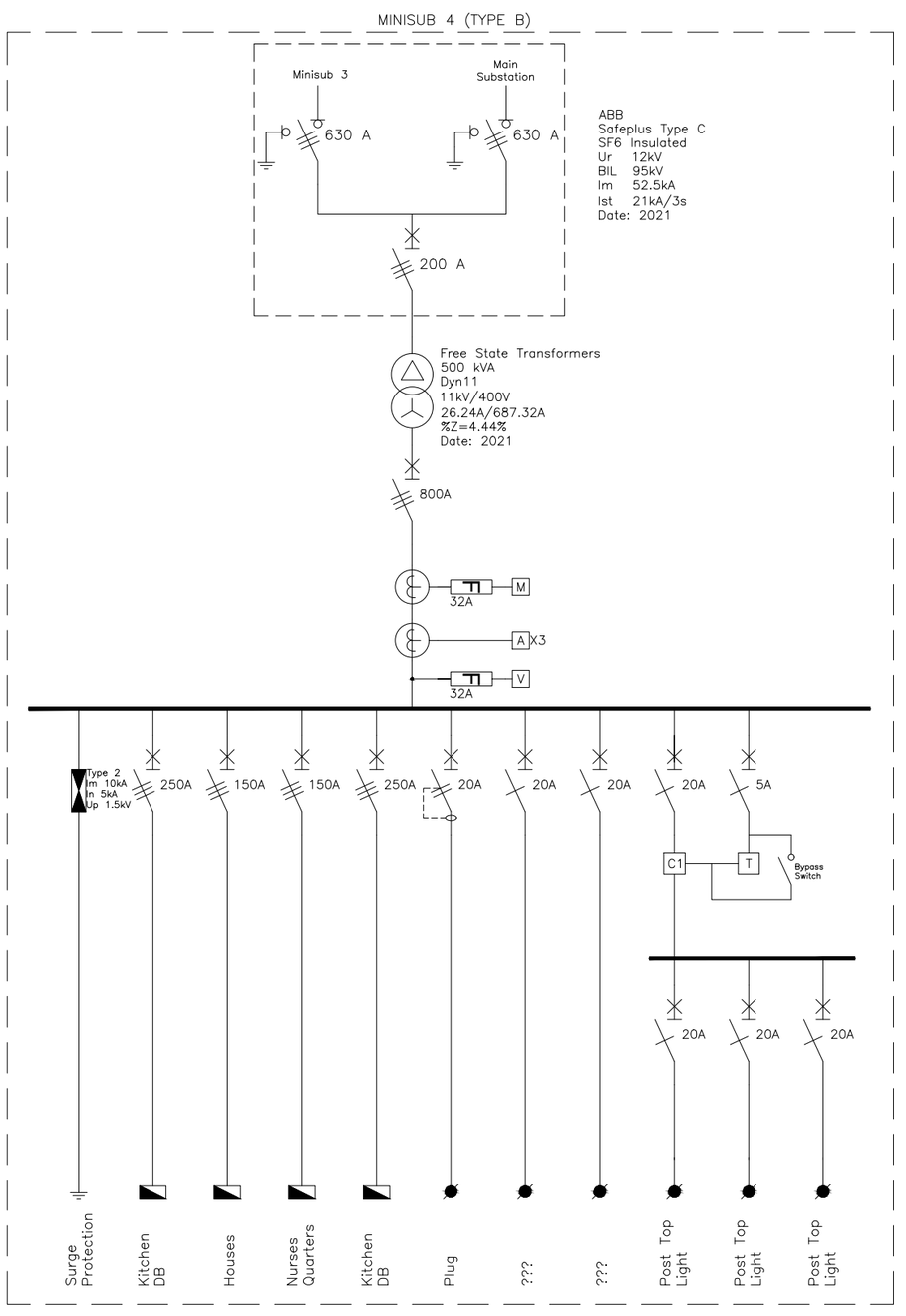
PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
EXISTING MEDIUM VOLTAGE (MV) NETWORK
SINGLE LINE DIAGRAM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513–ELEC102	A3	NTS	0
PROJECT NO: 079513	DRAWN BY :N DANISA CHECKED BY :S MATHONSI		DATE: 02/10/25

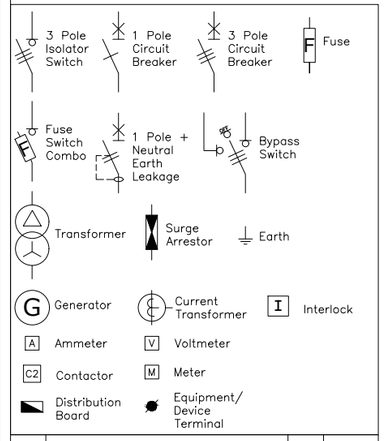
APPROVAL COMMITTEE STAMP:





Ur – Rated Voltage
BIL – Rated Impulse Voltage (Basic Insulation Level)
Im – Peak Making Current (kA)
Ist – Short Time Current (kA/s)

Notes



REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE, PUBLIC WORKS, REPUBLIC OF SOUTH AFRICA

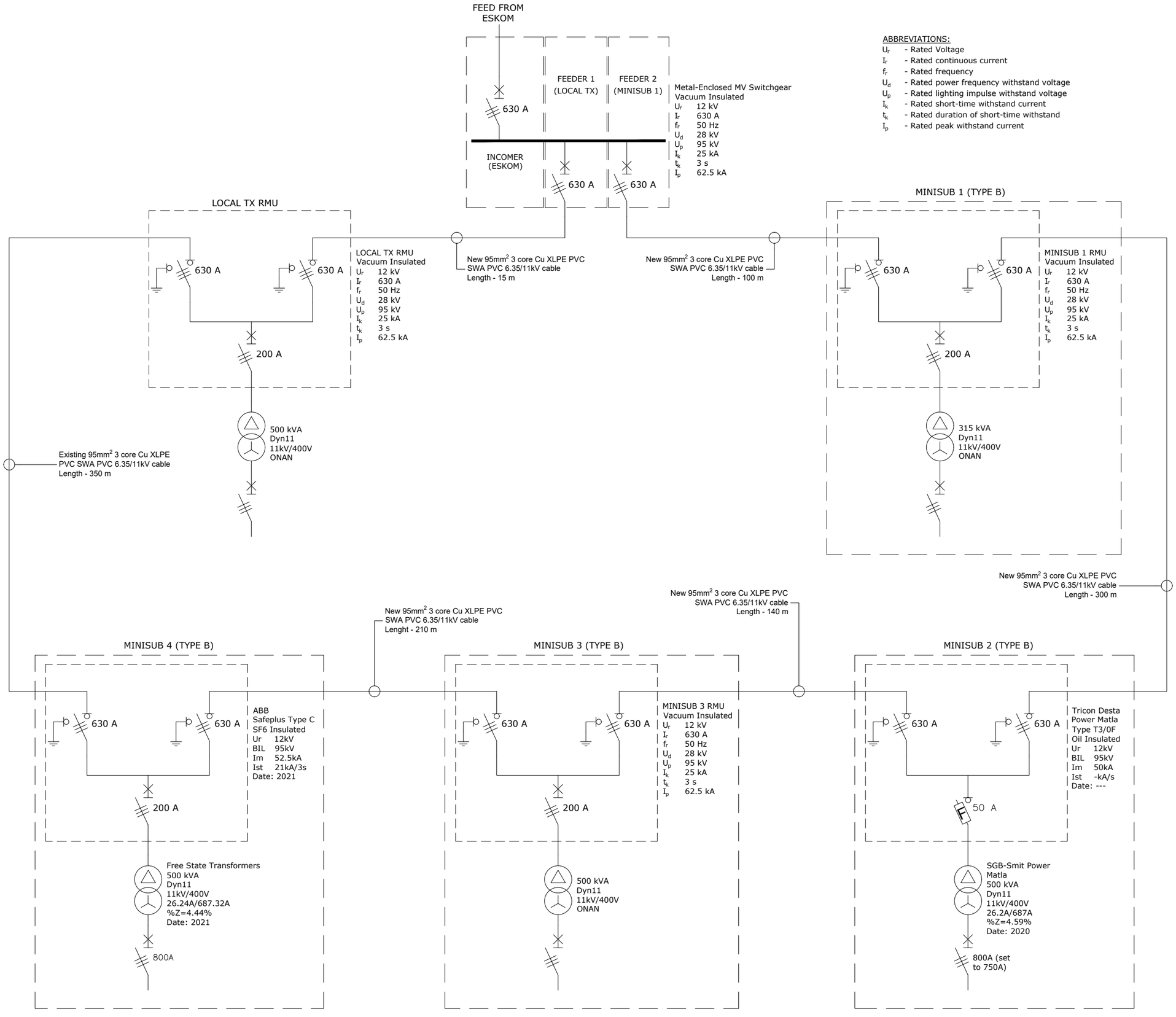
CLIENT: KWAZULU-NATAL PROVINCE, HEALTH, REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
EXISTING MINISUB 2 & MINISUB 4
SINGLE LINE DIAGRAM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513–ELEC103	A3	NTS	0
PROJECT NO: 079513	DRAWN BY :N DANISA CHECKED BY :S MATHONSI		DATE: 02/10/25

APPROVAL COMMITTEE STAMP:



Notes

3 Pole Isolator Switch
1 Pole Circuit Breaker
3 Pole Circuit Breaker
Fuse
Fuse Switch Combo
1 Pole + Neutral Earth Leakage
Bypass Switch
Transformer
Surge Arrestor
Earth
Generator
Current Transformer
Interlock
Ammeter
Voltmeter
Contactor
Meter
Distribution Board
Equipment/ Device Terminal

REV	DESCRIPTION	BY	DATE
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CLIENT: KWAZULU-NATAL PROVINCE, HEALTH, REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
PROPOSED MEDIUM VOLTAGE (MV) NETWORK
SINGLE-LINE DIAGRAM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513-ELEC104	A3	NTS	0
PROJECT NO: 079513	DRAWN BY : N DANISA CHECKED BY : S MATHONSI		DATE: 02/10/25

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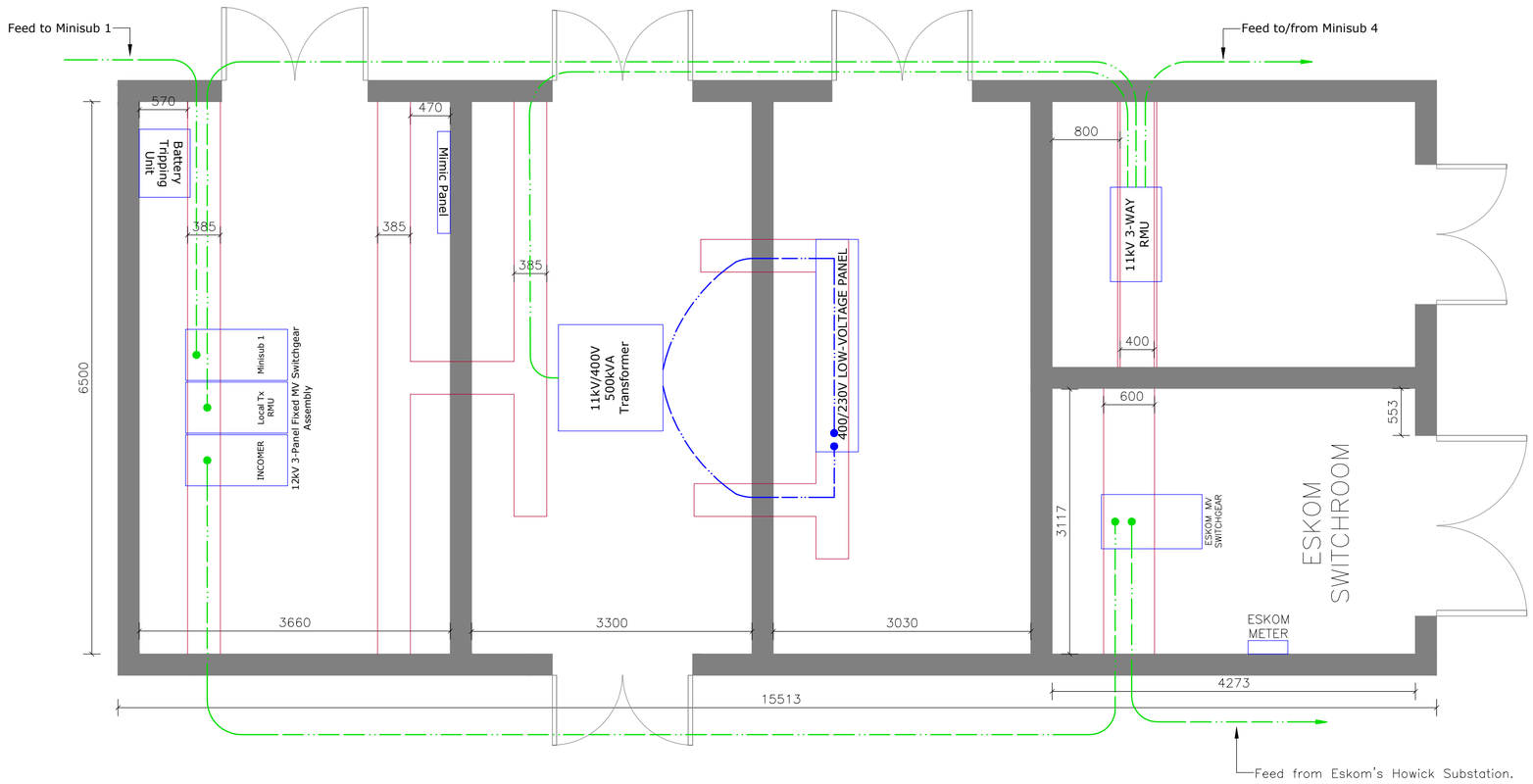

Notes

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REV	DESCRIPTION	BY	DATE

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE
PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

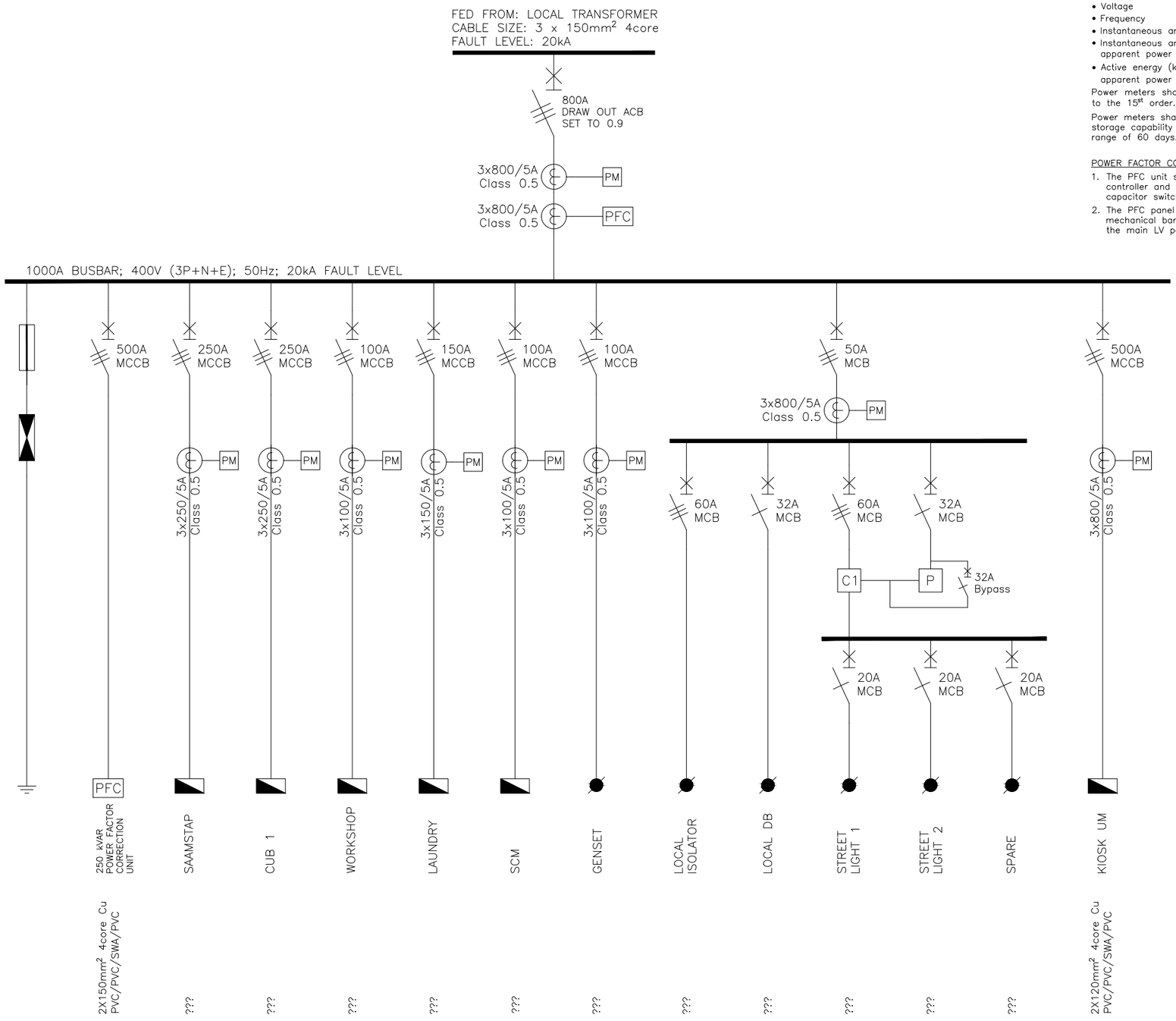
CLIENT: KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
PROPOSED MAIN SUBSTATION BUILDING LAYOUT

DRAWING NO:	SCALE:	PAPER SIZE:	REVISION:
W079513-ELEC105	NTS	A2	0
PROJECT NO: 079513	DRAWN BY : N DANISA CHECKED BY : S MATHONSI		DATE: 02/10/25

APPROVAL COMMITTEE STAMP:



POWER METERS

Power meters shall be capable of performing the following measurements:

- Instantaneous and maximum currents
- Voltage
- Frequency
- Instantaneous and average power factor
- Instantaneous and maximum active, reactive, and apparent power
- Active energy (kWh), reactive energy (kVArh), and apparent power (kVAh)

Power meters shall be capable of measuring harmonics up to the 15st order.

Power meters shall have a data logging function with a storage capability suitable for storing data for a minimum range of 60 days.

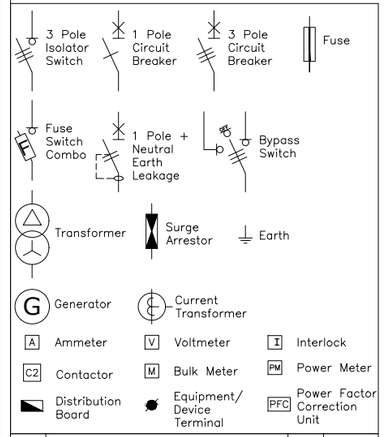
POWER FACTOR CORRECTION (PFC) PANEL REQUIREMENTS

1. The PFC unit shall be equipped with a power factor controller and capacitors. Thyristors shall be utilised for capacitor switching.
2. The PFC panel shall form part the low-voltage panel. A mechanical barrier shall separate the PFC section from the main LV panel.

Notes

The low-voltage panel shall comply with the following requirements:

1. Panel shall be floorstanding.
2. Colour shall be electric orange, powder coated.
3. Material shall be 3CR12 corrosion resisting steel.
4. IP rating shall be at least IP54.
5. Cable entry for incoming circuits shall be bottom entry and cable exit for outgoing circuits shall be bottom exit.
6. Panel shall be accessible from the FRONT side.
7. Panel catches shall be square key type and hinges shall be butt hinge or T-hinge type manufactured in zinc or 304 stainless steel and powder coated black.
8. Busbars shall be of copper material and continuous rated.
9. Neutral and earth bars shall be easily accessible.
10. Panel shall have 25% spare space and two unequipped spares shall be provided as part of the 25% spare space.
11. Live line indicator shall be installed for all three phases on the incomer/main circuit breaker.
12. All circuit breakers shall be labelled as per the schematic diagram. All labels shall be of the traffolyte type and fixed to the panel with nuts and bolts or pop riveted.
13. Contractor shall ensure that workshop drawings are approved by the Engineer prior to manufacture of the panel.



REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE, PUBLIC WORKS, REPUBLIC OF SOUTH AFRICA

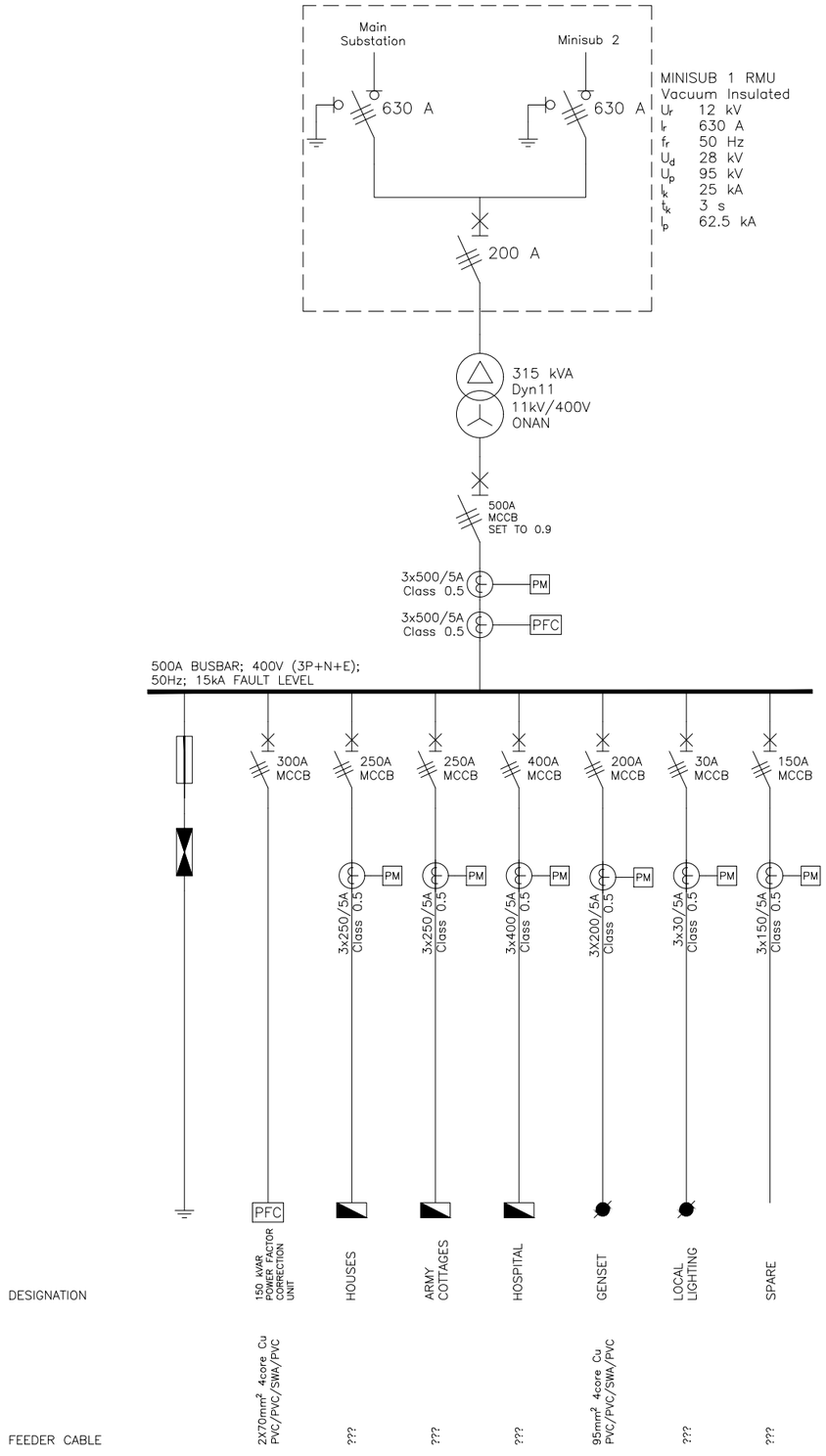
CLIENT: KWAZULU-NATAL PROVINCE, HEALTH, REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
PROPOSED LOCAL TRANSFORMER LOW-VOLTAGE PANEL SINGLE LINE DIAGRAM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513-ELEC106	A3	NTS	0
PROJECT NO: 079513	DRAWN BY :N DANISA CHECKED BY :S MATHONSI		DATE: 02/10/25

APPROVAL COMMITTEE STAMP:



POWER METERS

Power meters shall be capable of performing the following measurements:

- Instantaneous and maximum currents
- Voltage
- Frequency
- Instantaneous and average power factor
- Instantaneous and maximum active, reactive, and apparent power
- Active energy (kWh), reactive energy (kVArh), and apparent power (kVAh)

Power meters shall be capable of measuring harmonics up to the 15st order.

Power meters shall have a data logging function with a storage capability suitable for storing data for a minimum range of 60 days.

POWER FACTOR CORRECTION (PFC) PANEL REQUIREMENTS

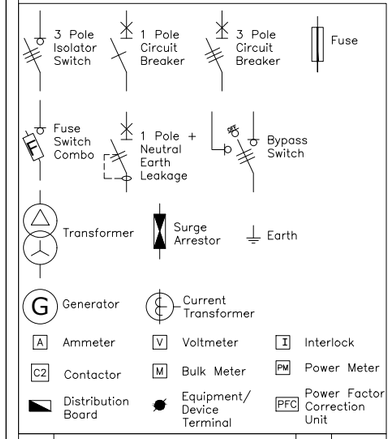
1. The PFC unit shall be equipped with a power factor controller and capacitors. Thyristors shall be utilised for capacitor switching.
2. The PFC unit shall form part the miniature substation. A mechanical barrier shall separate the PFC unit from other mini substation sections.

ABBREVIATIONS:

U_r – Rated Voltage
I_r – Rated continuous current
f_r – Rated frequency
U_d – Rated power frequency withstand voltage
U_p – Rated lighting impulse withstand voltage
I_k – Rated short–time withstand current
t_k – Rated duration of short circuit
I_p – Rated peak withstand current

Notes

1. This drawings shall be read in conjunction the miniature substation specification.
2. The low–voltage assembly shall comply with the following requirements:
   - Busbars shall be of copper material and continuous rated.
   - Neutral and earth bars shall be easily accessible.
   - LV asssembly shall have 25% spare space and two unequipped spares shall be provided as part of the 25% spare space.
   - Live line indicator shall be installed for all three phases on the incomer/main circuit breaker.
   - All circuit breakers shall be labelled as per the schematic diagram. All labels shall be of the traffolyte type and fixed to the assembly with nuts and bolts or pop riveted.
3. Contractor shall ensure that workshop drawings are approved by the Engineer prior to manufacture of the miniature susbtation.



REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE, PUBLIC WORKS, REPUBLIC OF SOUTH AFRICA

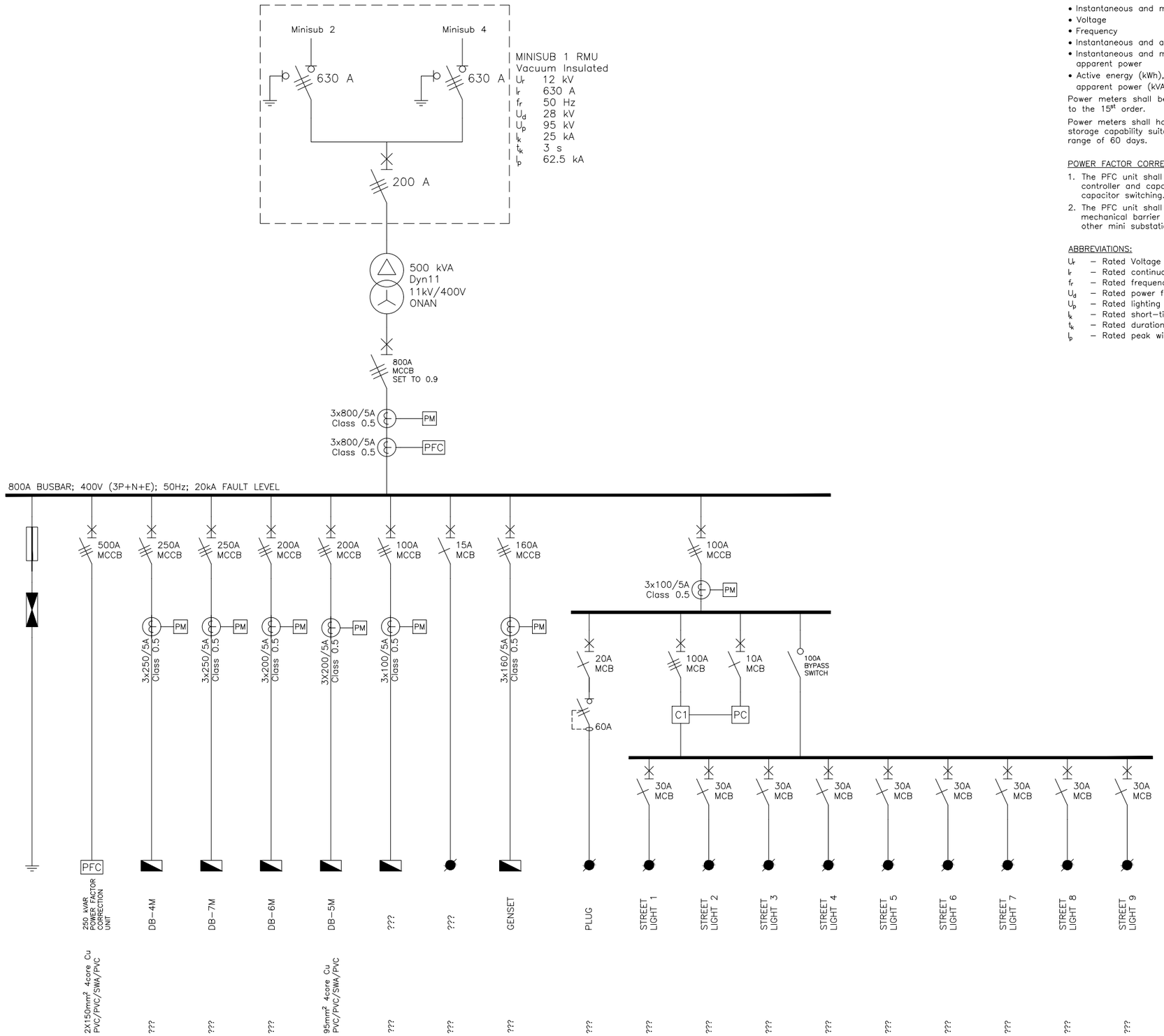
CLIENT: KWAZULU-NATAL PROVINCE, HEALTH, REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
PROPOSED MINIATURE SUBSTATION 1
SINGLE LINE DIAGRAM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513–ELEC107	A3	NTS	0
PROJECT NO: 079513	DRAWN BY :N DANISA CHECKED BY :S MATHONSI		DATE: 02/10/25

APPROVAL COMMITTEE STAMP:



POWER METERS

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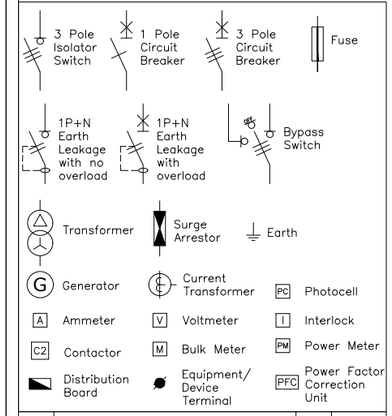
   - LV asssembly shall have 25% spare space and two unequipped spares shall be provided as part of the 25% spare space.
   - Live line indicator shall be installed for all three phases on the incomer/main circuit breaker.
   - All circuit breakers shall be labelled as per the schematic diagram. All labels shall be of the traffolyte type and fixed to the assembly with nuts and bolts or pop riveted.
3. Contractor shall ensure that workshop drawings are approved by the Engineer prior to manufacture of the miniature susbtation.



REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE, PUBLIC WORKS, REPUBLIC OF SOUTH AFRICA

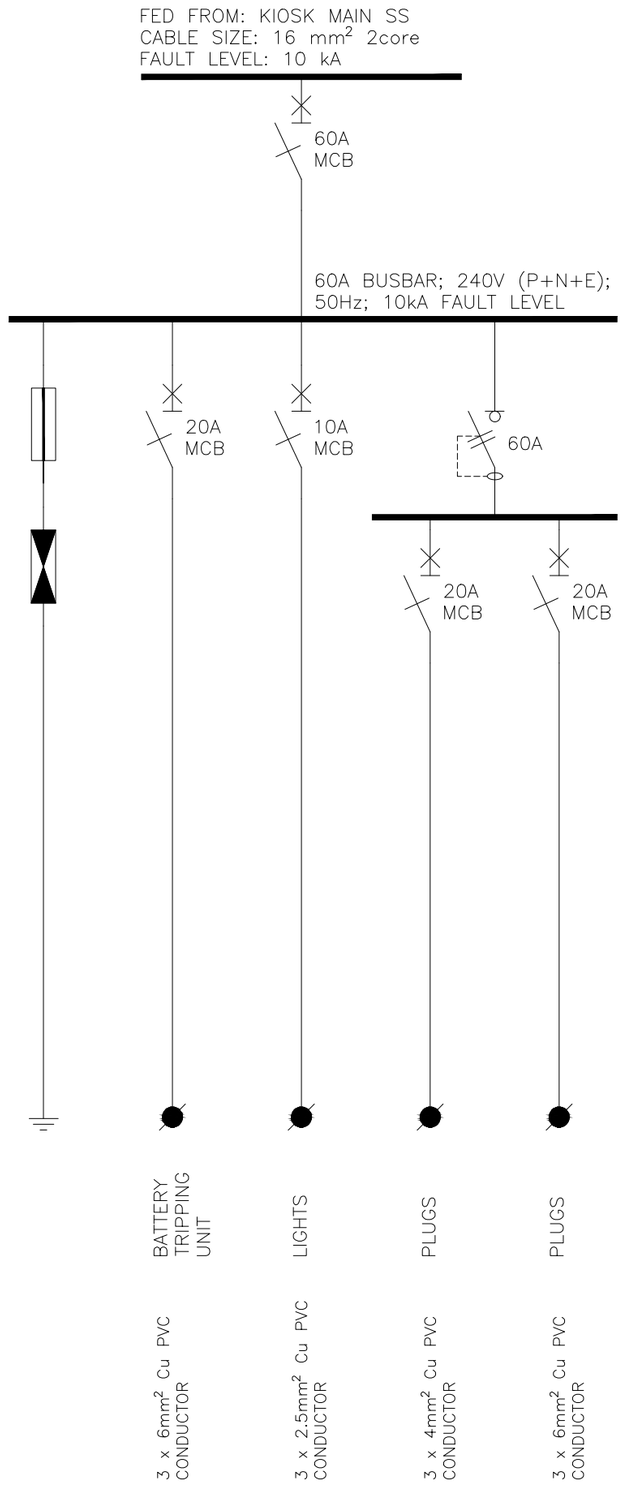
CLIENT: KWAZULU-NATAL PROVINCE, HEALTH, REPUBLIC OF SOUTH AFRICA

PROJECT: UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION: PROPOSED MINIATURE SUBSTATION 3 SINGLE LINE DIAGRAM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513–ELEC108	A3	NTS	0
PROJECT NO: 079513	DRAWN BY :N DANISA CHECKED BY :S MATHONSI		DATE: 02/10/25

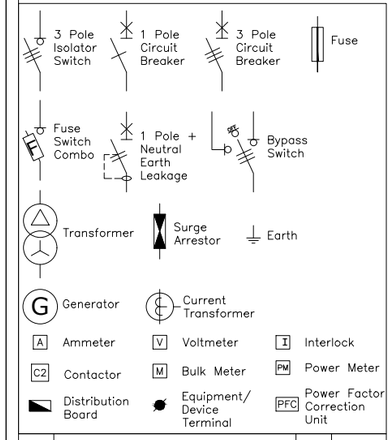
APPROVAL COMMITTEE STAMP:



Notes

The distribution board (DB) shall comply with the following requirements:

1. DB shall be surface mounted.
2. DB colour (enclosure, cover plates & doors) shall be signal red, powder coated.
3. Material shall be 3CR12 corrosion resisting steel.
4. IP rating shall be at least IP54.
5. Cable entry for incoming circuits shall be bottom entry and cable exit for outgoing circuits shall be top exit.
6. DB shall be accessible from the FRONT side.
7. DB catches/locks shall be square key type and hinges shall be butt hinge or T-hinge type manufactured in zinc or 304 stainless steel and powder coated black.
8. Busbars shall be of copper material and continuous rated.
9. Neutral and earth bars shall be easily accessible.
10. DB shall have 25% spare space.
11. Live line indicators shall be installed for all three phases on the incomer.
12. All circuit breakers shall be labelled as per the schematic diagram. All labels shall be of the traffolyte type and fixed to the DB with nuts and bolts or pop riveted.
13. Contractor shall ensure that workshop drawings are approved by the Engineer prior to manufacture of the panel.



REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE
PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

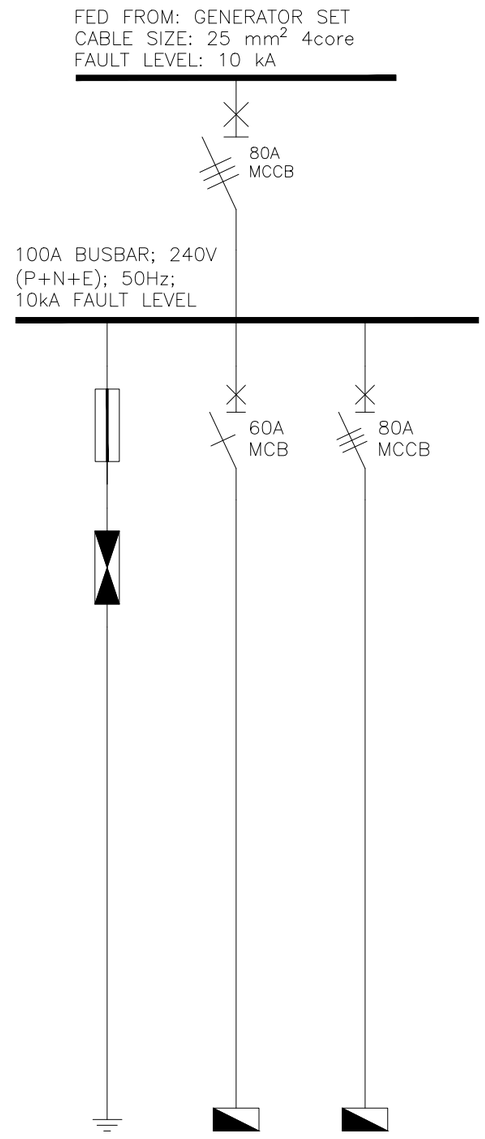
CLIENT: KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
PROPOSED MAIN SUBSTATION DISTRIBUTION BOARD (DB MAIN SS) SINGLE LINE DIAGRAM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513-ELEC109	A3	NTS	0
PROJECT NO: 079513	DRAWN BY :N DANISA CHECKED BY :S MATHONSI		DATE: 02/10/25

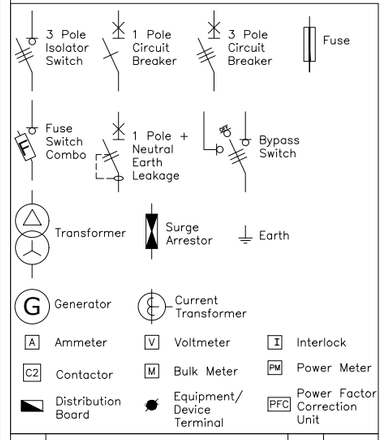
APPROVAL COMMITTEE STAMP:



Notes

The distribution kiosk shall comply with the following requirements:

1. Kiosk shall be floor–standing and suitable for plinth mounting.
2. Kiosk enclosure and doors shall be powder coated electric orange. Cover plates shall be powder coated white.
3. Material shall be 3CR12 corrosion resisting steel.
4. IP rating shall be at least IP65.
5. Cable entry for incoming and outgoing circuits shall be bottom entry and exit.
6. Kiosk shall be accessible from the FRONT side. REAR access shall be possible where busbars and/or main circuit breaker are installed on the rear.
7. Kiosk catches/locks shall be square key type and hinges shall be butt hinge or T–hinge type manufactured in zinc or 304 stainless steel and powder coated black.
8. Busbars shall be of copper material and continuous rated.
9. Neutral and earth bars shall be easily accessible.
10. Kiosk shall have 25% spare space and two unequipped spares shall be provided as part of the 25% spare space.
11. Live line indicators shall be installed for all three phases on the incomer.
12. All circuit breakers shall be labelled as per the schematic diagram. All labels shall be of the traffolyte type and fixed to the DB with nuts and bolts or pop riveted.
13. Contractor shall ensure that workshop drawings are approved by the Engineer prior to manufacture of the panel.



REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE
PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

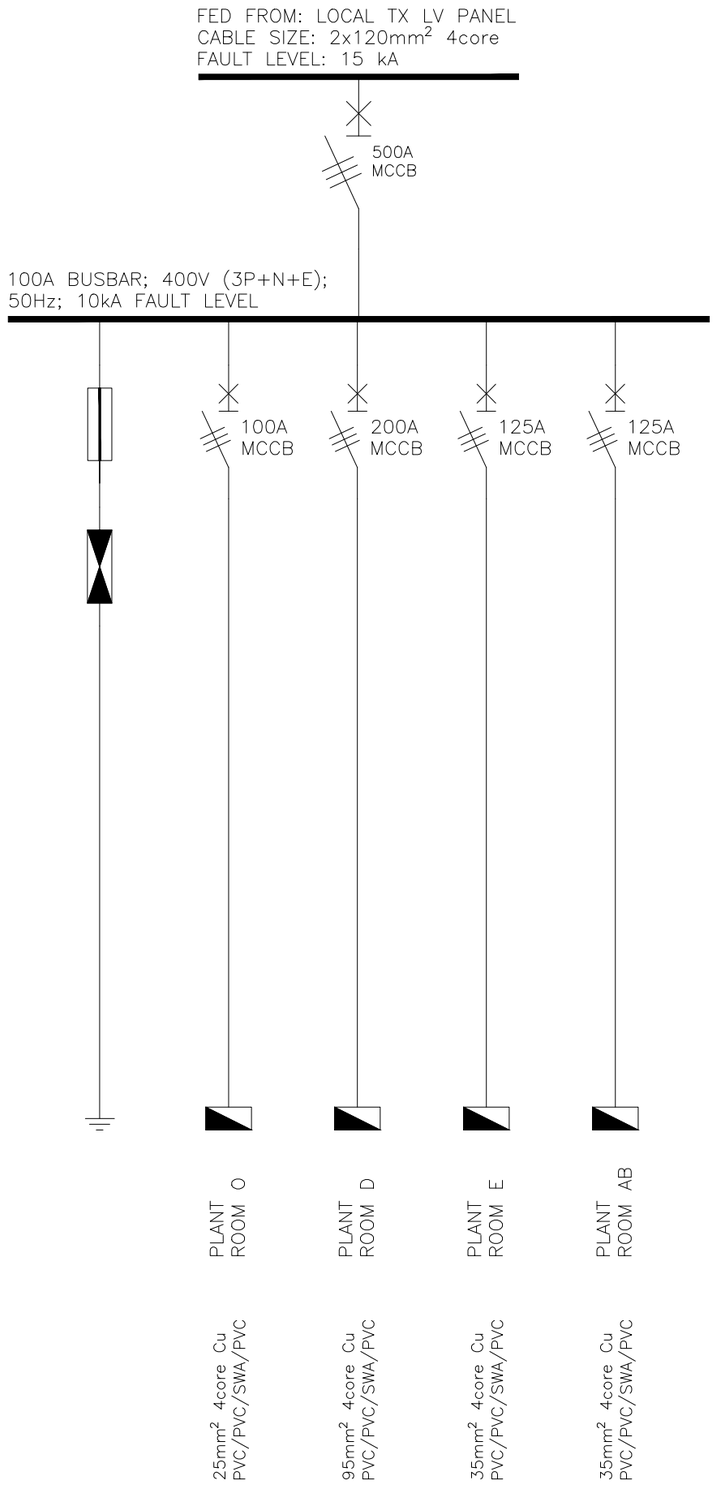
CLIENT: KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
PROPOSED GENSET KIOSK (KOSK MAIN SS)
SINGLE LINE DIAGRAM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513–ELEC110	A3	NTS	0
PROJECT NO: 079513	DRAWN BY :N DANISA CHECKED BY :S MATHONSI		DATE: 02/10/25

APPROVAL COMMITTEE STAMP:



Notes

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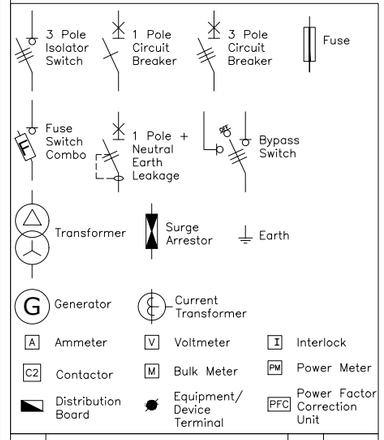


REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE
PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

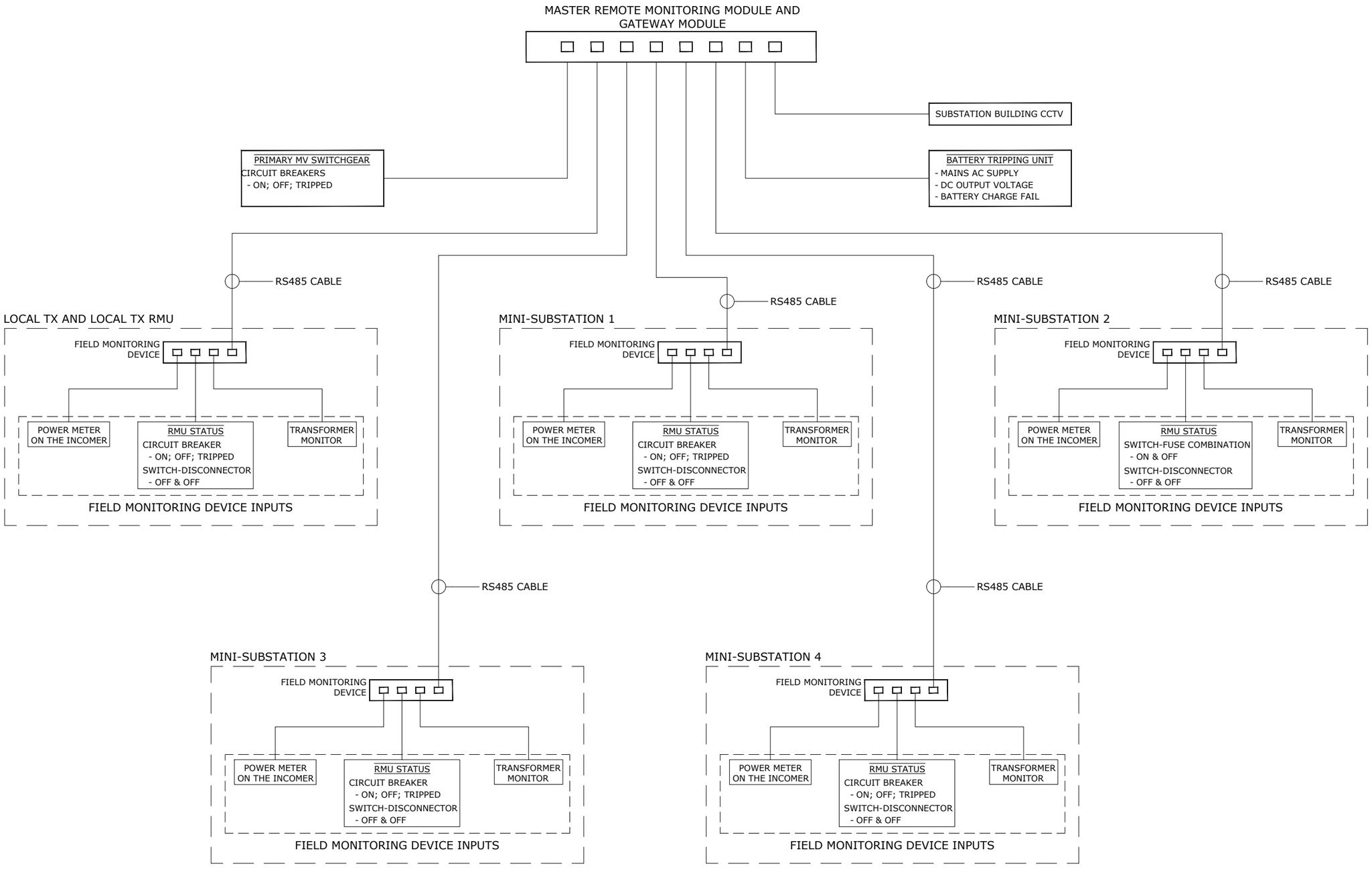
CLIENT: KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
PROPOSED KIOSK UM
SINGLE LINE DIAGRAM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513–ELEC111	A3	NTS	0
PROJECT NO: 079513	DRAWN BY :N DANISA CHECKED BY :S MATHONSI		DATE: 02/10/25

APPROVAL COMMITTEE STAMP:



Notes

1. The master remote monitoring module and gateway module shall be installed in an enclosure manufactured from 3CR12 and installed in the main substation building.
2. The functions of the monitoring system shall be limited to monitoring only. It shall not be possible to control any equipment with the system.
3. The monitoring system shall be accessible from a desktop application/software or web–based system. No licence shall be required. Where a system requiring a license is offered, a perpetual license shall be provided.

REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE, PUBLIC WORKS, REPUBLIC OF SOUTH AFRICA

CLIENT: KWAZULU-NATAL PROVINCE, HEALTH, REPUBLIC OF SOUTH AFRICA

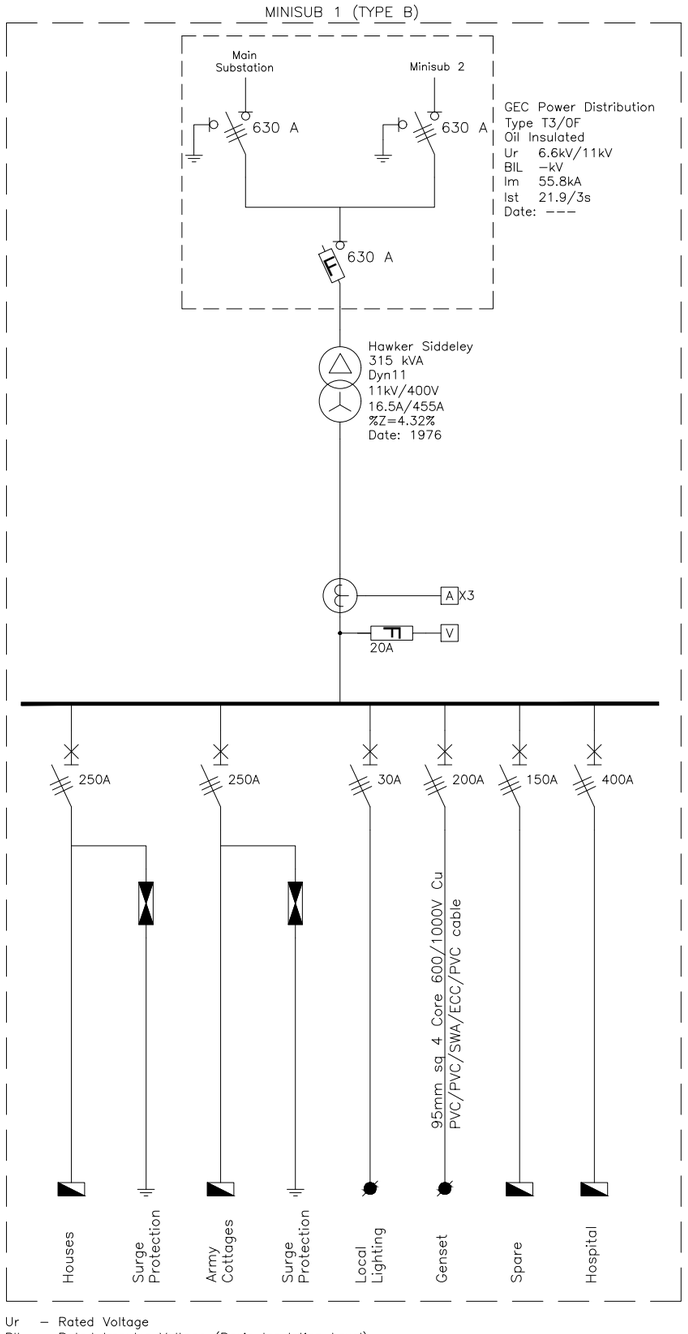
PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

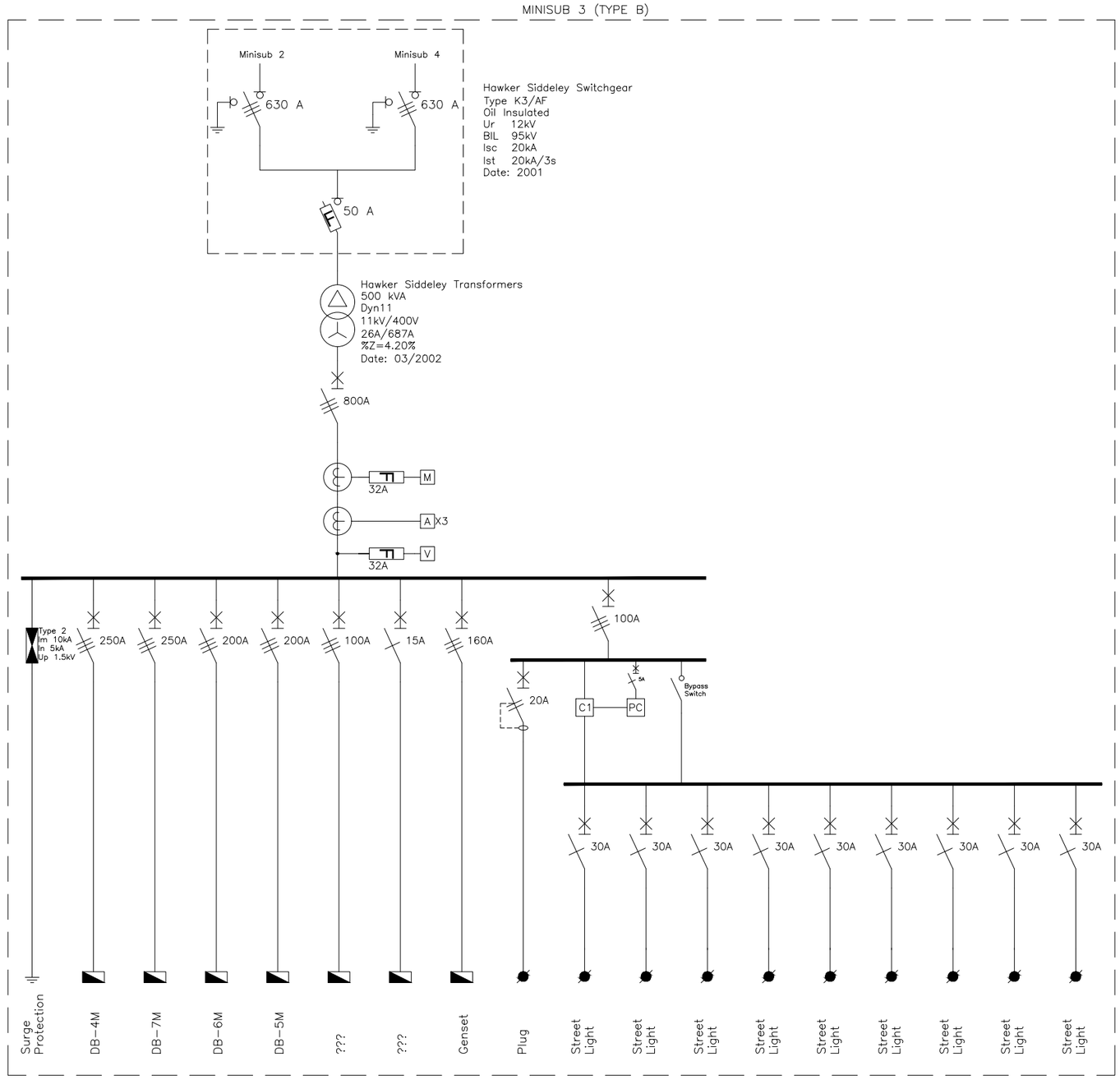
DRAWING DESCRIPTION:
PROPOSED DISTRIBUTION NETWORK MONITORING SYSTEM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513–ELEC112	A3	NTS	0

PROJECT NO:	DRAWN BY :N DANISA	DATE:
079513	CHECKED BY :S MATHONSI	26/07/24

APPROVAL COMMITTEE STAMP:





Ur – Rated Voltage
BIL – Rated Impulse Voltage (Basic Insulation Level)
Im – Peak Making Current (kA)
Ist – Short Time Current (kA/s)

Notes

3 Pole Isolator Switch
1 Pole Circuit Breaker
3 Pole Circuit Breaker
Fuse
Fuse Switch Combo
1 Pole + Neutral Earth Leakage
Bypass Switch
Transformer
Surge Arrestor
Earth
Generator
Current Transformer
Interlock
Ammeter
Voltmeter
Contactor
Meter
Distribution Board
Equipment/ Device Terminal

REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE
PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

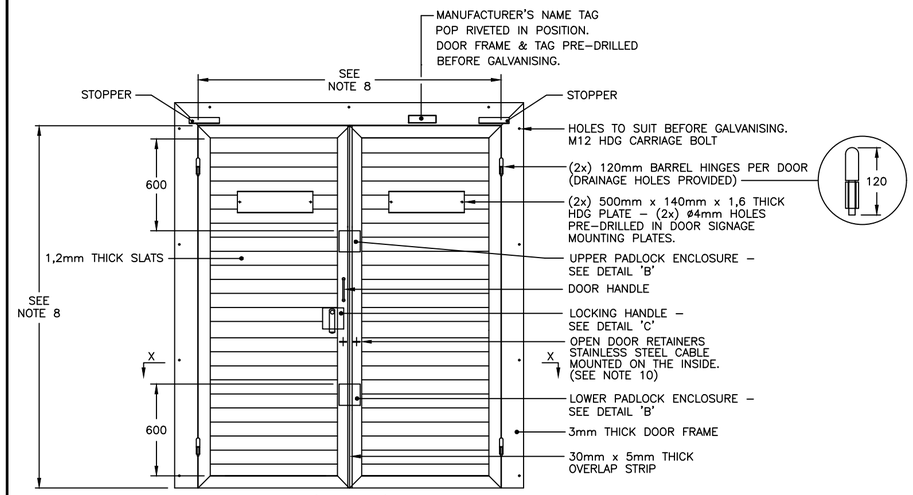
CLIENT: KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

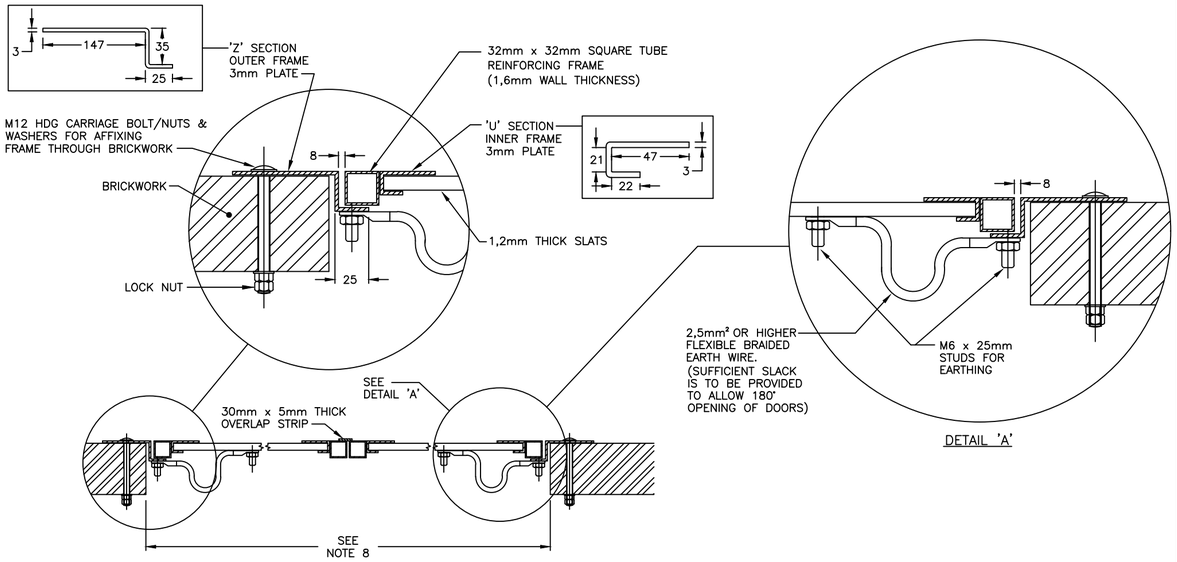
DRAWING DESCRIPTION:
EXISTING MINISUB 1 & MINISUB 3
SINGLE LINE DIAGRAM

DRAWING NO:	PAPER SIZE:	SCALE:	REVISION:
W079513-ELEC113	A3	NTS	0
PROJECT NO: 079513	DRAWN BY :N DANISA CHECKED BY :S MATHONSI		DATE: 02/10/25

APPROVAL COMMITTEE STAMP:



FRONT (EXTERNAL) VIEW
OF DOOR AND DOOR FRAME
SCALE 1:20

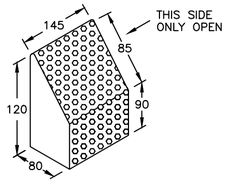


SECTION X-X

DETAIL 'A'

FRONT (EXTERNAL) VIEW
OF DOOR FRAME
SCALE 1:20

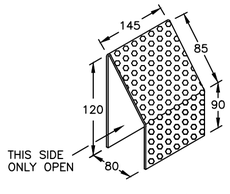
REAR (INTERNAL) VIEW
OF DOOR
SCALE 1:20



DETAIL 'B'

UPPER/LOWER
PADLOCK ENCLOSURES
(WELD TO ONE DOOR ONLY)

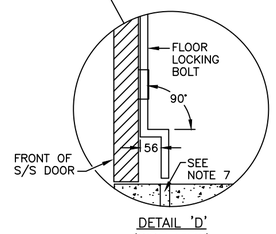
3mm THICK PERFORATED PLATE TO PROTECT
2x PADLOCKS - UPPER/LOWER
35 x 5 FLAT BAR PADLOCK LUGS WITH
15mm PREDRILLED HOLES FOR PADLOCK



DETAIL 'C'

(LOCKING HANDLE ONLY)

ENCLOSURE OF 3mm THICK PERFORATED
PLATE TO PROTECT LOCKING HANDLE.
1x PADLOCK
35 x 5 FLAT BAR LOCKING HANDLE WITH
15mm PREDRILLED HOLES FOR PADLOCK



DETAIL 'D'
(SIDE VIEW)

NOTES:

1. ALL DOORS TO BE HOT-DIP GALVANISED (HDG) IN ACCORDANCE WITH ISO 1461 FOR HEAVY DUTY APPLICATIONS.
2. ALL FABRICATIONS SHALL BE DONE PRIOR TO HOT-DIP GALVANISING. NO WELDING SHALL BE DONE ON SITE.
3. HANDLES SHALL BE WELDED TO ALL DOORS.
4. ALL HINGES SHALL OPEN THROUGH 180° AND MUST BE OF SOLID CONSTRUCTION.
5. ONE HALF OF THE DOOR SHALL BE FITTED WITH 760 MM MONKEY TAIL BOLT AT TOP AND 300 MM BARREL BOLT AT BOTTOM. THE BARREL BOLT DESIGN SHALL BE IN ACCORDANCE WITH DETAIL 'D'.
6. THE BOTTOM PIN OF THE 3 POINT LOCKING MECHANISM SHALL BE IN ACCORDANCE WITH DETAIL 'D'.
7. 20 MMM DIAMETER GALVANISED STEEL PIPES OF LENGTH 100 MM AND WALL THICKNESS OF 3 MM SHALL BE SUPPLIED TO ACCEPT THE FLOOR LOCKING BOLT OF THE THREE POINT LOCKING MECHANISM WHEN IN THE CLOSED POSITION. THESE PIPES SHALL BE EMBEDDED INTO THE CONCRETE FLOOR OF THE BUILDING.
8. THE DOOR SHALL BE DESIGNED TO SUIT THE EXISTING OPENING OF THE DOORWAY.
9. A) EXISTING DOOR FRAMES TO BE REMOVED.
   B) ALL LUGS/BRACES TO BE REMOVED FROM BRICKWORK.
   C) MAKE GOOD BY PLASTERING AND PAINTWORK.
   D) NEW SIGNAGE, WHERE APPLICABLE, TO BE FITTED ON NEW DOORS BY MANUFACTURER.
10. 2 X EYES TO BE PROVIDED FOR OPEN DOOR RETAINERS. EYES TO BE FITTED WITH 3 MM STAINLESS STEEL (304) WIRE (LENGTH TO BE DETERMINED ON SITE). BOTH ENDS OF EACH WIRE TO BE FITTED WITH A SUITABLE HOT-DIP GALVANISED SHACKLE/THIMBLE COMBINATION. THE CORRESPONDING ANCHORING POINT FOR THE DOOR RETAINERS IN WALL TO BE A M10 X 60 STAINLESS STEEL (304) DOUBLE CLIP ANCHOR HOOK/BOLT.
11. ALL DOORS TO BE APPROVED BY A DELEGATED AUTHORITY OF THE KZN DEPARTMENT OF PUBLIC WORKS.

Notes

REV	DESCRIPTION	BY	DATE
0	For Tender Purposes	ND	02/10/25

STATUS: FOR TENDER PURPOSES

IMPLEMENTING AGENT: KWAZULU-NATAL PROVINCE
PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

CLIENT: KWAZULU-NATAL PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

PROJECT:
UMGENI HOSPITAL
UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

DRAWING DESCRIPTION:
RETROFIT STEEL SUBSTATION DOOR

DRAWING NO:	SCALE:	PAPER SIZE:	REVISION:
W079513-ELEC200	NTS	A2	0
PROJECT NO: 079513	DRAWN BY : N DANISA CHECKED BY : S MATHONSI		DATE: 02/10/25

APPROVAL COMMITTEE STAMP:

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

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ANNEXURES

KWAZULU-NATAL PROVINCE
PUBLIC WORKS & INFRASTRUCTURE
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ZNTM01256W: WIMS NO. 079513: UMGENI HOSPITAL: UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION NETWORK AND RELATED ANCILLARIES

ELECTRICAL SPECIFICATIONS

REVISION 0

SECTION A

SITE PARTICULAR SPECIFICATIONS

1. Introduction

The complete specification document includes this section (Section A: Site Particular Specifications), and the sections listed below. The Tenderer shall ensure the listed sections are attached to the specification document. Where sections are missing, the Tenderer shall source the missing sections from the Engineer as listed on the bid document.

Section A: Site Particular Specifications

Section B: Standard General Specifications for Electrical Installations

Section C: Specification for 12 kV AC Metal-Clad Indoor Switchgear and Controlgear

Section D: Specification for 12 kV AC Metal-Enclosed Ring Main Unit

Section E: Specification for an 11000/420 V Indoor Distribution Transformer

Section F: Specification for an 11 kV AC Miniature Substation

2. Site Information

The site for the work is in a live hospital catering for mentally challenged patients. The Tenderer shall note that there may be unattended patients around the site for the duration of the work.

2.1. Location

The site is located at Umgeni Psychiatric Hospital, Main Road, Howick, 3290

GPS Coordinates: 29.5008°S, 30.2325°E

2.2. Site Conditions

The following conditions apply to the site, and equipment shall be designed and manufactured to operate in the specified conditions. Normal service conditions specified in the relevant equipment standards and not defined below shall apply.

Altitude above mean sea level	1 100 meters
Ambient air temperature range	-5°C to 45°C
Relative humidity	up to 98 %
Condensation	High
Corrosive environment/Pollution level	High (Coastal)

Tenderers are advised to visit the site and acquaint themselves with all local conditions pertaining to the execution of the work before the tender closing date. No claims from the Contractor which may arise from insufficient knowledge of site access, type of site, labour conditions, establishment space, transport and loading/unloading facilities, power and water supply, etc. will be considered after submission of tenders.

For services where prior permission is required before contractors can visit the site, a visit will be arranged for all interested parties.

3. Project Scope of Work

The scope of work for the project **“Umgeni Hospital: Upgrade of Medium Voltage (MV) Distribution Network and Related Ancillaries”** includes but is not limited to the work listed below. The Department’s authorised representative may add or omit work from time to time during the progress of the works. The addition and omission of work shall be dealt with in terms of the relevant clauses of the contract.

a) Decommission the existing 11kV 400A 6-panel oil medium voltage switchgear.
b) Decommission the existing Type B miniature substation 1 equipped with an 11kV oil-insulated RMU, 315kVA transformer, and low voltage section.

c) Decommission the existing Type B miniature substation 3 equipped with an 11kV oil-insulated RMU, 500kVA transformer, and low voltage section.
d) Decommission the existing 11000/400V, 500kVA oil-immersed indoor distribution transformer.
e) Decommission Eskom's existing 11 kV one-panel oil-insulated medium voltage switchgear.
f) Supply, installation and commissioning of new 11kV, 630A 3-panel vacuum medium voltage switchgear panels and battery tripping unit.
g) Supply, installation and commissioning of new 11kV, 630A 2-panel vacuum medium voltage switchgear panels and battery tripping unit.
h) Supply, installation and commissioning of Type B miniature substation complete with 11kV vacuum RMU, 315kVA oil-immersed transformer, and low voltage section.
i) Supply, installation and commissioning of Type B miniature substation complete with 11kV vacuum RMU, 500kVA oil-immersed transformer, and low voltage section.
j) Supply and installation of power quality meters for load logging and harmonic content monitoring.
k) Supply and installation of power factor correction units.
l) Supply and installation of 95 mm^2 3 core XLPE Cu PVC SWA PVC 6.35/11kV cables.
m) Supply and install 600/1000V low voltage cables.
n) Refurbishment of the main substation building including replacing substation doors and waterproofing.
o) Supply and install a new 11000/400V indoor distribution transformer.
p) Supply and install an 11kV vacuum insulated ring main unit.
q) Replacement of low voltage main distribution panels, distribution boards, and outdoor kiosks.
r) Supply and install digital power meters in Minisub 2 and 4 low-voltage sections.
s) Supply and installation of earthing system and lightning protection.
t) Miniature substation 4 refurbishment – clearing vegetation around the mini-substation; disconnection of all feeder cables, rigging mini-substation and plinth to a temporary position; ground levelling and soil compaction on original position; rigging plinth and mini-substation to original position; and reconnection of all feeder cables.

4. Existing Installation

The hospital receives power supply from Eskom at 11 kV which is further distributed via an 11 kV distribution network. The distribution network consists of a primary withdrawable oil MV switchgear, a 500 kVA 11000/420V local transformer, one (1) 315 kVA, 11000/420V Type B miniature substation, and three (3) 500 kVA, 11000/420 V Type B miniature substations.

Drawing no. W079513-ELEC102 shows the existing medium voltage distribution network.

5. Schedule of Drawings

The drawings listed in Table 1 form part of this specification. The Tenderer shall ensure all the drawings are attached to the specification or bid document.

Table 1: Schedule of Drawings

Drawing Number	Drawing Description	Rev
W079513-ELEC100	Existing Site Plan	0
W079513-ELEC101	Existing Main Substation Layout	0
W079513-ELEC102	Existing Medium Voltage (MV) Network – SLD	0
W079513-ELEC103	Existing Minisub 2 & Minisub 4 – SLD	0
W079513-ELEC104	Proposed Medium Voltage (MV) Network – SLD	0
W079513-ELEC105	Proposed Main Substation Layout – SLD	0
W079513-ELEC106	Proposed Local Transformer Low-Voltage Panel – SLD	0
W079513-ELEC107	Proposed Miniature Substation 1 – SLD	0
W079513-ELEC108	Proposed Miniature Substation 3 – SLD	0
W079513-ELEC109	Proposed Main Substation Distribution Board (DB Main SS)	0
W079513-ELEC110	Proposed Genset Kiosk (Kiosk Main SS)	0
W079513-ELEC111	Proposed Kiosk UM	0

Drawing Number	Drawing Description	Rev
W079513-ELEC112	Proposed Distribution Network Monitoring System	0
W079513-ELEC113	Existing Minisub 1 & Minisub 3 – SLD	0
W079513-ELEC200	Retrofit Steel Substation Door	0

6. Cable Schedule

The Tenderer shall be responsible for all the supply, delivery and installation of electrical cables, including terminations and connection to equipment. Cables shall have copper conductors and earth continuity conductors where specified. The following cables form part of the electrical installation.

Table 2: Cable Schedule

Source	Destination	Cable Size	Cable Type	Approx. Length
Eskom network breaker	Hospital main MV switchgear	95 mm^2 3 core	XLPE PVC SWA PVC 6.35/11 kV	20 m
Hospital main MV switchgear	Local transformer RMU	95 mm^2 3 core	XLPE PVC SWA PVC 6.35/11 kV	20 m
Hospital main MV switchgear	Mini substation 1	95 mm^2 3 core	XLPE PVC SWA PVC 6.35/11 kV	100 m
Mini substation 1	Mini substation 2	95 mm^2 3 core	XLPE PVC SWA PVC 6.35/11 kV	300 m
Mini substation 2	Mini substation 3	95 mm^2 3 core	XLPE PVC SWA PVC 6.35/11 kV	140 m
Mini substation 3	Mini substation 4	95 mm^2 3 core	XLPE PVC SWA PVC 6.35/11 kV	210 m
Local transformer	Local transformer LV switchboard	3 x (150 mm^2 4 core)	PVC PVC SWA PVC 600/1000 V	30 m (3 x 10 m)

7. Requirements for a 12 kV AC Metal-Clad Indoor Switchgear and Controlgear

The switchgear assembly shall consist of one (1) incomer panel and two (2) feeder panels **complying with the requirements of Section C of the specifications.**

The switchgear assembly configuration from left to right when viewed from the front shall be as follows:

INCOMER – FEEDER – FEEDER

The switchgear assembly shall be suitable for installation over a cable trench and within the existing switchroom as per drawing no. W079513-ELEC105.

The power cable compartments shall be suitable for termination of **one** 95 mm^2 3 core (1 core/phase) XLPE insulated PVC bedded, steel wire armoured, PVC sheathed 6.35/11kV cables.

The current transformer ratio shall be 400/200/1A.

The switchgear assembly shall be equipped with a remote monitoring device as specified in Clause 9 of Section D.

8. Requirements for a 12 kV AC Metal-Enclosed Ring Main Unit

The ring main unit shall be a 3-way, indoor, non-extensible unit **complying with the requirements of Section C of the specifications.**

One ring main unit shall be provided.

The configuration of the ring main unit from left to right when viewed from the front shall be as follows:

SD – CB – SD

where SD – Switch disconnector
CB – Circuit breaker

The ring main unit shall be equipped with a remote monitoring device as specified in Clause 9 of Section D.

The power cable compartments shall be suitable for termination of **one** 95 mm^2 3 core (1 core/phase) XLPE insulated PVC bedded, steel wire armoured, PVC sheathed 6.35/11kV cables.

9. Requirements for a 11000/420V Indoor Distribution Transformer

The distribution transformer shall comply with the requirements of Section E of the specifications.

One indoor distribution transformer shall be provided.

The rated power of the distribution transformer shall be 500 kVA.

Cable entries to the cable connection boxes shall be bottom entries.

The MV cable connection box shall be suitable for the termination of **one** 95 mm^2 3 core (1 core/phase) XLPE insulated PVC bedded, steel wire armoured, PVC sheathed 6.35/11kV cable.

The LV cable connection box bushings shall be suitable for connecting three (3) conductors for each phase and neutral. The conductor shall be three (3) 150 mm^2 PVC insulated, PVC bedded, steel wire armoured, PVC sheathed 600/1000V cables.

The transformer shall be fitted with a transformer monitor complying with the requirements of 6.9 of Section E.

10. Requirements for a 12 kV AC Miniature Substation

The miniature substations shall comply with the requirements of Section F of the specifications.

Two miniature substation units shall be provided, i.e. Mini-Substation 1 and Mini-Substation 3.

10.1. Ring main unit

The ring main unit shall be fitted with a status monitoring device complying with the requirements of F.8.9 of Section F. This requirement applies to Mini-substation 1 and Mini-substation 3.

10.2. Distribution transformer

The following requirements apply to Mini-substation 1 and Mini-substation 3.

The rated power of the distribution transformer shall be 500 kVA.

The transformer shall be fitted with a transformer monitor complying with the requirements of E.6.9. of Section E.

10.3. Low-voltage equipment

The feeder circuits and rated normal currents of feeder circuit breakers shall be as per drawing no. W079513-ELEC107 for Mini-substation 1 and drawing no. W079513-ELEC108 for Mini-substation 3.

SECTION B

STANDARD GENERAL SPECIFICATIONS FOR ELECTRICAL INSTALLATIONS

REV. 0

November 2024

1. GENERAL

This general electrical specification specifies the standard of workmanship and quality of materials for electrical installations. The electrical installation shall comply with all applicable Standards, Acts and Regulations. The latest editions of Standards shall be referenced.

The following terminology shall be used for different voltages:

- **Low-voltage (LV) –** shall mean AC voltages up to and including 1000 V and DC voltages up to and including 1500 V as per SANS 10142-1.
- **Medium Voltage (MV) –** shall mean AC voltages higher than 1000 V and not exceeding 22 kV.

1.1. Compliance with Regulations

The entire electrical installation shall be carried out in accordance with the latest revision and amendments of the following:

a) Occupational Health and Safety Amendment Act 181 of 1993 including all regulations, compulsory and safety standards promulgated in terms of the Act.
b) SANS 10142: The Wiring Code of Premises – as issued by the South African Bureau of Standards, referred to herein as the “Wiring Code”.
c) The Municipal By-Laws and any special requirements of the Supply Authorities of the area and district concerned.
d) The local Fire Office Regulations of the area and district concerned.

A Certificate of Compliance shall be issued on completion of the installation.

1.2. Drawings and Specifications

The Engineer’s design drawings covering the various sections of the installation are provided with the tender document. The Tenderer shall ensure that they obtain all drawings as listed in Section A hereof including instances where the Tenderer downloads the tender document from the eTenders Portal or the Departmental Website. Any disputes arising as a result of drawings not included in the tender document will not be considered.

Unless otherwise stated, three sets of the Engineer’s design drawings, specifications, and schedules (if any) shall be issued to the successful Tenderer for installation purposes. The Engineer's drawings and specifications shall be considered binding with regard to the quality, quantity, general scheme, system, arrangement and function of the Contract works.

All drawings and layouts shall be regarded as diagrammatic and all positions and dimensions shown on drawings shall be verified on-site. The Contractor shall check with the Engineer before putting work in hand on any section of the work that he is in possession of the latest drawings.

Copies of shop drawings, where applicable, shall be submitted to the Engineer for approval and to demonstrate compliance with the contract documents. Shop drawings are drawings, diagrams, illustrations, schedules, performance charts, brochures and other data which are prepared by the Contractor, manufacturer, supplier or distributor, and which illustrate relevant portions of the work.

The Engineer's approval of shop drawings or samples is limited to check conformity with design requirements and shall not relieve the Contractor of responsibility for erection or installation fit, or for any deviation from the requirements of the contract unless the Contractor has informed the Engineer in writing of such deviation at the time of submission of shop drawings or samples, and the engineer has given written approval for the specific deviation. The Engineer's approval shall not relieve the Contractor of responsibility for erection or installation fit or for errors or omissions in the shop drawings or samples.

During the execution of the work one of the sets of prints of drawings as listed in **Site Particular Specifications**, and a specification shall be available for reference on site. Any discrepancy between the drawings and the specifications and/or Schedules shall be drawn to the attention of the Engineer immediately after such discrepancy is discovered.

Before receiving final payment, the Contractor shall return to the Engineer all documents bearing the Engineer's name as have been stipulated to be returned. None of the hereinbefore mentioned

documents shall be used by any of the parties hereto for any other purposes than this contract and neither of the parties shall divulge or use, except for the purpose of this contract, any information contained in these documents.

1.3. Installation – General

a. All electrical installation work shall be carried out, tested and in all respects comply with the electrical installation regulations of the Occupational Health and Safety Act (Act 181 of 1993).

b. The equipment mentioned in this specification shall be installed completely in all respects by the Contractor for this complete contract as specified in this specification and as indicated on the relevant drawings.

c. The Contractor shall before commencing work on any section of the installation, obtain from the Engineer confirmation of the positions of all controlgear, plant and machinery, cables, lighting outlets, socket outlets, power points, etc. Failure to obtain such approval to proceed with the installation shall result in the Contractor being responsible for any alterations which may be found necessary or desirable during the progress of the work.

d. Electrical connections will be provided for all electrically operated equipment to a specific point in close vicinity of all items of equipment. The material for the final electrical connections from these points to the various items of equipment and the final connection itself shall form part of this contract.

e. All low-voltage equipment shall be suitable for operation on an electrical power supply of 400/230 V, single/three phase, 50 Hz alternating current.

f. All equipment mentioned in this specification must be completely pre-wired and pre-piped in the manufacturer's works to form complete units, which shall be ready for installation on arrival on site.

g. All electrical equipment, installations and wiring must conform to the regulations governing such work. Unless otherwise specified, all conduits, control panels, control wiring, etc. are to be recessed.

1.4. Metric Calibration of Instruments

All instruments and gauges on all items of equipment shall be in the SI unit metric system.

1.5. Painting

The paintwork of all equipment, which is damaged during the course of the erection and installation and prior to acceptance, must be satisfactorily made good by the contractor(s).

1.6. Information to be Provided with the Tender

Not applicable.

1.7. Testing & Commissioning

Before the delivery of all major electrical equipment to the site, as indicated by the Engineer, factory acceptance tests (FAT) shall be carried out to establish, as far as practicable, that the equipment functions as intended. During the FAT, the equipment shall be visually inspected and tested for compliance in general with the specifications. If the equipment is in order, preliminary acceptance shall be given for the purpose of delivery to the site.

On completion and installation of the equipment on site, the Contractor shall arrange to carry out a site acceptance test (SAT), in the presence of the Engineer, and if approved, the final acceptance test or commissioning shall be performed. The date and time for commissioning shall be approved by the Engineer upon consulting with all relevant stakeholders.

The Contractor shall provide all testing equipment and perform preliminary tests before requesting the Engineer to witness tests. The Contractor shall record all test results on test sheets or certificates and submit two copies to the Engineer for approval.

Acceptance tests on all electrical plants will be carried out in the presence of the Engineer, and only upon successful completion of these tests, shall the guarantee period commence.

The Contractor shall give the Engineer two weeks' notice for the factory acceptance tests.

1.8. Approval of Equipment

All equipment offered must be of an approved and well-known manufacture. Only equipment of proven manufacture and quality will be considered.

1.9. Materials

Unless otherwise specified, where stainless steel is specified, this shall mean "chrome nickel steel" type 304 18/8 grade. Lower grades of steel will not be acceptable.

The Contractor shall submit samples of all materials or equipment for approval by the Engineer before installation unless prior approval to the contrary has been obtained in writing from the Engineer. Such samples shall be held for comparison with equipment and materials installed and will be released on satisfactory completion of the contract.

All materials shall be installed to the satisfaction of the Engineer.

The Engineer may instruct the Electrical Contractor to supply and/or deliver, and/or install any other make or manufacture of articles than that/those specified and will issue variation orders where such change has cost implications.

All materials used shall be suitable for the environment and service for which the material is to be used.

Where protective coatings are damaged, these should be made good by the Contractor to the satisfaction of the Engineer before handover.

All materials used in electrical installations shall be SABS approved and have an authorisation or permit number as required by SANS 10142.

Any conditions or expiry dates relating to the material are to be noted on the Certificate of Compliance.

1.10. Departmental Material

When certain materials are supplied by the Department to the contractor for installation, the contractor must arrange for taking delivery and providing safe storage of these materials.

The contractor will be held responsible for all damage to or loss of such material while it is his custody.

1.11. Dimensions

The dimensions specified are maximum measurements, which must not be exceeded.

Tenderers must ensure that the dimensions of equipment offered can be accommodated within the spaces provided and as scaled from the drawings. This requirement is essential for the matching of associated equipment and the building layout.

A workshop drawing indicating equipment layout for each building as well as all relevant dimensions shall be submitted for approval before manufacturing shall commence.

1.12. Trade Names

Where trade names are indicated in this specification, it should be clearly understood that such trade names are not mandatory but merely to assist in identifying the quality and performance of the article required by the Department.

The tenderer is therefore at liberty to provide substitute articles provided that the article is of equal quality and performance as the named article. Where substitutes are proposed, the onus shall be on the Tenderer to prove that such substitutes are similar and equivalent to the articles and equipment specified and shall be approved by the Engineer.

Quality refers to the value of the article:

- sturdiness/solidity in make
- composite materials

- aspect (appearance)
- size or volume (if important)
- price

Performance refers to the output of the article:

- economical use
- tamper resistance
- of the article itself
- of its fixation
- maintenance
- cost of
- ease of
- accessibility for

Where a trade name is mentioned, it does not imply that the named article complies with the specification in all respects. It is the responsibility of the Tenderer to verify that the equipment and/or materials offered comply with all specification requirements and are capable of performing the required duties.

When the installation commences, with the appropriate approvals, of any type and make of articles and equipment, the same type of articles and equipment shall be used throughout the project for that specific application, unless otherwise specified.

1.13. Notices and Fees

The successful Tenderer for this Contract shall, immediately after he has been officially notified that his tender has been accepted, and at any time thereafter as may be necessary, notify all the relevant authorities, pay fees, and take any other steps which may be required or prescribed to execute the installation as specified.

Copies of such correspondence shall be forwarded to the Engineer, who shall at all times be kept informed.

1.14. Electricity Supply

Unless otherwise specified, the electricity supply system is a nominal 11 kV, 3-phase, 50Hz or 400/230 V (three/single phase), 50Hz, with a neutral earthed at the transformer, but insulated elsewhere.

Unless otherwise stated, the application for and the cost of the temporary and permanent electricity supply, shall be the responsibility of the Contractor. The Contractor shall apply timeously for such supply.

All temporary electrical supplies for construction sites shall be installed and connected in accordance with SANS 10142-1. Any temporary supplies that do not conform will not be acceptable.

KZN DPWI shall have the right to bring the installation(s) up to standard at the Contractor’s expense.

1.15. Guarantee

The whole of the electrical installation, fittings and equipment installed under this Contract shall be guaranteed against defective workmanship or materials for twelve months from the date of issue of the completion certificate for a portion or the whole of the works.

During the guarantee period, the Contractor may be called upon to repair, replace or make good any defects or latent defects at his expense.

1.16. Fixing Materials

The Contractor shall fix all metal and non-metal surface-mounted materials and equipment only as described hereunder:

Into concrete	Expanding rawl-bolts, bolts cast in, or gun-bolted with sizes and lengths as approved by the Engineer or as specified.
Into pre-cast concrete	Services shall not be fixed to pre-cast concrete structures unless otherwise specified or approved by the Engineer in writing.
Into brickwork	Expanding rawl-bolts, plastic rawl plugs or built-in metal fixing of sizes approved by the Engineer or as specified.
Onto steelwork	Drilled or gun-bolted, tapped and screwed with specified or approved sizes of screws or steel gun-bolt nails, by means of welding where so permitted by the Engineer.
Onto woodwork	To be fixed by means of wood screws of ample sizes and quantity as specified or approved by the Engineer. Nails shall not be used.
Into hollow tiles	Spring toggles of not less than 6mm diameter and then only upon specification or approval of the Engineer.
In areas exposed to weather	Stainless steel, galvanised or solid brass bolts, screws and nuts shall be used. Gun bolting into concrete will only be allowed into cast concrete and then only after permission has been obtained from the Engineer. No gun bolting shall be undertaken into ash bricks, brickwork or pre-cast concrete except where permission has been granted by the Engineer. The Electrical Contractor will be held responsible for any damage to Builder's work, due to unauthorised, inadmissible gun bolting. The use of plastic plugs will be acceptable for the fixing of switch boxes, plug boxes, single-phase surface distribution boards, saddles and all light weight accessories. Permission is to be obtained from the Engineer for all other types of equipment fixings. Material shall be installed in accordance with the manufacturer's instructions and recommendations in all respects including type, size and spacing of fixings.

2. QUALITY SPECIFICATION – GENERAL REQUIREMENTS

2.1. Quality of Materials

Only materials of the first class quality shall be used and all materials shall be subject to the approval of the Department. Departmental specifications for various materials to be used on this contract are attached to and form part of this specification.

Wherever applicable material shall comply with the relevant SANS standards, or British Standard Specifications, where no SANS standard exists.

Materials wherever possible must be of South African manufacture.

2.2. Workmanship and Staff

All employees employed in the service must be under the constant supervision of a registered accredited person.

The workmanship shall be of the highest grade to the satisfaction of the Department.

All inferior work shall, on indication by the electrical consulting engineer or the Department's inspecting officers, immediately be removed and rectified by and at the expense of the electrical contractor.

2.3. Conduits and Accessories

Unless other methods of installation are specified for certain circuits, the installation shall be in conduit throughout. No open wiring in roof space or elsewhere will be permitted.

The conduit and conduit accessories shall comply with the applicable SANS specifications as set out below and the conduit shall bear the mark of approval of the South African Bureau of Standards.

a) Screwed metallic conduit accessories: SANS 162
b) Plain-end metallic conduit and accessories: SANS 1007
c) Non-metallic conduit: SANS 950

Insulted heat-resistant boxes shall be used for outlets of totally enclosed luminaries and other fittings where excessive temperatures are likely to occur.

Luminaires and other fittings shall not be supported by no-metallic conduit or conduit boxes. These fittings shall be secured to the surrounding structure in a way that is acceptable to the Department.

The Conduit shall be supported and fixed with saddles with a maximum spacing of 1 m, even in roof spaces. (Refer to SANS 10142). The contractor shall supply and install ALL ADDITIONAL SUPPORTING TIMBER REQUIRED.

It shall be possible to rewire the completed installation in the future without undue difficulty.

Non-metallic conduit and fittings shall not be used under the following conditions:

a) Outside a building (unless protected, or sheltered under eaves).
b) For mechanical load bearing.
c) Where they may be subjected to temperatures below – 10 Degrees Celsius or above 70 Degrees Celsius for prolonged periods.
d) As primary electrical insulation.
e) In areas where they may be subjected to mechanical damage.
f) For applications other than those for which they are designed.

2.3.1. Painting Conduits

Exposed conduit may be painted with normal oil or PVA paints, however, care must be taken to ensure that the paint used does not contain any component that will soften or have any other detrimental effect on the materials from which the conduit and fittings are manufactured.

2.3.2. Connecting of Conduit to Metal Equipment/Components

When any part of a non-metallic conduit system has to be connected to metal equipment or components (e.g. switchboards, surface socket-outlet, existing metallic conduit system etc.) fitting and joints manufactured specifically for this purpose must be used. Non-metallic conduit must not be threaded to fit metallic connectors.

2.3.3. Conduit Bends

In conduits of nominal size not exceeding 25 mm, bends may be made as described hereunder. In all other cases bends must be achieved by the use of accessories that are introduced into the conduit run and bends shall comply with the relevant requirements of SANS 10142

- Conduits of nominal size up to 25 mm may be bent by hand provided that the radius of the bend is greater than six times the nominal size of the conduit, and that the external angle of the bend does not exceed 90 degrees. The procedure (which involves the use of a bending spring) should be as follows:

  a) Determine the angle through which the conduit is to be bent.
  b) Warm the cold conduit over the length to be bent by rubbing it with hands.
  c) Select a bending spring which matches the conduit size and insert it into the conduit beyond the point where the bend is required.
  d) Bend the conduit slowly with one motion (either with the hands alone approximately 1 m apart, or across the knee) to double the required angle, release the conduit and, when its position is stable, withdraw the bending spring (turning it in an anti-clockwise direction to reduce its diameter) and gently correct the angle.
  e) Install and secure the conduit immediately following bending.

2.3.4. Adhesive Joints

All adhesive joints must be made in a clean dry area. The surface of all components to be bonded must be dry and clean.

The insertion depth should be marked on the conduit end and the adhesive applied (by means of a soft clean brush) as quickly as possible to the surface to be bonded by brushing lengthwise along the conduit, ensuring that a thin coating of uniform thickness is formed. The joint must be made immediately after the application of the adhesive by pushing the prepared parts squarely together with a twisting motion of the full insertion depth. Care must be taken to avoid squeezing adhesive into the cableway and all excess adhesive must be wiped off.

Note: Solvent adhesive containing highly volatile liquids and their containers should not be left open.

2.3.5. Cutting of Conduit

A fine-tooth hacksaw should be used to cut conduit to the required length. Each cut end should be square and free from swarf, burrs and loose material. When determining the length of conduit to be cut, allowance must be made for the length of couplings or accessories attached to the conduit. Incorrect determination will cause bulging of the conduit or insufficient joint length.

2.4. Conduit in Roof Spaces

In roof spaces, the conduit shall be installed in such a manner as to allow for all wiring to be executed from below the ceilings.

Conduit shall be secured at intervals not exceeding 1m by means of saddles fixed to the roof timbers by means of screws or acceptable clout nails.

In the case of repairs and renovations, conduct runs from a distribution board shall, where possible, terminate in fabricated sheet steel draw boxes installed directly above or in close proximity to the boards.

2.5. Wiring

Except where otherwise specified in other parts of this specification or drawings, wiring shall be carried out in conduit throughout. Only one circuit per conduit will be permitted, provided the circuits are of the same loading i.e. not mixed.

No wiring shall be drawn into conduit until the conduit installation has been completed and all conduit ends provided with bushes. All conduits to be clear of moisture and debris before wiring is commenced.

Unless otherwise specified in other parts of this specification or indicated on the drawings, the wiring to the installation shall be carried out in accordance with SANS 10142. In addition to the requirements of the SANS 10142 concerning the installation of earth conductors of minimum size and maximum length it is a specific requirement of this document that where plain-end metallic conduit or non-metallic conduit has been used, earth conductor must be provided and drawn into the conduit with the main conductors to all points, including all lighting points throughout the installation.

Wiring for lighting circuits is to be carried out with 2.5mm² conductors and a 2.5mm² earth conductor. For socket outlet circuits the wiring shall compromise 4 mm² and a 2.5mm² earth conductor. In certain instances, as will be directed in other parts of this specification the sizes of the aforementioned conductors may be increased for specified circuits. Sizes of conductors to be drawn into conduits in all other instances, such as feeders to distribution boards, power points etc, shall be as specified elsewhere in this specification or indicated on the drawings. Sizes of conductors not specified must be in accordance with SANS 10142.

The loop-in system shall be followed throughout, and no joints of any description will be permitted.

The wiring shall be done in PVC insulated 300/500 V grade cable to SANS 1507.

Where cable ends connect into switches, fittings, etc. the end strands must be neatly and tightly twisted together and firmly secured. Cutting away wire strands of any cable will not be allowed.

2.6. Switches and Socket Outlets

All switches and switch socket outlet combination units shall conform to the Departmental Specifications. Only 16A 3 pin sockets shall be used, unless other special purpose types are distinctly specified or shown on the drawings.

For the uniform appearance of switchboards, only one approved make of each of the different classes of switchgear mentioned shall be used throughout the installation.

2.7. Switchboards

All boards shall be accordance with the types as specified, be constructed according to the detail or type drawings and must be approved by the Department before installation.

In all instances where provision is to be made on boards for the supply authority's main switch and /or metering equipment, the contractor must ensure that all requirements of the authorities concerned in this respect are met.

Any construction, or standard-type board proposed as an alternative to that specified, must have the prior approval of the Department. All busbars and wiring shall enter the switchgear from the back of the board. The switchgear shall be mounted within the boards to give a flush front panel. Cable and boxes and other auxiliary equipment must be provided where required.

Engraved labels are to be mounted on or below every switch. The wording of the labels, in English, shall be according to the layout drawings or as directed by the Department's representative and must be confirmed on-site. Flush-mounted boards are to be installed with the top of the board 2,0 above the finished floor level.

2.8. Earthing of Installation

The type of main earthing must be as required by the supply authority, if other than Department's representative, who may require additional earthing to meet test standards.

Where required an earth mat shall be provided, the minimum size, unless otherwise specified, shall be 1,0 m and consisting of 4 mm diameter hard-drawn bare copper wires at 250 mm centres and brazed at all intersections.

Alternatively or additionally, earth rods or trench earths may be required as specified or directed by the Department's authorized representative.

Installations shall be effectively earthed in accordance with the "Standard Regulations" and to the requirements of the supply authority. All hot and cold water and waste pipes are to be effectively bonded by means of 12 mm x 1.6 mm solid or perforated copper tape and brass bolts with nuts at intervals not exceeding 18 m. Self-tapping screws are not acceptable as means of securing earth conductors.

Connection from the main earth bar on the main board must be made at the cold water main, the incoming service earth conductor, if any, and the earth mat or other local electrode by means of 12,5mm x 1,60mm solid copper tape or 16mm² stranded (not solid) bare copper wire or such conductor as the Department's representative may direct.

2.9. Mounting and Positioning of Light Fittings

The electrical contractor must note that in the case of board and acoustic tile ceilings, i.e. as opposed to concrete slabs, close-corporation with the building contractor is necessary to ensure that as far as possible, the light fittings are symmetrically positioned with regard to the ceiling pattern.

The layout of the fittings, as indicated on the drawing must be adhered to as far as possible, but the exact positions must be confirmed with the Department's representative.

Fittings installed against concrete ceilings shall be screwed to the outlet boxes and in addition, 2 x 6mm expansion or other approved type fixing bolts are to be provided. The bolts are to be ¾ of the length of the fittings apart.

Fittings to be mounted on the board ceilings shall be secured using two 40mm x No. 10 round head screws and washers and in turn secured to the ceiling branderings. The fittings shall also be bonded to the circuit conduit by means of locknuts and brass bushes. The fixing screws are to be placed ¾ of the length of the fitting apart. The use of Butterfly clips to secure the light fittings will not be acceptable.

In addition to the above, an earth conductor is to be taken from the earthing terminal on all fluorescent fittings and solidly bonded onto the conduit installation.

Incandescent fittings are to be screwed directly to outlet boxes in concrete slabs. Against board ceilings, the fittings shall be secured to the branderings or joints by means of two 40mm x No.8 round head screws.

3. QUALITY SPECIFICATIONS – SPECIFIC REQUIREMENTS

3.1. Conduit and Conduit Access

3.1.1. General

This section covers requirements for conduit and conduit accessories for general installations under normal environmental conditions.

3.1.2. Screwed conduit

Conduit shall comply with SANS 162 and shall bear the SABS mark.

All conduits shall be heavy gauge, welded or solid drawn, hot-dip galvanised or black enamelled.

Galvanised conduit shall be hot-dipped inside and outside in accordance with SANS 763.

All conduit ends shall be reamed and threaded on both sides and delivered with a coupling at one end and a plastic cap on the other end.

3.1.3. Metal conduit accessories.

All metal conduit accessories shall be malleable cast iron or pressed steel with brass bushes in accordance with SABS 162. alloy or pressure cast metal accessories or zinc base alloy fittings are not acceptable. All fittings whether galvanised or black enamelled, shall be fitted with brass screws.

Accessories must be hot-dip galvanised to SABS 763.

3.1.4. Circular type boxes

The boxes shall be of the long spout pattern, manufactured of malleable cast iron or pressed steel and stove enamelled jet black or galvanised as required. The two fixing holes shall be diametrically opposite each other, drilled and tapped at 50mm centres.

Junction, draw-in an inspection boxes shall be adequate size and shall be supplied with heavy gauge metal cover plates.

3.1.5. Switch boxes and socket-outlet boxes

All switch boxes and socket-outlet boxes shall be manufactured of pressed galvanised of at least 1mm thickness. All boxes shall be fitted with the necessary lugs to suit standard flush mounted switches and socket-outlets manufactured in accordance with SABS 518 and SABS 1085.

Only galvanised or metal wall boxes will be acceptable to the Department, even if the tenderer offered to use non-metallic conduit and accessories. Light switch boxes shall be 100 x 50 x 50mm with two 20mm knockout on the sides and a single knockout on the top, bottom and back.

Socket-outlet boxes shall be 100 x 100 x 50mm with 20mm knock-outs each on the top, bottom, sides and back.

Where cavity walls are encountered tenderers must allow to install deep back (one end closed) wall boxes. Switch and socket-outlet cover plates shall comply with SABS 1084

3.1.6. Flexible conduit

Flexible steel conduit and adaptors shall comply with BS 731, part 1 where applicable. Flexile conduit shall be of galvanised steel construction and plastic sheathed (complex or equal). Flexible conduit shall only be used as specified and shall then be installed in accordance with SABS 0142.

3.1.7. Plain-end metallic conduit

As an alternative to the threaded conduit, plain-end (unthreaded) metallic conduit with accessories may be used.

Unthreaded conduit shall be manufactured of mild steel with a minimum thickness of 0,9mm and shall comply with SABS 1007. Bending and setting of conduit shall be done with the correct apparatus recommend by the manufacturer of the conduit.

The Contractor or Supplier shall be responsible for obtaining the approval of local authorities for the use of the system.

All conduit and accessories used in areas within 50km of the coast shall be hot-dip galvanised to SABS 763.

3.1.8. Non metallic conduit

Non-metallic conduit shall comply with SABS 950.

3.1.9. Earth Clamps

Earth clamps shall consist of copper strips at least 1,2mm thick and not less than 12mm wide secured with a brass bolt, nut washer and shall be so constructed that the clamp will fit firmly to the conduit without any additional packing.

3.2. Powerskirting

3.2.1. General

The channel and cover shall be manufactured of 1mm thick rolled sheet steel. The channel and cover shall be epoxy coated after manufacture.

3.2.2. Outlets

Outlets pre-punched on a modular basis shall be provided to accommodate socket outlets or future socket outlets. In addition to standard lengths, covers of 250mm length shall be provided for installation on building module lines.

3.3. CABLES

3.3.1. General

This section covers the requirements of low-voltage and medium-voltage cables for general installations under normal environmental conditions.

All cables shall be new and unused.

Cables shall be manufactured and supplied in one length to the lengths specified unless these lengths exceed a standard drum length in which case a ruling shall be obtained from the Engineer.

Unless otherwise specified or approved, cables with copper conductors shall be used throughout.

Unless otherwise specified or approved, all unarmoured cables shall be installed in metal wiring channels, sleeves or conduit.

Where required by the Engineer, acceptance tests shall be carried out on production runs of the cable in accordance with SANS 1507.

3.3.2. Low-Voltage Cables

Unless otherwise approved the cables shall be manufactured in accordance with SANS 1507. The insulation of LV cables shall be general purpose PVC 600/1000V Grade.

Cables shall be constructed as follows:

- Unarmoured cables shall be PVC insulated, and PVC sheathed.
- Armoured cables shall be PVC insulated, PVC bedded, steel wire armoured, and PVC sheathed.
- ECC cables shall be PVC insulated, PVC bedded, steel wire armoured with copper earth continuity wire in armour, and PVC sheathed.
- Single core Cables: PVC insulated and unsheathed (for installation in wire ways and switchboards).

Where armouring is specified, it shall consist of one layer of galvanised steel wire in the case of multi-core cables and non-magnetic metallic wire in the case of single-core cables. Aluminium strip or tape armouring is not acceptable.

Where specified, an earth continuity conductor shall be provided in the armouring in accordance with SANS 1507.

3.3.3. Medium Voltage XLPE and PILC Cables

All medium voltage cables shall comply with the requirements of SANS 97 (for PILC) and SANS 1339 (for XLPE).

3.3.4. Glands

Glands to be used for terminating PVC/PVC/SWA/PVC cables shall be of the adjustable type.

Glands shall be suitable for general purpose 600/1000 V Grade cable with steel armouring.

The glands shall be made of nickel-plated bronze or brass.

The glands shall consist of a barrel carrying a cone bush screwed into one end and a nickel-plated brass nipple carrying a nickel-plated brass or a heavy galvanised steel locknut screwed into the other end.

The galvanised shall comply with SABS 763.

Non-watertight glands must be easily converted to watertight glands by means of waterproofing shroud and inner seal kit. On the cable entry side of the barrel a concave groove shall be provided to accommodate the top rim of the waterproofing shroud.

The shrouds shall be made of non-deteriorating neoprene or other synthetic rubber, and shall resistant to water, oil and sunlight. The shrouds shall Ht tightly around the glands and cable.

Glands shall be provided with ISO threads and shall be suitable for the specified cable sizes.

Flameproof of glands shall comply with SABS 808, Group 1, 2a and 2b. Suitable accessories shall be provided with glands to be used on ECC armoured cables to facilitate a bolted lug connection of the earth continuity conductors. Groove cut into the barrel or cone bush to accommodate the earth continuity conductors are not acceptable.

For unarmoured cables the cone bush and compression ring of the gland shall be replaced with a synthetic rubber compression bush and ring to provide the required grip on the outer sheath of the cable.

3.3.5. Cable Terminations and Joints

3.3.5.1. General

The complete kit shall be packed in a container that is marked for the type of cable insulation and construction as well as the voltage range for which the materials are suitable An illustrated set of instructions for the installation of the materials shall accompany every kit.

The joints and terminations shall make minimal, if any use of insulating or stress relieving tapes. The use of electrical stress control and insulating tubing that is heat-shrunk onto the termination or joint is preferred above other methods.

The materials shall comply with VDE 9278 and the supplier shall be called upon to confirm this aspect before acceptance of the materials of installation.

The heat-shrinkable and other materials used for the terminations and joints shall be of a high quality and shall retain their electrical and mechanical properties without deterioration.

3.3.5.2. Terminations with heat-shrinkable materials

Terminations shall be made of a material that gives lasting protection against ultraviolet radiation.

The cores of all cables terminated outdoors and the cores of 3.3kV and higher voltage cables terminated indoors shall be completely covered with a shrunk-on protective layer against surface tracking, ultraviolet radiation and weathering.

3.3.5.3. Cable laying

General

The contractor must satisfy the Principal Agent that he is competent to lay the cables specified, and must have had previous experience of cable laying and jointing of the size and type of cable specified.

The Contractor shall, before installing the cables, familiarise himself with the conditions on site and shall be provided with such information as is known to the Engineer through the route, to enable the Contractor to adequately plan the route.

The Contractor shall take all reasonable steps to ascertain where the cables are liable to be subjected to chemical or other damage or electrolytic action and shall submit his recommendations for approval, for any precautionary measures to be taken is such instances.

Except where ducts, tunnels or pipes are provided and unless instructed to the contrary by the Engineer, the Contractor shall lay the cables direct into the ground.

Cable Laid in the Ground

Prior to laying the cable, the trench shall be inspected thoroughly by the Engineer or his appointed representative to ensure that it is free from all objects likely to damage the cable either during or after cable laying operations.

The method of laying of cables shall be approved and meet the specifications of the manufacturer.

Installation Depths

Unless otherwise specified cables shall be installed at the following minimum depths below final ground level:

Up to 1 kV : 600 mm (depth) and 500mm wide

1kV to 33kV : 1000mm (depth) and 500mm wide

All cable depth measurements shall be made to the top of the cable when laid directly in the ground or to the top of the duct or sleeve where these are provided.

The abovementioned depths shall apply to the top layer where cables are installed in layers.

The Contractor may only deviate from the above depths provided prior authority in writing has been obtained from the Principal Agent. In this event, the cables shall be protected with a suitable concrete covering.

Bedding

The bottom of the trench shall be filled across the full width with a 75mm layer of suitable soil sifted through a 6mm mesh and levelled off.

Only sandy clay or loam soil with a satisfactory thermal resistivity (not exceeding 1.5° C m/W) may be used for this purpose. Sea or river sand, ash, chalk, peat, clinkers or clay soil shall not be used. The use of crusher sand is acceptable.

Where no suitable soil is available on site, the Contractor shall import fill from elsewhere and make all the necessary arrangements to do so. The cost of importing soil for bedding purposes shall be included in the contract price and shall be agreed with the Engineer, unless specifically provided for in the rates.

After cable laying, a further layer of bedding shall be provided to extend to 75 mm above the cables.

The bedding under joints shall be fully consolidated to prevent subsequent settling.

Backfilling

The Contractor shall not commence with the backfilling of trenches without prior notification to the Engineer so that the cable installation may be inspected. Should the Contractor fail to give a timely notification, the trenches shall be re-opened at the Contractor's cost.

The Contractor shall not backfill the trenches until the fibre optic cables have been laid parallel with electrical cables.

Low voltage cables (up to 1 kV) shall be protected by means of the following:

A plastic marking tape shall be installed at 300 mm above the cable. The tape shall be red and white and the words “DANGER ELECTRIC CABLE” shall be printed at 500 mm distances on it.

Backfilling shall be done with soil suitable to ensure settling without voids. No large stones or rocks shall be present in the backfill material. All soil used for backfilling shall pass through an 80 mm mesh to ensure that the maximum allowable diameter of stones present in the backfill material is 75 mm.

The Contractor shall allow in his tender for the importation of suitable backfill materials only if specified.

The backfill shall be compacted layers of 150 mm, and sufficient allowance shall be made for final settlement. The Contractor shall maintain the refilled trench at his expense for the duration of the contract. Surplus material shall be removed from the site and suitably disposed of.

On completion, the surface shall be made good to match the surrounding area. In the case of roadways or paved areas, the excavations shall be consolidated to the original stability and the surface finish reinstated.

3.3.5.4. Trenching excavations

General

The proposed routes of the cables are indicated on drawing No. W079513-Elec100 and will further be indicated on site.

Trenching

The Contractor shall, before trenching commences, familiarise himself with the route and conditions on site and shall be provided with such information as is known to the Engineer regarding site conditions and other plant along the route, to enable the Contractor to ensure that every effort is made to avoid damage to this plant. In addition, any landscaping that is obstructing the cable route is to be indicated to the engineer for instruction on how to proceed.

Where the relevant survey pegs/markers of the existing/proposed route are not apparent or easily located, the exact location of the trench shall be approved on-site.

Trial holes shall be made as and when requested by the Engineer, or by the Contractor, where reasonable doubt exists regarding the proximity of other plant. The request for trial holes by the Engineer does not absolve the Contractor from liability for damage to the plant during excavation.

Trenches shall be kept as straight as possible, and each trench shall be excavated to approved formations and dimensions.

Where required in terms of the OHASA Act (Occupational Health and Safety Amendment Act i.e. Act no. 181 of 1993) or where otherwise considered necessary, the sides of trenches shall be timbered to avoid subsidence or collapse.

The bottom of each trench shall be of smooth contour.

The trench excavations shall be so executed that all railways, wall, roads, sewers, pipes, cables, structures and suchlike, shall be reasonably secure against risk of other subsidence or injury to personnel, and shall be carried out to the satisfaction of the relevant authorities.

Where trenches pass from one section to another, where a change of level is necessary, the bottom of the trench shall rise or fall gradually to the approval of the Engineer.

If, during the course of excavating, obstructions are encountered which necessitate alterations to the trench or the adoption of a special form of trench, such trenching must receive the prior approval of the Engineer.

The material excavated from each trench shall be placed adjacent to the trench in such a manner as to prevent nuisance or damage to adjacent hedges, trees, ditches, drains, gateways and other property, and shall be stacked so as to avoid undue interference with traffic. Where, owing to certain considerations, this is not permissible, the excavated materials shall, with the approval of the Engineer, be removed from the site and returned for re-filling the trench on completion of laying. Surplus material shall be disposed of by and at the cost of the Contractor.

In order to facilitate the re-use of excavated material for road foundations and surfacing, the excavated material shall be separated into hard road metal, soil and other materials.

Unless otherwise agreed, provision shall be made by the contractor (at his cost) during excavation and until interim restoration has been completed, for reasonable access of persons and vehicles to the property.

The Engineer shall be notified immediately by the Contractor of any exceptional conditions which are encountered during excavations.

When the excavations for trenches have been accurately executed, notice shall be given by the Contractor to the Engineer to enable an inspection of the trench to be carried out without undue delay.

Joint bays shall be constructed to an approved minimum size to enable jointers to carry out their work efficiently and expeditiously.

The trench for power cables shall accommodate the laying of fiber cables. It is the responsibility of the contractor to coordinate the trenching.

3.3.5.5. Trench compaction

As indicated on the drawings, cables shall be installed on the grassed area, parallel to the road, and only cross the road where necessary.

The contractor shall comply with these compaction requirements:

After the bedding has been laid, both below and above the cable, excavated soil shall be used as much as possible to backfill the trench, and the grass shall be replanted.

On the grass. Mod AASHTO of 90%.

Where cables cross the road, 110mm sleeves shall be used to house and protect the cables. After the bedding has been laid, both below and above the cable, excavated material shall be used to a depth of 200mm from the soft soil. Thereafter, A G5 material shall be used and compacted in layers of 150mm to achieve a Mod AASHTO of 98%. A layer of asphalt 40mm thick shall be used to repair the road and as the final layer.

3.4. Light Switches

3.4.1. General

This section covers the requirements for switches for use in general installations under normal environmental conditions.

Light switches of one manufacturer only will be acceptable per project.

3.4.2. Flush and surface-mounted switches

All switches shall be suitable for mounting in 100 x 50 x 50mm boxes, shall comply with SABS 163 and shall bear the SABS mark.

Switches shall be of tumbler operated micrograph type rated at 16A, 220/250V.

Switches shall have protected terminals for safe wiring.

Contracts shall be made of silver material.

On multi-lever switches, it shall be possible to individually change any of its switches.

The yoke strap shall be slotted to allow for easy alignment. The covers of surface mounted switches shall have toggle protectors.

Where light switches are installed in partitions, they shall, where possible, be of the special narrow type intended for installation into the mullions.

3.4.3. Watertight switches

Watertight switches shall be of the micrograph type suitable for surface mounting and shall bear the SABS mark.

The housing shall be galvanised cast iron or die-cast aluminium with watertight cover plate and toggle.

The switch shall have a porcelain base and a quick acting spring mechanism and shall be rated at 16A, 220/250V.

The ON/OFF positions shall be clearly marked on switch housing.

3.4.4. Ceiling switches

Ceiling switches shall be rated at 10A. 220/250V and shall be suitable for ceiling mounting on a round conduit box.

The switch shall be made of high impact strength nylon material.

Adequate space shall be provided within the unit for ease of wiring. The switch colour shall be white and shall be fitted with a nylon cord 1,25m long.

3.4.5. Cover plates

Cover plates shall be finished in ivory coloured baked enamel, anodised bronze or aluminium unless otherwise specified. Cover plates shall overlap the outlets to cover wall imperfections. Cover plates shall comply with SABS 1084.

3.5. Unswitched and Switched Socket Outlets

3.5.1. General

This section covers the requirements for unswitched and switched socket-outlets for use in general installations under normal environmental conditions.

Switch sockets of one manufacturer only, will be accepted per project.

3.5.2. Flush and surface mounted switched sockets

All switched socket-outlets shall be suitable for mounting on 100 x 100 x 50mm or 100 x 50 x 50mm boxes, shall comply with SABS 164 and shall bear the SABS mark.

Switches shall be of a tumbler operated micrograph type rated at 16 A, 220/250V.

Terminals shall be enclosed for safe wiring.

Contacts shall be silver material.

Safety shutters shall be provided on live and neutral openings.

The yoke strap shall be slotted to allow for easy alignment.

The covers of surface mounted-switched sockets shall have toggle protectors.

Miniature circuit breakers shall be used in lieu of a switch where specified.

Where 13 A flat pin switched socket-outlets are specified, these shall comply with BS 1363.

3.5.3. Watertight switched sockets

The housing of watertight-switched socket shall be of galvanised cast iron or die-cast aluminium with watertight-machined joints.

The switch shall have porcelain base and a quick acting spring mechanism and shall be rated at 16A, 220/250V.

The ON/OFF positions shall be clearly marked on switch housing.

The socket openings shall be rendered watertight by means of a gasketed cover plate which is screwed into the body of the unit. The cover plate shall be secured to the body of the unit by means of a chain.

3.6. Luminaires

3.6.1. General

Luminaires, associated equipment and control gear shall be new and unused and shall be supplied complete with lamps, control gear, diffusers, mounting brackets, etc. as applicable, and shall be delivered to site in protective covering.

Photometric data, i.e. polar cubes and coefficients of utilization certified by SABS shall be submitted to the Engineer for evaluation for all luminaries offered before installation.

Luminaires shall comply fully with the requirements of SANS 60598 and the additional requirements of this specification or the luminaire schedule (where applicable). Luminaires which bear the SABS mark are preferred.

The Engineer reserves the right to have samples of luminaires offered tested by the SABS for compliance with SABS 1119 the cost of such tests shall be borne by the Tenderer.

3.7. Earthing Electrodes

3.7.1. General

This section covers on uncoated, coated and metal clad circular rod electrodes intended to provide an earth in soil for electrical and lightning arrestor systems.

3.7.2. Category and type

Only the following type of earth rods shall be used:

1(a) - Solid copper
(b) - Solid stainless steel
2(a) - Solid steel with bonded copper protection

(b) - Solid steel with plated copper protection
(c) - Solid steel with a shrunk-on copper jacket
3 - Solid steel with a shrunk-on stainless steel jacket
4 - Galvanised steel

Bare aluminium is not acceptable as an electrode material.

All rods shall be solid and of circular cross-section with length as specified in Project Specification.

The nominal diameter of the earthing rods shall not be less than 16mm unless the rods are specified for placing in pre-drilled holes in which event the minimum nominal diameter shall not be less than 12mm.

3.7.3. Couplings and conductor clamps

Earthing electrodes shall be provided with (n-1) couplings where n = number of rods supplied.

Rods designed for coupling by means of external sleeves shall provided with an adequate quantity of hydrocarbon or silicon grease to be applied to the coupling before the joint is made. Rods designed for coupling by means of internal pins or splines shall be provided with thin-walled tubes and hydrocarbon or silicon grease to seal the joint.

Conductor clamps shall be provided to suit the type and size of rods provided and the type and size of conductor specified in the Project Specification.

The material of the clamps shall be electrolytically compatible with the rod and conductor materials.

Where brazed or welded connections are specified, the supplier of the rods shall stipulate at least two types of metals, which are compatible with the rod and conductor materials.

An adequate number of driving caps of bolts shall be supplied with rods to protect the ends of earthing rods whilst being driven into hard soil.

3.8. Switchboards (up to 1 kV)

3.8.1. General

3.8.1.1. Scope

This section covers the manufacturing and testing of flush mounted, surface mounted and floor standing switchboards for general installations in normal environmental conditions and for system voltage up to 1kV.

3.8.1.2. Size

All switchboards shall be of ample size to accommodate the specified switchgear and provide space for future switchgear. For every four (4x) or part of four (4x) 5 kA circuit breakers on a switchboard, space for an additional 5kA circuit breaker shall be allowed unless future space requirements are clearly specified. For circuit breakers above 5 kA, this factor shall be 15%. The clearance between adjoining switchgear openings shall be as specified.

3.8.1.3. External dimensions

The maximum allowable height of free standing switchboards is 2.2.m where, due to space restrictions, a board exceeds 2.2m in height, equipment not normally requiring access, shall be installed in the top section, enabling equipment normally requiring access to be installed lower down in the board. All other specified external dimensions for switchboard shall be strictly adhered to. If the clearances specified cannot be adhered to as a result of restricting external dimensions, the contractor shall obtain the approval of the Engineer before manufacturing the switchboards.

3.8.1.4. Moisture and vermin

All switchboards shall be rendered moisture proof and vermin proof and shall be adequately ventilated.

3.8.1.5. Load balancing

The load shall be balanced as equally as possible across multi-phase supplies.

3.8.2. Construction of flush mounted switchboards

3.8.2.1. Standard

Flush mounted switchboards shall comply fully with SABS 1180, Part I. Unless the depths of the switchboards are specified, depths shall be determined in accordance with 3.10.4.

3.8.2.2. Expanded metal

Where switchboards are to be built into 115mm thick walls, expanded metal shall be spot welded to the rear of the bonding trays. The expanded metal shall protrude at least 75mm on each tray side to prevent plaster from cracking.

3.8.2.3. Knock-outs

Knockouts shall be provided in the top and bottom ends of each switchboard tray to allow for the installation of conduits for the specified and future circuits. Knockouts shall be provided for an equal number of 20mm and 25mm diameter conduits.

3.8.2.4. Panel

Front panels shall have machine punched slots for housing the specified and future flush mounted switchgear. The distance between the inside of the closed doors and the panel shall not be less than 20mm. No equipment may be mounted on the panel unless the panel is permanently hinged to the switchboard frame.

3.8.2.5. Fixing of front panels

The front panels shall be secured to the architrave frame by means of captive fasteners. Alternatively the panel may be secured to the architrave frame by means of two pins at the bottom and a latch or lock at the top of the panel. Self-tapping screws will not be allowed.

3.8.2.6. Door handles and catches

Switchboard doors shall be equipped with handles and catches. Locks shall only be provided when specified. In all cases where lockable doors are higher or wider than 450mm, handles consisting of a push button and handle combination with spring loaded catch or rotary handle and catch combination shall be installed. Switchboard doors smaller than 450mm in height and which may be equipped with spring loaded flush mounted ring type latches. Square key operated catches are not acceptable unless specified.

3.8.3. Construction of surface mounted switchboards

3.8.3.1. Standard

Surface mounted switchboards shall comply with SABS 1180, Part II. 2.10.3.2

3.8.3.2. Switchboard tray

Surface mounted switchboards shall be equipped with a 1,6mm minimum sheet steel reinforced tray, suitably braced and stiffened to carry the chassis, door and equipment. Lugs to secure the switchboard to a vertical surface shall be made provided.

3.8.3.3. Construction

All joints shall be welded or securely bolted. The tray shall be square and neatly finished without protrusions. The front tray sides shall be rounded with an edge at least 20mm to accommodate flush doors.

3.8.3.4. Chassis

A sheet steel chassis for the mounting of equipment shall be bolted to the tray and shall comply with the requirements of 3.8.4.

3.8.3.5. Front panel and door

The front panel and door shall comply with the above. Doors shall fit flush in the tray when closed.

3.8.3.6. Dimension

Unless the depth of the switchboards is specified, the dimensions shall be determined in accordance with the requirements of 3.8.4

3.8.4. Mounting of equipment

3.8.4.1. Standard

The mounting of equipment shall comply with SABS 1180 where applicable. Equipment to be mounted on the chassis shall be mounted by bolts. Washers and nuts or by bolts screwed into tapped holes in the chassis plate.

3.8.4.2. Mounting of chassis

The chassis of flush mounted and smaller surface mounted boards shall be mounted in accordance with SABS 1180. For all free standing switchboards and surface mounted switchboards where the main switch rating exceeds 100 A (Triple-pole), space for wiring shall be provided between the chassis and tray. This space shall be adequate to install the supply cable behind the chassis and terminate on the main switch without sharp bends in the cable cores.

3.8.4.3. Grouping of equipment

Equipment shall be arranged and grouped in logical fashion.

Where earth leakage units are required, the associated circuit breakers shall be installed adjacent to the unit.

3.8.4.4. Mounting of Circuit breakers

All moulded-case circuit breakers shall be flush mounted with only the toggles protruding. Miniature circuit breakers may be installed in clip-in trays mounted on the frame. All other circuit breakers shall be bolted to the chassis. Special provision shall be made for large main switches when designing the framework. Care shall be exercised that the rear studs of circuit breakers are properly insulated from the steel chassis. Where necessary, insulating material shall be installed that the toggles are in the up position when "ON" and "OFF”.

3.8.4.5. Instrumentation

All metering instruments shall be flush mounted in the front panel or door. The rear terminals of instruments mounted on doors shall be covered with an insulating material to prevent accidental contact. Current transformers for metering shall be mounted so that the rating plate is clearly visible. Fuses for instrumentation shall be made mounted in an easily accessible position and clearly marked.

3.8.4.6. Mounting of fuses

Fuse holders shall be mounted semi-recessed in the front panel so that fuses can be readily be changed without removing the front panel. Bus bar mounted fuses for instrumentation shall be used as far as possible.

Where equipment requiring fuses is specified on a board (fuse switches etc.), a ruling shall be obtained from the Engineer on the quantity of spare to be provided.

3.8.4.7. Equipment in main boards

Equipment in main low-voltage switchboards and sub-main boards shall be grouped in individual compartments.

3.8.5. Wiring

3.8.5.1. Cabling

Cables connected to incoming or outgoing circuits shall be terminated on a gland plate supplied for this purpose. Power cables up to and including 70mm^2 may terminate on clamp type terminals where the clamping screws are not in direct contact with the conductor. Connection to the equipment can then be made with cables that are similarly connected to the clamp terminal. All power cables larger than 70mmz shall terminate on bus bars that are connected to associated equipment.

Parallel incoming or outgoing cables shall be connected to a collector bus bar without crossing the conductors.

3.8.5.2. Current ratings

The current rating of conductors for the internal wiring shall be sufficient for the maximum continuous current that can occur in the circuit. This value shall be determined from the circuit breaker or fuse protection of the circuit.

3.8.5.3. Internal wiring

a) Standard 600/1000 V Grade PVC-insulated stranded annealed copper conductors to SABS 1507 shall be employed for the internal power wiring of switchboards. The smallest conductor size to be used for power wiring in switchboards shall be 2,5mm². Flexible cord of minimum size 1,0mm².

b) Where heat generating equipment is present and internal temperature of the board is likely to exceed 50ºC, silicon-rubber insulated stranded conductors or for the colour identification of conductors.

c) Wiring shall be arranged in horizontal and vertical rows and shall be bound with suitable plastic straps or installed in PVC wiring channels. Under no circumstances may PVC adhesive tape be used for the bunching of conductors shall be used.

d) Bunched conductors shall be neatly formed to present a uniform appearance without twisting or crossing the conductors. Conductors leaving the harnesses shall be so arranged that they adjacent to the chassis.

e) Conductors to hinged panels and doors shall be secured on both the door and the frame and shall be looped between the two points.

f) The loop shall be arranged to produce a twisting notion when the door opened or closed. A flexible protection sleeve shall be installed over the conductors.

g) Where wiring channels are used, they shall be installed horizontally and vertically. Under no circumstances may power and control circuit wiring be installed in the same wiring channel. Channels shall not be more than 40% full.

h) All wiring between different panels within the same switchboard shall be installed in wiring channels.

i) Grommets shall be installed in each hole in the metal work through which conductors pass.

j) All wiring shall be installed away from terminals, clamps or other current carrying parts. Wiring shall also be kept away from exposed metal edges or shall be protected where they cross metal edges.

k) Conductors may be jointed at equipment terminal strips only. No other connections are allowed.

l) Where conductors change direction, smooth bends shall be formed with radius of at least 5 times the outside diameter of the conductor or harness.

m) Where screened cables are specified, the screening shall be earthed in switchboard or control board only unless clearly specified to contrary. Screened cables entering control boxes through pressed knockouts, shall terminate in compression glands. Conductors shall as far as possible remain inside the screening at terminations.

   Where possible remain inside the screening at termination. Where conductors have to separate from the screen, the braiding shall be separated and the conductors drawn through the braid without damaging the braiding.

The conductors shall then be connected to their respective terminals and the screening smooth and connected to the earth terminal.

n) Where neutral connections are looped between the terminals of instruments, it is essential that the two conductors' ends be inserted into a common lug or ferrule and are crimped or soldered together in order that the neutral connection is not broken when the conductors are removed from one of the instruments.

o) Wiring should as far as possible be confined to the front portions of switchboards for ease of access. This requirement is important for wiring between smallest circuit breakers and the associated main circuit breaker as well as the wiring from circuit breaker to lightning and socket-outlet circuit.

p) A maximum of two conductors will be allowed per equipment terminal. Where more conductors must be connected to the same equipment terminal (e.g. main circuit breaker feeding other circuit breakers), stub bus bars shall be provided for the various conductors.

3.8.5.4. Load end connections

The supply end connections to all equipment shall under all circumstances be at the top and the load end connections at the bottom.

3.8.5.5. Wiring to circuit-breakers

Equipment with a rating exceeding the current rating of 70mmZ conductors shall be connected by means of bus bars to the main bus bars. Looped connections may only be installed for a maximum of two outgoing circuits. Where there are more than two outgoing circuits, bus bars shall be used and equipment connected individually to the bus bars.

3.8.5.6. Conductor terminations

Conductors connected to terminals complying with the Standard Specification for "WIRING TERMINALS", need not be soldered or ferruled. Connections to circuit-breakers, isolators or contactors shall be made by one of the following methods:

a) A ferrule of the correct size,

b) Soldering the end of the conductor, or

c) Winding a conductor strand tightly around the end to totally cover the end.

All conductors terminating on meters fuse holders and other equipment with screwed terminals shall be fitted with lugs. The lugs shall be soldered or crimped to the end of the conductor.

The correct amount of insulation shall be tripped from the end to fit into the terminal. Strands may not be cut from the end of the conductor.

3.8.5.7. Identification

The colour of the conductors for all 220/250V circuits shall correspond to the colour of the supply phase for that circuit. Neutral conductors shall be black.

3.8.6. Identification

The colour of the conductors for all 220/250V circuits shall correspond to the colour of the supply phase for that circuit. Neutral conductors shall be black.

3.8.7. Paint Finish

Metal components of the framework, panels and chassis shall be painted as specified.

3.8.8. Labelling

3.8.8.1. General

Care shall be taken to ensure that all equipment is fully labelled and that accurate descriptions and safety warning notices appear in English.

3.8.8.2. Material

Engraved plastic or ivory-sandwiched strips shall be used throughout. The strips shall bear white lettering on black background for normal labels and red letters on a white or yellow background for danger notices.

3.8.8.3. Switchboards

All equipment on switchboards shall be identified with the necessary labels. The circuit numbers shall appear at grouped single-pole circuit breakers. The circuit numbers shall correspond to the circuit numbers on the final installation drawings. The above mentioned circuits shall be identified on a legend card, which shall be installed on the inside of the switchboard door, or in any other position where it can conveniently be observed. All fuses, including instrument fuses, shall have labels stating function, fuse rating and duty or type where applicable. All other equipment shall be identified separately and their functions shall be clearly indicated.

3.8.8.4. Fixing labels

Labels shall not be fixed to components or trunking but doors panels, chassis or other permanent structures of the switchboard.

Engraved strips be secured to facilitate a neat future alteration of the designation of the labels. Sufficient fixing points shall be provided to prevent labels from warping. Labels in slotted holders shall be secured in position to prevent unauthorised removal. Labels may be secured by the use of brass bolts and nuts, self-tapping screws, slotted label holders or pop-rivets.

3.8.9. Tests

The Engineer shall be notified when the mechanical construction of the switchboard, i.e. frame, panels and base frame, is complete in order that it may be inspected at the factory.

Function tests of all equipment, control and interlocking circuits shall be conducted to the satisfaction of the Engineer. Testing equipment and facilities including instruments dummy loads and additional switchgear and cables shall be provided by the Contractor at no extra cost. The Engineer shall be notified in writing two weeks in advance of any test to be conducted, to allow him to present at such tests. A complete report on the tests shall be handed to the Engineer.

3.8.10. Drawings

3.8.10.1. Drawings for approval

A set three print of the shop drawing for the switchboards shall be submitted to the Engineer for approval before the boards are manufactured. The following information shall be presented:

a) A complete wiring diagram of the equipment of the boards.

b) A complete layout of the arrangement of switchboards indicating all equipment dimensions and construction of the boards. The position and method of fixing and sizes of bus bars shall be shown.

c) All labelling information on a separate sheet.

d) The make, catalogue number and capacity of all equipment such as isolators, circuit breakers, fuses, contactors, etc.

The approval of drawings shall not relieve the contractor of this responsibility to the Client to supply the switchboards according to the requirements of this Specification.

3.8.10.2. Completion

The supply contract shall be regarded as incomplete until all tests have been conducted successfully and all information has been handed to the Engineer.

SECTION C

SPECIFICATION FOR 12 kV AC METAL-ENCLOSED INDOOR SWITCHGEAR AND CONTROLGEAR

REV. 0

September 2025

THIS SPECIFICATION SHALL BE READ IN CONJUNCTION WITH THE LATEST EDITION OF SANS 1885 AND THE PARTICULAR SPECIFICATION

1. Scope

This specification provides the KZN DPWI requirements for a 12 kV factory-assembled, metal-enclosed switchgear of fixed pattern/withdrawable design in accordance with SANS/IEC 62271-200 and the additional requirements of SANS 1885 and this specification.

2. Normative References

The following standards referenced in whole or in part are indispensable for the application of this document. The latest editions of the referenced standards (including any amendments) shall be applied. Suppliers are responsible for obtaining the latest editions of the referenced standards.

SANS/IEC 62271-200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV

SANS 1885: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to 36 kV

3. Definitions and Abbreviations

The definitions and abbreviations of the above normative references shall apply to this specification.

4. Service Conditions

The switchgear shall be designed and manufactured to operate under the service conditions specified in ***subclause 2.2 of the particular specification***. Normal service conditions for indoor switchgear and controlgear specified in SANS/IEC 62271-1 and not defined in s***ubclause 2.2 of the particular specification*** are applicable.

5. Ratings

As a minimum, the ratings for the switchgear and controlgear offered shall comply with the specified ratings. Any deviations below the specified ratings shall not be accepted.

5.1. Rated voltage

The rated voltage of the switchgear panels shall be 12 kV.

5.2. Rated frequency

The rated frequency shall be 50 Hz.

5.3. Rated normal current

The rated normal current for the switchgear panels shall be 630 A.

5.4. Rated insulation level

The rated peak lightning impulse withstand voltage shall be 95 kV as per Table 1 List 3 of SANS 1885.

The rated short-duration power frequency withstand r.m.s voltage shall be 28 kV.

5.5. Rated short-time and peak withstand current

The rated short-time withstand r.m.s current of the main circuit (i.e., circuit breakers, disconnectors, and busbars) and earthing circuits shall be 25 kA.

The rated duration of the short-time withstand current for the main circuit and three-phase earthing devices shall be 3 s.

The rated duration of the short-time withstand current for the single-phase earthing circuit shall be 1 s.

The rated peak withstand current of the main and earthing circuits shall be 62.5 kA as per Table 2 of SANS 1885.

5.6. Rated short-circuit breaking current

The rated short-circuit breaking current of circuit breakers shall be 25 kA.

5.7. Rated short-circuit making current

The rated short-circuit making current of circuit breakers, switch disconnectors and earthing switches shall be 62.5 kA.

5.8. Rated supply voltage of closing and opening devices and of auxiliary and control circuits

The rated DC supply voltage of closing and opening devices and of auxiliary and control circuits shall be 110 V.

The rated AC supply voltage of AC auxiliary circuits shall be 230 V single-phase and the rated supply frequency shall be 50 Hz.

5.9. Ratings of the internal arc classification (IAC)

Internal arc classification shall be AFLR. The internal arc classification test current value and duration shall be 25 kA for 1 second.

The switchgear shall be designed such that the pressure relief is upwards and directed away from the operator.

Access to the top of the switchgear (i.e., where internal arc pressure relief flaps are located) shall not be necessary for normal operation and maintenance activities.

The switchgear shall not require any ducting system for internal arc pressure relief.

6. Switchgear Design and Construction

Indoor metal-enclosed switchgear and controlgear shall comply with the requirements of SANS/IEC 62271-200 and **the additional requirements of SANS 1885 and this specification**.

6.1. General requirements

The switchgear configuration and the number of incomer and feeder panels shall be as specified in the **Requirements for a 12 kV AC Metal-Clad Indoor Switchgear and Controlgear** in the particular specification.

The insulation medium for the switchgear assembly shall be vacuum, solid dielectric insulation or air. The Department will not accept SF_6 as an insulating medium.

The switchgear shall be of the single busbar design and the busbar configuration shall be horizontal.

Incomer and feeder switchgear panels shall have the following minimum defined compartments:

a) Circuit breaker compartment housing a three-pole operated circuit breaker.
b) Busbar compartment housing busbars for all phases.
c) Cable compartment housing the power cable terminations and current transformers.
d) Low-voltage (LV) compartment with front access housing the auxiliary and control circuit terminal strips and equipment.

Padlocking facilities suitable for padlocks with a shackle diameter of 6mm shall be provided for the following:

a) the switchgear functional unit in the OFF, ON, and EARTH positions.
b) the mechanical tripping device in the case where the circuit breaker is used for earthing.

c) to prevent the selection of the ON position while permitting operation from OFF to EARTH or from EARTH to OFF positions.

The switchgear assembly shall be sealed for life (excluding cable termination enclosures and accessible operating mechanisms) with a minimum maintenance-free period of 30 years for all high-voltage parts.

The switchgear assembly shall be suitable for installation over a cable trench and within the existing switchroom. Any special requirements or limitations for installation shall be stated by the supplier when submitting switchgear drawings/documentation for approval. A customised steel support frame or base shall be provided to allow the switchgear panels to be supported over the entire width of the cable trench.

All doors shall be equipped with travel stops to prevent them from over-swinging and to retain the doors in the open position.

6.2. Loss of Service Continuity

The loss of service continuity category of the switchgear assembly shall be LSC2 for fixed pattern switchgear and LSC2B for withdrawable switchgear in accordance with SANS/IEC 62271-200.

6.3. Partition Class

The partitioning class of the switchgear assembly shall be PM (i.e. metallic partitions and/or shutters) in accordance with SANS/IEC 62271-200.

6.4. Earthing

Cable earthing facilities shall be provided for the incomer and all feeder panels of the switchgear assembly. The cable earthing facilities shall be either via a circuit breaker in combination with a disconnector or integral to the switchgear panel (i.e. separate earthing switch). Where separate earthing switches are utilised, the electrical and mechanical endurance classes shall be at least E1 and M0 respectively in accordance with SANS/IEC 62271-102. Earthing switches shall be rated for the specified short-time withstand current of 25 kA for a duration of 3 seconds.

An interlocking system shall be provided to ensure that the earthing of the cable is prevented when the cable is alive. The interlocking system shall prevent the disconnector from closing when the associated cable earthing switch is closed.

Accessible switchgear earthing bars shall be provided with suitable earthing facilities for the termination of earthing conductors having an M12 fixing hole. Each fixing hole shall be fitted with a stainless steel M12 set screw, washer, spring washer and nut.

6.5. Power cable termination compartment

The power cable termination compartments shall be in accordance with SANS 876 and shall be designed or suitable for termination of 3 core (1 core/phase) XLPE insulated PVC bedded, steel wire armoured, PVC sheathed 6.35/11kV cables manufactured to SANS 1339. The cable size shall be as specified in **Requirements for a 12 kV AC Metal-Clad Indoor Switchgear and Controlgear** in the particular specification.

The cable compartments and bushings shall be suitable for Type 4 (outside cone screened separable connectors) cable termination in accordance with SANS 876.

Cable compartments shall be equipped with cable support clamps.

Accessibility to the cable termination compartment shall be interlocked-controlled.

6.6. Integral cable test facilities

All incoming and feeder panels of the switchgear shall be equipped with integral cable test facilities independent of the cable compartments. The cable test facilities shall be suitable for safely connecting cable test equipment.

An interlocking system shall be provided to ensure that the following:

a) Test terminals of the cable test facilities are only accessible when the cable is earthed.
b) Prevent the disconnector from closing when the cable test facilities are utilised.

All cable test facilities shall be suitable for the application of test voltages associated with the on-site testing of power cables in accordance with SANS 10198-13.

6.7. Corrosion protection

The manufacturer shall ensure all exposed sheet metals of the switchgear are suitably coated for protection against corrosion.

All exposed nuts, bolts, and washers shall be **stainless steel**.

All joints and tees in busbars and busbar connections that use bolts, nuts and washers shall be protected against corrosion. The manufacturer shall employ one or more of the following coating methods: phosphating, galvanising, zinc impregnation, and plating with copper, nickel, cadmium silver, tin or zinc.

7. Circuit Breakers

7.1. General requirements

Circuit breakers shall be designed and manufactured in accordance with SANS/IEC 62271-100 and the additional requirements of SANS 1885 and this specification.

The rated normal current of circuit breakers shall be a minimum of 630 A.

Circuit breaker classifications for electrical and mechanical endurances shall be Class E2 and Class M2 respectively.

The interrupting medium of circuit breakers shall be vacuum.

SULFUR HEXAFLUORIDE (SF_6) AS AN INTERRUPTING OR INSULATION MEDIUM WILL NOT BE ACCEPTED.

7.1.1. Indication

The circuit breaker shall be equipped with the following status indication devices:

a) A mechanical circuit breaker closing spring charge indicator (charged and discharged). The spring charge indicator shall be clearly visible with the mechanism enclosure closed.
b) A non-resettable mechanical circuit breaker operation counter capable of counting up to 99 999 operations. The counter shall advance each time the circuit breaker is closed or each time the circuit breaker is opened.

The indication devices shall be visible from the front of the switchgear panels with the circuit breaker compartment door closed.

Each switchgear panel shall be equipped with LED mimic indicators indicating the ON, OFF and EARTH positions of the main circuit.

7.1.2. Electrical operation

Electrical operation of the circuit breaker for OPEN and CLOSE control shall be provided. For withdrawable circuit breakers, electrical operation for rack in/out control shall be provided. A 10-second delay shall be added between the OPEN/CLOSE control input and the OPEN/CLOSE operation.

7.1.3. Remote control

The requirements of clause 4.4.1.8 of SANS 1885 shall apply. Each switchgear panel shall be fitted with a hand-held hard-wired pendant control device to remotely operate the circuit breakers. The pendant control device shall be capable of performing the following operations:

a) OPEN and CLOSE operations of the circuit breaker
b) OPEN and CLOSE operations of the disconnector (i.e. for fixed pattern switchgear)
c) RACK IN and OUT of the withdrawable part (i.e. for withdrawable pattern switchgear)

The minimum length of the umbilical cord shall be 15 meters, and the minimum ingress protection rating of the pendant control box shall be IP54.

The pendant control device shall be equipped with two (2) control push buttons coloured and labelled as follows:

a) Red push button for closing the circuit breaker with an adjacent “CLOSE” label.
b) Green push button for tripping or opening the circuit breaker with an adjacent “TRIP” label.

7.1.4. Operating mechanism

Circuit breakers shall be three-pole operated and designed for stored energy operation, where energy is stored in the spring. It shall be possible to charge the circuit breaker mechanism spring manually and electrically. Electrical charging shall be via a spring charging motor. Both manual and electric release shall be provided. A mechanical device shall be provided to prevent over-charging of the spring when the independent manual charging facility is operated.

The circuit breaker mechanism operating sequence (O – t – CO – t′ – CO) as defined in SANS/IEC 62271-100 shall be as follows:

O – 3 min – CO – 3 min – CO

where,

O represents the opening operation;
CO represents the close operation followed by the open operation.

7.1.5. Circuit breaker auxiliary contacts

Circuit breakers shall have a minimum of two (2) “a” auxiliary contacts and two (2) “b” auxiliary contacts over and above the contacts required for circuitry design. The circuit breaker auxiliary contacts shall be wired to the LV compartment.

7.2. Withdrawable type circuit breaker

Withdrawable circuit breakers of the same rating and type shall be interchangeable with the other circuit breakers.

The position of circuit breaker compartments shall be floor-mounted. Where mid-mount circuit breaker compartments are offered, approval shall be obtained from the Department.

The circuit breaker transporting device shall be integral to the circuit breaker. External transporting devices will not be accepted.

The additional requirements of SANS 1885 subclause 4.4.2 are applicable.

7.3. Non-withdrawable (Fixed) type circuit breaker

Non-withdrawable circuit breakers shall satisfy the isolating requirements for a disconnector as specified in SANS/IEC 62271-102.

The circuit breaker switchgear panel shall be equipped with a three-position disconnector.

The additional requirements of SANS 1885 subclause 4.4.3 are applicable.

8. Switch-disconnector panels (for fixed pattern switchgear only)

8.1. General requirements

Switch-disconnectors shall be designed and manufactured in accordance with SANS/IEC 62271-102 and the requirements of SANS 1885 and this specification.

The normal rated current of switch-disconnectors shall be 630 A.

Each switchgear panel disconnector shall be motorised for closing and opening operations using an integral internal motor. The auxiliary supply for the internal motor shall be 110 V DC. Independent manual operation of the disconnector shall be possible.

8.2. Interlocks

The operation of the switch-disconnector shall only be possible when the circuit breaker is in the open position. An interlocking mechanism shall be provided for this requirement.

The additional requirements of SANS 1885 subclause 4.5 are applicable.

9. Auxiliary components

9.1. Current transformers

Current transformers (CT) shall comply with the relevant requirements of SANS/IEC 61869-2 and the additional requirements of SANS 1885 and this specification.

The current transformer shall be rated as specified in Table 3. The manufacturer shall ensure that the rated burden of the CT is suitable for the connected burden. The connected burden shall be between 50% and 75% of the rated burden. Where a different burden is required or recommended by the manufacturer, this shall be agreed upon by the Department and the manufacturer.

The rated voltage, insulation level, short-time withstand current, and peak withstand current of all current transformers shall not be less than the ratings of the switchgear assembly as specified in ***clause 5*** of this specification (Section C).

Table 3: Current Transformer Requirements

	Protection Core	**Metering Cores**
Ratio	As specified in clause 7 of the particular specification	
Class	5P20	0.2
Burden	7.5 VA	7.5 VA

9.2. Inductive voltage transformers

Voltage transformers shall comply with the relevant requirements of SANS/IEC 61869-3 and the additional requirements of SANS 1885 and this specification.

The voltage transformer shall be of the dry type.

Voltage transformers shall be fixed or withdrawable. Withdrawable voltage transformers shall be fused on the primary side.

Voltage transformers shall be as specified in Table 4. The manufacturer shall ensure that the rated burden is suitable for the connected burden. The connected burden shall be between 25% and 100% of the rated burden. Where a different burden is required or recommended by the manufacturer, this shall be agreed upon by the Department and the manufacturer.

Table 4: Voltage Transformer Requirements

Primary Voltage	11000/√3
Secondary Voltage	110/√3
Class	0.2 - Measuring 3P - Protection

Burden	50 VA
Voltage factor and duration	1.9 for 30 s

9.3. Anti-condensation heaters

Anti-condensation heaters shall be provided in all switchgear panels.

9.4. Protection relays

Protection relays shall comply with the requirements of SANS/IEC 60255 and the additional requirements of SANS 1885 and this specification.

Protection relays shall be microprocessor-based digital protection relays with the following functions:

a) Real-time clock (RTC) for event time-stamping with battery backup. Battery backup shall be provided only for the real-time clock and memorised data. Protection functions shall work without battery support. A low-level alarm for battery status supervision shall be provided.
b) LED-type tripped indication and external reset facilities. Relays with multiple protective elements in a single unit shall have separate indications for each function. LED indications shall be clearly labelled.
c) Password protection for access to all protection function settings.
d) Event recording consisting of disturbance and fault recording. All events shall be time-tagged.

Protection relays shall provide adjustable instantaneous overcurrent (50), overcurrent (51), arc-flash overcurrent, and ground fault (51N) protection, and arc flash detection.

The overcurrent setting range shall be between 50% and 200%.

The earth fault setting range shall be between 10% and 40%.

9.5. Instruments for indication and measuring applications

Indicating instruments shall be flush-mounted on the LV compartment and shall be of the industrial type.

Ammeters shall be provided for all phases. Ammeters shall incorporate a thermal maximum demand indicator integrating over a 15 min period.

A voltmeter with a selector switch shall be provided on the incomer switchgear panel. The voltmeter shall have a nominal range from 0 to 120%.

Cable and busbar live indicating devices for each phase shall be fitted on each switchgear panel.

Switchgear panels shall be equipped with **RED** LED lamps for circuit breaker **ON** indication and **GREEN** LED lamps for circuit breaker **OFF** indication.

9.6. Remote Status Monitoring

Where specified in the **Requirements for a 12 kV AC Metal-Clad Indoor Switchgear and Controlgear** in the particular specification, the switchgear assembly shall be fitted with a remote monitoring device that complies with IEC 61850 to monitor the following parameters for all three panels:

a) Circuit breaker status: ON; OFF & TRIPPED, TRIP REASON, TRIP TIME STAMP
b) Switch-disconnector: ON & OFF

The monitoring device shall have communication capabilities with RS485 and ethernet data communication ports. The monitoring device shall communicate using the Modbus RTU protocol and be capable of connecting to any Host device with a Modbus-compatible port.

9.7. Energy metering and power quality analysis

The incomer switchgear panel shall be equipped with an Elster A1700 smart meter or similar for the measurement of energy and power. When an alternative smart meter is offered, the meter shall be approved by the KZN DPWI.

A flush-mounted power meter shall be provided on each switchgear panel. Power meters shall conform to the relevant IEC standards. Power meter accuracy classes shall be Class 0.5S for active energy, conforming to IEC 62053-22 and Class 2 for reactive power, conforming to IEC 62053-23.

Power meters shall be capable of performing the following measurements, which shall be updated every second.

- Instantaneous and maximum current per phase
- Voltage (phase-to-phase and phase-to-neutral)
- Frequency
- Instantaneous and average power factor
- Instantaneous and maximum active power (per phase and three-phase total)
- Instantaneous and maximum reactive power (per phase and three-phase total)
- Instantaneous and maximum apparent power (per phase and three-phase total)
- Accumulated energy (kWh; kVArh and kVAh)
- Harmonics up to the 15^{th} order

It shall be possible to reset the following measurements:

- Maximum current per phase
- Maximum active, reactive and apparent power
- Accumulated energy (kWh; kVArh and kVAh)

Power meters shall have a data logging function with a storage capability suitable for storing data for a minimum range of 60 days. All stored data shall be time-stamped.

Power meters shall have communication capabilities with RS485 and ethernet data communication ports. Power meters shall communicate using the Modbus RTU protocol and be capable of connecting to any Host device with a Modbus-compatible port.

10. Battery tripping unit

A floor-standing battery tripping unit (BTU) shall be provided with the switchgear assembly. The BTU shall be capable of providing 10 hours of standby time in the event of AC mains failure.

The nominal DC output voltage of the BTU shall be 110 V.

Batteries shall be of the lithium-ion type and supplied with a battery charger. The battery charger shall be supplied from a 230 V AC single-phase supply.

The charger and batteries shall be designed to have a 20% overcapacity to cater for ageing and unforeseen additional loads.

The manufacturer shall supply sizing calculations for approval by the KZN DPWI.

The BTU shall be equipped with LED indicators for the following conditions

- AC mains supply on
- Boost charging
- Charge fail
- Low DC voltage
- Battery fail
- High voltage

The BTU shall be wired to an alarm sounder which shall be triggered if any of the following conditions occur. It shall not be possible to silence or reset the alarm sounder while any condition persists.

The BTU shall have automatic battery testing to check the continuity of the batteries. For accurate battery continuity testing, the battery charger shall shut down.

An analogue battery voltmeter and analogue charger ammeter shall be provided.

11. Nameplates

Nameplates in accordance with the requirements of SANS/IEC 62271-200 and the additional requirements of SANS 1885 shall be provided on each switchgear panel.

Duplicate nameplates for the voltage transformer and current transformers associated with the specific switchgear panel shall be located on the inside of the LV compartment door.

Nameplates shall be manufactured using intrinsically corrosion-proof metal and securely attached. The method used to attach nameplates shall not compromise the type tested internal arc rating of the switchgear panel.

12. Tools and spares

A full set of operating tools necessary to safely carry out all mechanical operations of the switchgear shall be supplied with the switchgear.

A hand-held hard-wired pendant control device for remote operation of the switchgear shall be supplied with the switchgear.

A wall-mounted steel tool cabinet with the tool positions and applications clearly marked shall be supplied and installed in the substation room for storage of all operating tools and the hard-wired pendant control. The tool cabinet shall be fitted with a locking lever/handle capable of being secured by a padlock. The tool cabinet shall be light grey in accordance with colour G29 of SANS 1091 and protected against corrosion.

13. Tests

13.1. General

The manufacturer shall be responsible for performing or having performed type and routine tests in accordance with SANS/IEC 62271-200. In addition, the manufacturer shall be responsible for performing factory acceptance tests (FAT), site acceptance tests (SAT), and commissioning of the switchgear. KZN DPWI representatives shall be present to witness the FAT, SAT, and commissioning. The manufacturer/supplier shall give the KZN DPWI sufficient at least two (2) weeks advance notice of the dates for the tests.

The manufacturer/supplier shall be responsible for all costs related to testing.

13.2. Test certificates and reports

Type test and routine test certificates and complete test reports shall be provided in hardcopy and electronic format. All test certificates and reports shall be in the English language.

Information provided on the test certificates and reports shall be in accordance with SANS/IEC 62271-200.

13.3. Type test requirements

The switchgear shall be type-tested in accordance with SANS/IEC 62271-200 and shall include tests to verify the following:

a) Internal arc classification (SANS/IEC 62271-200 subclause 7.105)
b) Insulation of the equipment by the measurement of partial discharges (SANS/IEC 62271-200 subclause 7.2.10)
c) Auxiliary and control circuits (SANS/IEC 62271-200 subclause 7.10)

13.4. Factory Acceptance Test Requirements

The manufacturer shall perform all factory acceptance tests as determined by the manufacturer and shall include, but not limited to, the tests listed below. All tests shall be performed at the manufacturer's premises and witnessed by KZN DPWI. The tests shall be in accordance with SANS/IEC 62271-200

and SANS 62271-100. The manufacturer shall ensure that all equipment/resources required are available on the test date(s). All test results shall be provided to KZN DPWI in both hard copy and electronic format (PDF).

a) Design and visual checks
b) Measurement of the main circuit resistance
c) Power frequency voltage tests / dielectric test on the main circuit at 28 kV for 1 minute
d) Tests on auxiliary and control circuits
e) Mechanical and electrical function tests
   - Closing and opening speeds/times shall be measured and recorded.
f) Tests of auxiliary electrical devices.
g) Current transformer primary injection tests and magnetisation curves
h) Power frequency voltage withstand test on primary terminals of current transformers
i) Relay tests
j) Voltage transformer test

13.5. Site Acceptance Test Requirements

Commissioning tests as determined by the manufacturer shall be carried out in accordance with SANS 62271-200 and SANS 62271-100. The Contractor shall ensure that all equipment/resources required to perform the tests are available on the test date. All test results shall be provided to KZN DPWI in both hard copy and electronic format (PDF). The tests shall include, but not limited, to the following:

a) Design and visual checks
b) Measurement of the main circuit resistance
c) Ductor testing
d) Power frequency voltage withstand test at 80% of the rated power frequency withstand voltage
e) Power frequency voltage withstand test on primary terminals of current transformers at 80% of the rated power frequency withstand voltage
f) Mechanical and electrical functional tests
g) Current transformer primary injection tests

SECTION D

SPECIFICATION FOR 12 kV AC METAL-ENCLOSED RING MAIN UNIT

REV. 0

November 2024

THIS SPECIFICATION SHALL BE READ IN CONJUNCTION WITH THE LATEST EDITION OF SANS 1874 AND THE PARTICULAR SPECIFICATION

1. Scope

This specification provides the requirements for a 12 kV factory-assembled, metal-enclosed ring main unit (RMU) for use in an 11 kV, 50 Hz three-phase underground distribution system. The specification is developed in accordance with SANS 1874 Edition 4.

The specification provided all the information required from the user/purchaser as per SANS 1874 Schedule A.

Additionally, the specification covers the design, manufacture, testing, supply, delivery, storage, installation, commissioning, and guarantee of the ring main unit.

2. Normative References

The standards referenced in their entirety or partially are essential for the application of this specification. Suppliers are responsible for obtaining the latest editions of the referenced standards. The latest editions of the referenced standards, including any amendments, shall be utilised. Should new editions of the referenced standards be released, and conflicting requirements occur, this specification shall take precedence. Alternatively, the conflicting requirements shall be discussed with the Department's Electrical Engineer and any resolution or changes shall be in writing.

SANS 1874: Metal-enclosed ring main units for rated AC voltages above 1 kV and up to and including 36 kV.

SANS/IEC 62271-200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV.

3. Definitions and Abbreviations

The definitions and abbreviations of the above normative references shall apply to this specification with the following additions.

AC – Alternating current

DC – Direct current

4. Service Conditions

The ring main unit shall be designed and manufactured to operate under the service conditions specified in ***clause 2 of the particular specification***. Normal service conditions for indoor switchgear and controlgear specified in SANS/IEC 62271-1 and not defined in ***clause 2 of the particular specification*** are applicable.

5. Ratings

As a minimum, the ratings for the ring main unit offered shall comply with the specified ratings below. Any deviations below the specified ratings shall not be accepted.

5.1. Rated voltage

The rated voltage of the ring main unit shall be 12 kV.

5.2. Rated frequency

The rated frequency shall be 50 Hz.

5.3. Rated normal current

The rated normal current of the switch disconnectors shall be 630 A.

The rated normal current of circuit breakers shall be 200 A.

5.4. Rated insulation level

The rated short-duration power frequency withstand r.m.s voltage shall be 28 kV.

The rated peak lightning impulse withstand voltage shall be 95 kV as per Table 1 List 3 of SANS 1874.

5.5. Rated short-time and peak withstand current

The rated short-time withstand r.m.s current of the main circuit (i.e., circuit breakers, disconnectors, and busbars) and earthing circuits shall be 20 kA.

The rated duration of the short-time withstand current shall be 3 s.

The rated peak withstand current of the main and earthing circuits shall be 50 kA.

5.6. Rated breaking current for switch disconnectors

The rated closed-loop current and mainly active load-breaking current shall be 630 A.

The rated cable charging current shall be a minimum of 10 A.

5.7. Rated short-circuit breaking current

The rated short-circuit breaking current of circuit breakers shall be 20 kA.

5.8. Rated short-circuit making current

The rated short-circuit making current of circuit breakers, switch disconnectors and earthing switches shall be 50 kA.

5.9. Ratings of the internal arc classification (IAC)

Internal arc classification shall be AFLR. The internal arc classification test current value and duration shall be 20 kA for 1 second.

6. Design and construction

Ring main units shall comply with the requirements of SANS/IEC 62271-200 and **the additional requirements of SANS 1874 and this specification**.

6.1. General requirements

The ring main configuration and the number of panels shall be as specified in ***clause 8 of the particular specification***.

The insulating medium of the ring main unit shall be vacuum or air.

The interrupting medium for the circuit breaker and switch-disconnectors shall be vacuum.

SF_6 shall not be utilised in any part of the ring main unit and will not be accepted by the Department.

The cable termination enclosures shall be air-filled as per sub-clause 4.1.10 of SANS 1874 Ed 4.

The ring main unit shall be sealed for life (excluding cable termination enclosures and accessible operating mechanisms) with a minimum maintenance-free period of 30 years for all high-voltage parts.

6.2. Loss of Service Continuity

The loss of service continuity (LSC) category of the ring main unit shall be LSC2 in accordance with SANS/IEC 62271-200.

6.3. Partition Class

The partitioning class of the ring main unit shall be PM (i.e. metallic partitions) in accordance with SANS/IEC 62271-200.

6.4. Integral cable test facilities

The circuit breaker and switch disconnector panels shall be equipped with integral cable test facilities independent of the cable terminations. The cable test facilities shall be accessible from the front of the ring main unit and suitable for safely connecting cable test equipment without compromising the internal arc classification of the ring main unit.

An interlocking system shall be provided to ensure that the following:

a) Test terminals of the cable test facilities are only accessible when the cable is earthed.
b) Prevent the disconnector from closing when the cable test facilities are utilised.

All cable test facilities shall be suitable for the application of test voltages associated with the on-site testing of power cables in accordance with SANS 10198-13.

7. Switch-disconnectors for rings

Switch-disconnectors shall be three-pole switches designed and manufactured in accordance with SANS/IEC 62271-103 and the additional requirements of SANS 1874 and this specification.

The rated normal current of a switch-disconnector shall be 630 A.

The opening and closing operations of the switch-disconnector operating mechanism shall be manually operated.

8. Circuit breakers for tee-offs

8.1. General requirements

Circuit breakers shall be three-pole devices designed and manufactured in accordance with SANS/IEC 62271-100 and the additional requirements of SANS 1874 and this specification.

The rated normal current of the circuit breaker shall be 200 A.

The electrical and mechanical endurances of circuit breakers shall be at least class E2 and class M2.

The operating sequence of the circuit breaker mechanism (O – t – CO – t′ – CO) as defined in SANS/IEC 62271-100 shall be as follows:

O – 3 min – CO – 3 min – CO

8.2. Current transformers

The current transformer shall be a multi-ratio type with ratios of 200/100/1 A.

The rated voltage, insulation level, short-time withstand current and peak withstand current of all current transformers shall not be less than the ratings of the switchgear assembly as specified in clause 5 of this specification.

8.3. Protection Relays

The protection tripping of the circuit breaker shall be through a self-powered protection relay and shall comply with the requirements of SANS 1874 Ed. 4 subclause 4.6.2.

9. RMU status monitoring

Where specified in the requirements for a 12 kV AC metal-enclosed ring main unit in the particular specification, the RMU shall be fitted with a remote monitoring device that complies with IEC 61850 to monitor the following parameters.

c) Circuit breaker status: ON; OFF & TRIPPED, TRIP REASON, TRIP TIME STAMP
d) Switch-disconnector: ON & OFF

The monitoring device shall have communication capabilities with RS485 and ethernet data communication ports. The monitoring device shall communicate using the Modbus RTU protocol and be capable of connecting to any Host device with a Modbus-compatible port.

10. Power cable termination compartment

The power cable termination compartments shall be air-filled and in accordance with SANS 876.

Cable termination enclosures shall be suitable for the termination of 3 core (1 core/phase) XLPE insulated PVC bedded, steel wire armoured, PVC sheathed 6.35/11kV cables manufactured to SANS 1339. The cable size shall be as specified in ***clause 8 of the particular specification***.

Bushings shall be suitable for type 4 cable terminations (screened separable connector termination) in accordance with SANS 876.

Cable compartments shall be equipped with cable support clamps and rubber grommets for sealing cable entry through a gland plate. The cable clamps and rubber grommets shall be suitable for the specified cable size and type.

Accessibility to the cable termination compartment shall be interlocked-controlled.

11. Kiosks (for free-standing outdoor ring main units)

A kiosk shall be provided for free-standing outdoor ring main units. The kiosk shall be manufactured from 3CR12 corrosion resistant steel. The kiosk shall be finished in the colour Avocado (colour no. C12) as specified in SANS 1091.

The ring main unit shall be fitted into the kiosk by the ring main unit manufacturer and the assembly shall be supplied as one unit. The ring main unit and kiosk shall be one unit at the time of factory acceptance testing.

The additional requirements of SANS 1874 Ed 4 subclause 4.13 are applicable.

12. Accessories

The ring main unit shall be supplied with the following accessories which shall be enclosed in a rugged closed container with a contents list in a transparent envelope secured to the outside of the container, or in a cable termination enclosure marked to indicate that accessories are within.

a) M16 anchor-type bolts for foundation fixing.
b) A suitable extended operating handle. For outdoor ring main units installed in a kiosk, the handle shall be securely mounted on the inside of the door that opens first. The handle shall be of sufficient length such that it complies with the relevant internal arc protection requirements and extends beyond the kiosk or enclosure to enable ease of operation.
c) A suitable quantity (length) of black UV-stable waterproofing sealant. The sealant shall be supplied as a roll of mastic tape, at least 50 mm wide and 20 mm thick.
d) Any special tool that shall be required to install the ring main unit.

13. Tests

13.1. General

The manufacturer shall be responsible for performing or having performed type and routine tests in accordance with SANS/IEC 62271-200; SANS 1885 and this specification. In addition, the manufacturer shall be responsible for performing factory acceptance tests (FAT), site acceptance tests (SAT), and commissioning of the switchgear. KZN DPWI representatives shall be present for the FAT, SAT, and commissioning. The manufacturer/supplier shall give the KZN DPWI sufficient, agreed upon, advance notice of the dates for the tests.

The manufacturer/supplier shall be responsible for all costs related to testing.

13.2. Test certificates and reports

Type test and routine test certificates and complete test reports (in English) shall be provided in hardcopy and electronic format.

Information provided on the test certificates and reports shall be in accordance with SANS/IEC 62271-200.

13.3. Type and routine test requirements

The switchgear shall be type-tested in accordance with SANS/IEC 62271-200 and shall include tests to verify the following:

a) Internal arc classification (SANS/IEC 62271-200 subclause 7.105)
b) Insulation of the equipment by the measurement of partial discharges (SANS/IEC 62271-200 subclause 7.2.10)
c) Auxiliary and control circuits (SANS/IEC 62271-200 subclause 7.10)

13.4. Factory Acceptance Test Requirements

The manufacturer shall perform all factory acceptance tests as determined by the manufacturer and shall include, but not limited to, the tests listed below. All tests shall be performed at the manufacturer's premises and witnessed by KZN DPWI. The tests shall be in accordance with SANS/IEC 62271-200, SANS 62271-100 and SANS 1874. The manufacturer shall ensure that all equipment/resources required are available on the test date(s). All test results shall be provided to KZN DPWI in both hard copy and electronic format (PDF).

a) Design and visual checks
b) Measurement of the main circuit resistance
c) Power frequency voltage withstand test / dielectric test on the main circuit at 28 kV for 1 minute
d) Mechanical and electrical function tests
e) Current transformer primary injection tests and magnetisation curves
f) Power frequency voltage withstand test on primary terminals of current transformers
g) Relay tests

13.5. Site Acceptance Test Requirements

Commissioning tests as determined by the manufacturer shall be carried out in accordance with SANS 62271-200 and SANS 62271-100. The Contractor shall ensure that all equipment/resources required to perform the tests are available on the test date. All test results shall be provided to KZN DPWI in both hard copy and electronic format (PDF). The tests shall include, but not limited, to the following:

a) Design and visual checks
b) Measurement of the main circuit resistance
c) Power frequency voltage withstand test at 80% of the rated power frequency withstand voltage
d) Mechanical and electrical functional tests
e) Current transformer primary injection tests
f) Power frequency voltage withstand test on primary terminals of current transformers at 80% of the rated power frequency withstand voltage

SECTION E

SPECIFICATION FOR AN 11000/420V INDOOR DISTRIBUTION TRANSFORMER

REV. 0

November 2024

THIS SPECIFICATION SHALL BE READ IN CONJUNCTION WITH THE LATEST EDITION OF SANS 780 AND THE PARTICULAR SPECIFICATION

1. Scope

This specification provides the requirements for an 11000/400 V three-phase indoor distribution transformer of the oil-immersed type. The specification is developed in accordance with SANS 780 Edition 5.1 and the requirements of the KZN DPWI.

The specification provides **applicable** information required from the user/purchaser as per SANS 780 Schedule A.

Additionally, the specification covers the design, manufacture, testing, supply, delivery, storage, installation, commissioning, and guarantee of the ring main unit.

2. Normative References

The standards referenced in their entirety or partially are essential for the application of this specification. Suppliers are responsible for obtaining the latest editions of the referenced standards. The latest editions of the referenced standards, including any amendments, shall be utilised. Should new editions of the referenced standards be released, and conflicting requirements occur, this specification shall take precedence. Alternatively, the conflicting requirements shall be discussed with the Department's Electrical Engineer and any resolution or changes shall be in writing.

SANS 780: Distribution transformers.

SANS/IEC 60076-1: Power transformers - General

3. Definitions and Abbreviations

The definitions and abbreviations of the above normative references shall apply to this specification with the following additions.

AC – Alternating current

DC – Direct current

4. Service Conditions

Distribution transformers shall be designed and manufactured to operate under the service conditions specified in the **particular specification**. Normal service conditions for transformers specified in SANS/IEC 60076-1 and SANS 780, and not defined in the particular specification, are applicable.

5. Transformer ratings

As a minimum, the ratings for the distribution transformer offered shall comply with the specified ratings. Any deviations below the specified ratings shall not be accepted. Ratings given in SANS 780 and not specified below are applicable.

5.1. Rated power

The rated power of the distribution transformer shall be as specified in **Requirements for a 11000/420V Indoor Distribution Transformer in the particular specification.**

5.2. Rated voltage

The rated primary voltage shall be 11 000 V.

The rated no-load secondary voltage shall be 420 V.

5.3. Vector symbol and number of phases

The transformer shall be a three-phase transformer with a vector symbol Dyn11 as defined in SANS 60076-1.

5.4. Rating of the low-voltage neutral terminal

The rating of the low-voltage neutral terminal shall be the same as that of the line terminals.

5.5. Rated insulation level

The rated peak lightning impulse test voltage shall be 95 kV.

The rated short-duration power frequency test r.m.s voltages shall be as follows:

- Separate source voltage withstand: 28 kV
- Induced voltage withstand: 24 kV at principal tapping

5.6. Short-circuit impedance

The range of declared impedance voltage at the principal tapping shall be as specified in Table 4 of SANS 780.

6. Design and construction

6.1. Transformer dimensions

The overall dimensions of the transformer shall not exceed the values given in Table 7 of SANS 780 Edition 5.1 with the provisions for cable boxes and a conservator tank.

6.2. Tank and tank cover

The transformer shall be freely breathing and fitted with a conservator. The tank shall be rigid or corrugated.

The transformer shall be fitted with a desiccating breather utilising silica gel.

6.3. Transformer cooling

The transformer shall be of the oil-immersed type and the oil shall be free of polychlorinated biphenyls (PCBs).

The cooling method shall be oil natural air natural (ONAN).

6.4. Tap changer

The transformer shall have an on-load tap changer with five (5) tapping steps. The tapping steps expressed as a percentage of the rated voltage at the principal tapping shall be as follows: -5%, -2.5%, 0%, 2.5%, 5%.

6.5. Cable connection boxes and bushings

The transformer shall be fitted with MV and LV cable connection boxes. Cable entries to the cable connection boxes shall be bottom or top entries as specified in the particular specification.

The MV cable connection box shall be an air-filled enclosure in accordance with SANS 876 and the MV bushings shall be suitable for type 4 cable terminations (screened separable connector termination) in accordance with SANS 876.

The MV and LV cable connection boxes and bushings shall be suitable for the termination of the number, size and type of cables specified in the **Requirements for a 11000/420V Indoor Distribution Transformer** in the particular specification.

The LV cable connection box shall be mounted on a side opposite to the MV cable connection box.

Bushing clearances shall comply with the requirements of SANS 876.

6.6. Jacking pads

The transformer shall be fitted with jacking pads as per subclause 8.21.1 of SANS 780 Edition 5.1.

6.7. Protection against corrosion

The protection of the transformer against corrosion shall be in accordance with the requirements of SANS 780.

The exterior coating of the transformer shall be in accordance with subclause 8.23.4 of SANS 780 Edition 5.1. Transformers that use 3CR12, coatings of exterior surfaces shall be in accordance with subclause 8.23.5 of SANS 780 Edition 5.1.

6.8. Transformer protection

Where specified in **Requirements for a 11000/420V Indoor Distribution Transformer in the particular specification**, the transformer shall be fitted with a Buchholz relay.

6.9. Transformer monitor

Where specified in **Requirements for a 11000/420V Indoor Distribution Transformer in the particular specification**, the transformer shall be fitted with a transformer monitor as specified below.

7. Tests

7.1. General

The manufacturer shall be responsible for performing or having performed type and routine tests in accordance with SANS/IEC 60076 and SANS 780. In addition, the manufacturer shall be responsible for performing factory acceptance tests (FAT), site acceptance tests (SAT), and commissioning of the transformer. KZN DPWI representatives shall be present for the FAT, SAT, and commissioning. The manufacturer/supplier shall give the KZN DPWI sufficient, agreed upon, advance notice of the dates for the tests.

The manufacturer/supplier shall be responsible for all costs related to testing.

7.2. Test certificates and reports

Type test and routine test certificates and complete test reports (in English) shall be provided in hardcopy and electronic format.

Information provided on the test certificates and reports shall be in accordance with SANS/IEC 60076-1.

7.3. Type and routine test requirements

The transformer shall be type-tested in accordance with SANS/IEC 60071 and SANS 780.

7.4. Factory Acceptance Test Requirements

The manufacturer shall perform all factory acceptance tests as determined by the manufacturer and shall include, but not limited to, the tests listed below. All tests shall be performed at the manufacturer's premises and witnessed by KZN DPWI. The tests shall be in accordance with SANS/IEC 60076-1 and SANS 780. The manufacturer shall ensure that all equipment/resources required are available on the test date(s). All test results shall be provided to KZN DPWI in both hard copy and electronic format (PDF).

a) Measurement of the winding resistance
b) Measurement of the voltage ratio and verification of phase displacement
c) Measurement of short-circuit impedance and load loss
d) Measurement of no-load loss and current

e) Power frequency voltage withstand test on the primary windings (28 kV for 1 minute)
f) Power frequency voltage withstand test on the secondary windings (2.5 kV for 1 minute)
g) Tests on tap-changers
h) Leak testing with pressure/effectiveness of sealing at 20 kPa for 6 hours.

SECTION F

SPECIFICATION FOR A 12 kV AC MINIATURE SUBSTATION

REV. 0

September 2025

THIS SPECIFICATION SHALL BE READ IN CONJUNCTION WITH THE LATEST EDITION OF SANS 1029 AND THE PARTICULAR SPECIFICATION

1. SCOPE

This specification provides the requirements for a 12 kV Type B miniature substation manufactured in accordance with SANS 1029 and SANS/IEC 62271-202. The specification provides the requirements of the KZN DPWI and is developed based on SANS 1029.

The specification provides **applicable** information required from the user/purchaser as per SANS 1029 Schedule A.

Additionally, the specification covers the design, manufacture, testing, supply, delivery, storage, installation, commissioning, and guarantee of the ring main unit.

2. NORMATIVE REFERENCES

The standards referenced in their entirety or partially are essential for the application of this specification. Suppliers are responsible for obtaining the latest editions of the referenced standards. The latest editions of the referenced standards, including any amendments, shall be utilised. Should new editions of the referenced standards be released, and conflicting requirements occur, this specification shall take precedence. Alternatively, the conflicting requirements shall be discussed with the Department's Electrical Engineer and any resolution or changes to this specification shall be in writing.

SANS 1029: Miniature substations for rated AC voltages up to and including 24 kV

SANS/IEC 62271-202: AC prefabricated substations for rated voltages above 1 kV and up to and including 52 kV

SANS 1874: Metal-enclosed ring main units for rated AC voltages above 1 kV and up to and including 36 kV

SANS/IEC 62271-200: AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV

SANS 780: Distribution transformers

SANS/IEC 60076-1: Power transformers - General

3. DEFINITIONS AND ABBREVIATIONS

The definitions and abbreviations of the above normative references shall apply to this specification with the following additions.

AC – Alternating current

DC – Direct current

4. SERVICE CONDITIONS

Miniature substations shall be designed and manufactured to operate under the service conditions specified in ***clause 2 of the particular specification***. Normal service conditions for miniature substations specified in SANS/IEC 62271-202 and SANS 1029 and not defined in ***clause 2 of the particular specification*** are applicable.

5. RATINGS

5.1. Ring main unit ratings

5.1.1. Rated voltage

The rated voltage of the ring main unit shall be 12 kV.

5.1.2. Rated frequency

The rated frequency shall be 50 Hz.

5.1.3. Rated normal current

The rated normal current of the switch disconnectors shall be 630 A.

The rated normal current of circuit breakers shall be 200 A.

5.1.4. Rated insulation level

The rated short-duration power frequency withstand r.m.s voltage shall be 28 kV.

The rated peak lightning impulse withstand voltage shall be 95 kV as per Table 1 List 3 of SANS 1874.

5.1.5. Rated short-time and peak withstand current

The rated short-time withstand r.m.s current of the main circuit (i.e., circuit breakers, disconnectors, and busbars) and earthing circuits shall be 20 kA.

The rated duration of the short-time withstand current shall be 3 s.

The rated peak withstand current of the main and earthing circuits shall be 50 kA.

5.1.6. Rated breaking current for switch disconnectors

The rated closed-loop current and mainly active load-breaking current shall be 630 A.

The rated cable charging current shall be a minimum of 10 A.

5.1.7. Rated short-circuit breaking current

The rated short-circuit breaking current of circuit breakers shall be 20 kA.

5.1.8. Rated short-circuit making current

The rated short-circuit making current of circuit breakers, switch disconnectors and earthing switches shall be 50 kA.

5.1.9. Ratings of the internal arc classification

Internal arc classification (IAC) shall be AFLR in accordance with SANS/IEC 62271-200. The IAC test current value shall be 20 kA with a duration of 1 second.

5.2. Transformer ratings

As a minimum, the ratings for the distribution transformer offered shall comply with the specified ratings. Any deviations below the specified ratings shall not be accepted. Ratings given in SANS 780 and not specified below are applicable.

5.2.1. Rated power

The rated power of the distribution transformer shall be as specified in ***clause 10 of the particular specification***.

5.2.2. Rated voltage

The rated primary voltage shall be 11 000 V.

The rated no-load secondary voltage shall be 420 V.

5.2.3. Vector symbol and number of phases

The transformer shall be a three-phase transformer with a vector symbol Dyn11 as defined in SANS 60076-1.

5.2.4. Rating of the low-voltage neutral terminal

The rating of the low-voltage neutral terminal shall be the same as that of the line terminals.

5.2.5. Rated insulation level

The rated peak lightning impulse test voltage shall be 95 kV.

The rated short-duration power frequency test r.m.s voltages shall be as follows:

- Separate source voltage withstand: 28 kV
- Induced voltage withstand: 24 kV at principal tapping

5.2.6. Short-circuit impedance

The range of declared impedance voltage at the principal tapping shall be as specified in Table 4 of SANS 780.

5.3. Low-voltage (LV) equipment ratings

The LV assembly ratings shall comply with the requirements of SANS 1029.

The rated normal currents of feeder circuit breakers shall be as specified in the particular specification.

6. CONSTRUCTION REQUIREMENTS

The miniature substation shall be designed and manufactured in accordance with the requirements of SANS/IEC 62271-200, SANS 1029, and the additional requirements of this specification.

6.1. General

The min-sub shall comprise of the following compartments:

a) One medium-voltage compartment housing a 3-way ring main unit in accordance with SANS 1874 and this specification.

b) Transformer compartment housing an 11000/420V Dyn11 ONAN transformer. The transformer shall be in accordance with SANS 780 and this specification.

c) Low-voltage compartment housing the LV assembly for LV equipment including power factor correction equipment where specified in the particular specification.

6.2. Type and dimensions

The mini-sub general arrangement shall be in accordance with the Type B layout. The overall dimensions shall be as per the Type B dimensions specified in SANS 1029 with an allowable tolerance of ±5 %.

The mini-sub shall be of a modular design.

6.3. Enclosure and base

The mini-substation enclosure (including the roof, compartments and doors) and the LV assembly structural parts shall be made of 3CR12 corrosion-resistant steel.

The mini-substation base shall be manufactured from hot-dip galvanised mild steel and finished with a black coating.

Suitable external lifting eyes shall be provided to lift the entire miniature substation (i.e., with the roof not removed).

A lock protection facility shall be provided for each compartment door fitted with a door handle. The lock protection facility shall allow access to the lock from both the left and right sides.

The three-point locking mechanism on each compartment door as specified by SANS 1029 shall have an additional, captive (i.e. not removable), 10mm allen cap screw. A 15mm Ø hole shall be provided in front of the lock protection facility that corresponds to the position of the 10 mm allen cap screw.

All external surfaces of the enclosure (including protruding parts of the transformer, excluding the mini-sub base), shall be finished in colour Avocado (colour C12 of SANS 1091).

6.4. Internal arc classification

The internal arc classification (IAC) of the mini-substation shall be IAC-AB in accordance with SANS/IEC62271-202.

The IAC test current value shall be 20 kA with a duration of 0.5 s.

6.5. Plinth

The overall dimension of the mini-sub plinth shall be as per the Type B mini-sub plinth as given in SANS 1029.

7. TRANSFORMER

7.1. Transformer dimensions

The overall dimensions of the transformer shall not exceed the values given in Table 7 of SANS 780 Edition 5.1 with the provisions for cable boxes and a conservator tank.

7.2. Transformer tank

The transformer shall be hermetically sealed and the tank cover shall be bolted. The transformer tank and its cover shall be 3CR12, stainless steel or zinc metal sprayed mild steel.

A flat plate oil level indicator shall be fitted in accordance with SANS 780.

7.3. Transformer cooling

The transformer shall be of the oil-immersed type and the oil shall be free of polychlorinated biphenyls (PCBs).

The cooling method shall be oil-natural air-natural (ONAN).

7.4. Tap changer

The transformer shall have an on-load tap changer with five (5) tapping steps. The tapping steps expressed as a percentage of the rated voltage at the principal tapping shall be as follows: -5%, -2.5%, 0%, 2.5%, 5%.

7.5. Protection against corrosion

The protection of the transformer against corrosion shall be in accordance with the requirements of SANS 780.

The exterior coating of the transformer shall be in accordance with subclause 8.23.4 of SANS 780 Edition 5.1. For a transformer that uses 3CR12, coatings of exterior surfaces shall be in accordance with subclause 8.23.5 of SANS 780 Edition 5.1.

The transformer steel base shall be hot-dip galvanised and coated with black epoxy tar paint.

7.6. Transformer monitoring

Where specified in ***clause 10 of the particular specification*** of the particular specification, the transformer shall be fitted with a transformer monitor as specified below.

8. RING MAIN UNIT

The MV compartment shall be fitted with a 3-way non-extensible ring main unit. The ring main unit shall comply with the requirements of SANS/IEC 62271-200 and **the additional requirements of SANS 1874 and this specification**.

8.1. General requirements

The ring main unit shall be a 3-way, non-extensible type unit.

The insulating medium of the ring main unit shall be vacuum or air and the interrupting medium for the circuit breaker and switch-disconnectors shall be vacuum.

SF_6 shall not be utilised in any part of the ring main unit.

The cable termination enclosures shall be air-filled as per sub-clause 4.1.10 of SANS 1874 Ed 4.

The ring main unit shall be sealed for life (excluding cable termination enclosures and accessible operating mechanisms) with a minimum maintenance-free period of 30 years for all high-voltage parts.

8.2. Loss of service continuity

The loss of service continuity (LSC) category of the ring main unit shall be LSC2 in accordance with SANS/IEC 62271-200.

8.3. Partition class

The partitioning class of the ring main unit shall be PM (i.e. metallic partitions) in accordance with SANS/IEC 62271-200.

8.4. Integral cable test facilities

The circuit breaker and switch disconnector panels shall be equipped with integral cable test facilities independent of the cable terminations. The cable test facilities shall be accessible from the front of the ring main unit and suitable for safely connecting cable test equipment without compromising the internal arc classification of the ring main unit.

An interlocking system shall be provided to ensure that the following:

a) Test terminals of the cable test facilities are only accessible when the cable is earthed.
b) Prevent the disconnector from closing when the cable test facilities are utilised.

All cable test facilities shall be suitable for the application of test voltages associated with the on-site testing of power cables in accordance with SANS 10198-13.

8.5. Switch-disconnectors for rings

Switch-disconnectors shall be three-pole switches designed and manufactured in accordance with SANS/IEC 62271-103, the additional requirements of SANS 1874, and this specification.

The rated normal current of a switch-disconnector shall be 630 A.

The opening and closing operations of the switch-disconnector operating mechanism shall be manually operated.

8.6. Circuit breaker for tee-off

8.6.1. General requirements

Circuit breakers shall be three-pole devices designed and manufactured in accordance with SANS/IEC 62271-100, the additional requirements of SANS 1874, and this specification.

The rated normal current of the circuit breaker shall be 200 A.

The electrical and mechanical endurances of circuit breakers shall be at least class E2 and class M2.

The operating sequence of the circuit breaker mechanism (O – t – CO – t′ – CO) as defined in SANS/IEC 62271-100 shall be as follows:

O – 3 min – CO – 3 min – CO

8.6.2. Current transformers

The current transformer shall be a multi-ratio type with ratios of 200/100/1 A.

The rated voltage, insulation level, short-time withstand current and peak withstand current of all current transformers shall not be less than the ratings of the switchgear assembly as specified in clause 5 of this specification.

8.6.3. Protection Relays

The protection tripping of the circuit breaker shall be through a self-powered protection relay and shall comply with the requirements of subclause 4.6.2 of SANS 1874 Ed 4.

8.7. Earth Fault Indication

Earth fault indicators (EFI) powered from the LV assembly mains supply (230V AC) shall be provided. The EFI shall be electrically reset through the restoration of the mains supply.

8.8. Power cable termination compartment

The power cable termination compartments shall be air-filled and in accordance with SANS 876.

Cable termination enclosures shall be suitable for the termination of 95 mm^2 3 core (1 core/phase) XLPE insulated PVC bedded, steel wire armoured, PVC sheathed 6.35/11kV cables manufactured to SANS 1339.

Bushings shall be suitable for type 4 cable terminations (screened separable connector termination) in accordance with SANS 876.

Cable compartments shall be equipped with cable support clamps and rubber grommets for sealing cable entry through a gland plate. The cable clamps and rubber grommets shall be suitable for the specified cable size and type.

Accessibility to the cable termination compartment shall be interlocked-controlled.

8.9. RMU status monitoring

Where specified in the requirements for a 12 kV AC Miniature Substation in the particular specification, the RMU shall be fitted with a remote monitoring device that complies with IEC 61850 to monitor the following parameters.

a) Circuit breaker status: ON; OFF & TRIPPED, TRIP REASON, TRIP TIME STAMP
b) Switch-disconnector: ON & OFF

The monitoring device shall have communication capabilities with RS485 and ethernet data communication ports. The monitoring device shall communicate using the Modbus RTU protocol and be capable of connecting to any Host device with a Modbus-compatible port.

8.10. Accessories

The ring main unit shall be supplied with the following accessories which shall be enclosed in a rugged closed container with a contents list in a transparent envelope secured to the outside of the container, or in a cable termination enclosure marked to indicate that accessories are within.

a) A suitable extended operating handle for the ring main unit.
b) Any special tool required to install the miniature substation and its components.

c) An allen key to screw and unscrew the captive, 10mm allen cap screw forming part of the locking mechanism. The length of the allen key shall extend beyond the lock protection facility. It shall fit in the 15mm Ø hole provided in front of the lock protection facility that corresponds to the position of the 10 mm allen cap screw.

9. LV COMPARTMENT

9.1. General requirements

A separate LV earth busbar and neutral busbar shall be provided in the LV compartment.

The LV earth busbar shall be bonded to the MV earth busbar with a 70mm^2 copper conductor. The bonding shall be removable to enable the separation of MV and LV earths. The MV earth busbar shall have a minimum cross-sectional area of 70 mm^2.

A gland plate arrangement insulated from the LV assembly framework shall be provided. The gland plate arrangement shall be as specified in SANS 1029.

9.2. Feeder circuits

The feeder cable sizes used between the busbar and the feeder circuit breakers shall be suitable to carry a full-load current equal to the circuit breaker current rating and withstand the fault rating of the transformer.

The feeder circuit breakers shall be as specified in the **requirements for a 12 kV Miniature Substation of the particular specification**. Feeder circuit breakers shall be moulded case circuit breakers (MCCB) complying with the requirements of SANS 60947-2. All feeder circuit breakers shall be labelled as indicated in the relevant drawings specified in the particular specification.

9.3. LV equipment

9.3.1. General requirements

A main LV circuit breaker shall be installed in the LV compartment between the transformer and the LV busbars. The circuit breaker shall be fitted with interphase barriers at the line and load side terminals.

A single-phase 16 A three-pin socket-outlet conforming to SANS 60884-1 and SANS 164-1 shall be provided. The socket-outlet shall be fitted with a 20 A, 5 kA earth leakage unit with a 30 mA sensitivity; a 20 A HRC fuse; and a neutral fuse link.

An LV compartment lampholder with a transparent removable cover shall be provided. The lampholder shall be fitted with a manually operated switch and LED lamp.

9.3.2. Power meters

Power meters shall be provided for the LV incomer and feeder circuit circuits as specified in the relevant drawings indicated in the particular specification. The power meters shall be flush-mounted and suitable for operation in an outdoor mini-substation environment. Power meter accuracy classes shall be Class 0.5S for active energy conforming to IEC 62053-22 and Class 2 for reactive power conforming to IEC 62053-23.

Power meters shall be capable of performing the following measurements which shall be updated every second.

- Instantaneous and maximum current per phase
- Voltage (phase-to-phase and phase-to-neutral)
- Frequency
- Instantaneous and average power factor
- Instantaneous and maximum active power (per phase and three-phase total)
- Instantaneous and maximum reactive power (per phase and three-phase total)
- Instantaneous and maximum apparent power (per phase and three-phase total)

- Accumulated energy (kWh; kVArh and kVAh)
- Harmonics up to the 15th order

It shall be possible to reset the following measurements:

- Maximum current per phase
- Maximum active, reactive and apparent power
- Accumulated energy (kWh; kVArh and kVAh)

Power meters shall have a data logging function with a storage capability suitable for storing data for a minimum range of 60 days. All stored data shall be time-stamped.

Power meters shall have communication capabilities with RS485 and ethernet data communication ports. Power meters shall communicate using the Modbus RTU protocol and be capable of connecting to any Host device with a Modbus-compatible port.

Current transformers shall be of accuracy class 0.5 and securely fitted on the LV assembly.

10. TESTS

10.1. Ring Main Unit

10.1.1. Factory Acceptance Test Requirements

The manufacturer shall perform all factory acceptance tests as determined by the manufacturer and shall include, but not limited to, the tests listed below. All tests shall be performed at the manufacturer's premises and witnessed by KZN DPWI. The tests shall be in accordance with SANS/IEC 62271-200, SANS 62271-100 and SANS 1874. The manufacturer shall ensure that all equipment/resources required are available on the test date(s). All test results shall be provided to KZN DPWI in both hard copy and electronic format (PDF).

a) Design and visual checks
b) Measurement of the main circuit resistance
c) Power frequency voltage withstand test / dielectric test on the main circuit at 28 kV for 1 minute
d) Mechanical and electrical function tests
e) Current transformer primary injection tests and magnetisation curves
f) Power frequency voltage withstand test on primary terminals of current transformers
g) Relay tests

10.1.2. Site Acceptance Test Requirements

Commissioning tests as determined by the manufacturer shall be carried out in accordance with SANS 62271-200 and SANS 62271-100. The Contractor shall ensure that all equipment/resources required to perform the tests are available on the test date. All test results shall be provided to KZN DPWI in both hard copy and electronic format (PDF). The tests shall include, but not limited, to the following:

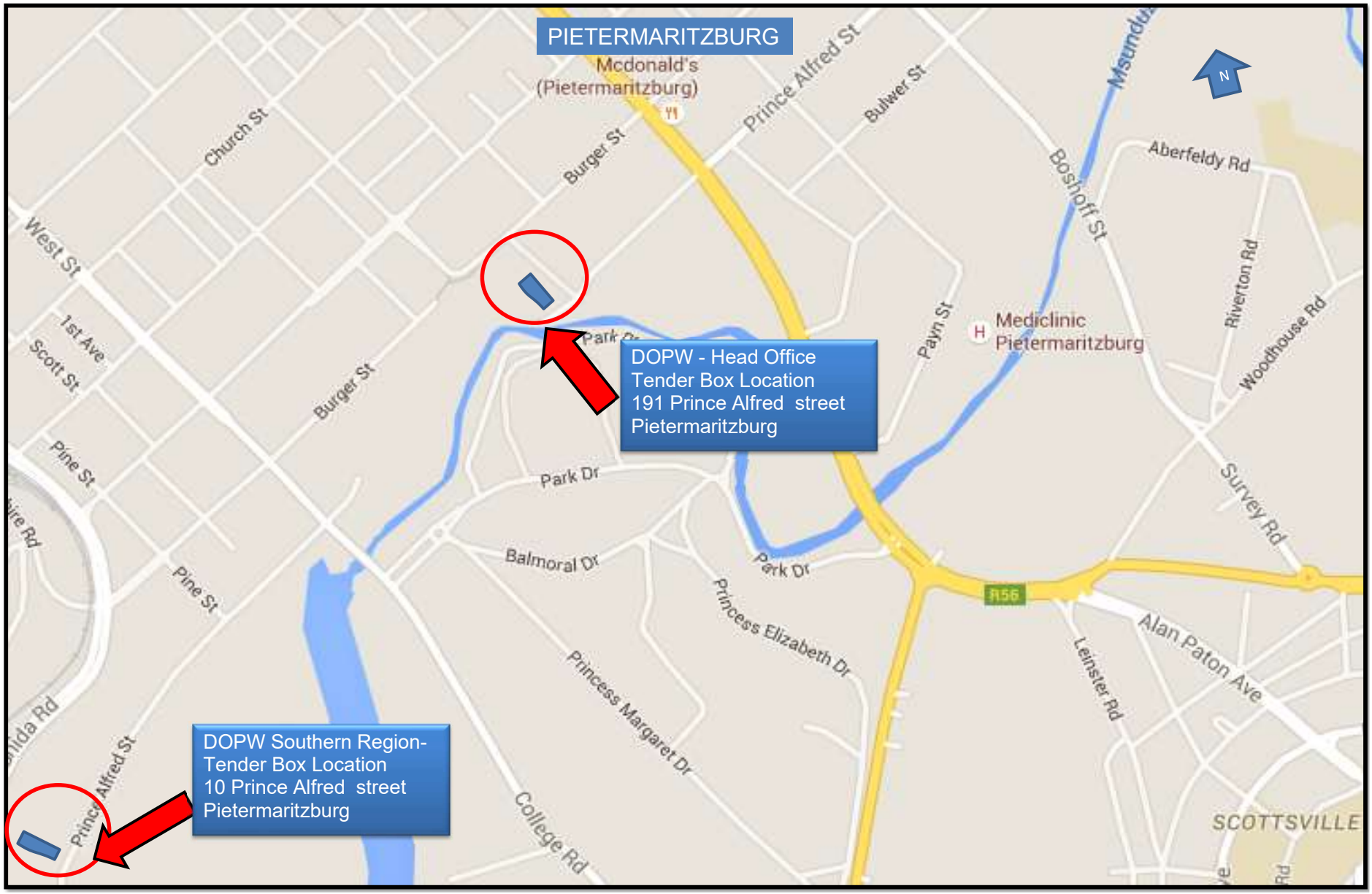
a) Design and visual checks
b) Measurement of the main circuit resistance
c) Power frequency voltage withstand test at 80% of the rated power frequency withstand voltage
d) Mechanical and electrical functional tests
e) Current transformer primary injection tests
f) Power frequency voltage withstand test on primary terminals of current transformers at 80% of the rated power frequency withstand voltage

10.2. Transformer

10.2.1. Factory Acceptance Test Requirements

The manufacturer shall perform all factory acceptance tests as determined by the manufacturer and shall include, but not limited to, the tests listed below. All tests shall be performed at the manufacturer's premises and witnessed by KZN DPWI. The tests shall be in accordance with SANS/IEC 60076-1 and SANS 780. The manufacturer shall ensure that all equipment/resources required are available on the test date(s). All test results shall be provided to KZN DPWI in both hard copy and electronic format (PDF).

a) Measurement of the winding resistance
b) Measurement of the voltage ratio and verification of phase displacement
c) Measurement of short-circuit impedance and load loss
d) Measurement of no-load loss and current
e) Power frequency voltage withstand test on the primary windings (28 kV for 1 minute)
f) Power frequency voltage withstand test on the secondary windings (2.5 kV for 1 minute)
g) Tests on tap-changers
h) Leak testing with pressure/effectiveness of sealing at 20 kPa for 6 hours.


PIETERMARITZBURG
Mcdonald's (Pietermaritzburg)
Church St
Burger St
Prince Alfred St
Bulwer St
Msunduzi
N
Aberfeldy Rd
Boshoff St
West St
1st Ave
Scott St
Burger St
Payn St
Mediclinic Pietermaritzburg
Riverton Rd
Woodhouse Rd
DOPW - Head Office
Tender Box Location
191 Prince Alfred street
Pietermaritzburg
Pine St
Park Dr
Survey Rd
Balmoral Dr
Park Dr
Pine St
R56
Princess Elizabeth Dr
Alan Paton Ave
Leinster Rd
Princess Margaret Dr
DOPW Southern Region-
Tender Box Location
10 Prince Alfred street
Pietermaritzburg
Prince Alfred St
College Rd
SCOTTSVILLE

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)*

UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

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

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].

Annexure 6

Occupational Health and Safety Specification

(OHSE SPEC)

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

Project Name:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**

Project Code:	**079513**
Agent Name:	**Mr. P.S Van Loggerrenberg**
Region:	**Head Office**
District:	**Head Office**
Ward no.:	**0**

REFERENCE NR	CHSM/079513
Revision	1
Stage	4
Date	22 April 2025

KWAZULU-NATAL PROVINCE
PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

Occupational Health and Safety Specification

(OHSE SPEC)

PROJECT NAME	Umgeni Hospital, Upgrade of medium Voltage Distribution System & Related Ancillaries
PROJECT ADDRESS	Umgeni Hospital, Howick, Kwazulu-Natal
WIMS NR:	079513
CLIENT:	Department of Public Works, Kwazulu-Natal
PREPARED BY:	PS Van Loggerenberg

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1.	Abbreviations
AIA	Approved Inspection Authority
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
CWP	Construction Work Permit
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
Pr CHSA	Professionally Registered Health and Safety Agent
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, 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 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 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

a) 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.

"Construction Work Permit" means a document issued in terms of Regulation 3 of the Construction Regulations of 2014;

"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.

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)

South African Roads Traffic Safety Manual (SARTSM) Chapter 2, Volume 13 of 1999 Road Traffic Safety Act No. 93 of 1996 (as amended)

SANS Code 10400.

SANS 10085

Applicable Municipal By-Laws

4. INTRODUCTION AND PURPOSE

The *KwaZulu Natal Department of Public Works* 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 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:

Umgeni Hospital, Upgrade of Medium Voltage Distribution Systems & related ancillaries.

5.1 SITE LOCATION

- Province -Kwazulu-Natal
- District Municipality -uMgungundlovu District Municipality
- GPS Co-ordinates -29.500 Deg, South and 30.235 Deg, East
- Street address (or directions) - Main Street, Howick

5.2. SUMMARY SCOPE OF WORK

1.Site establishment .

2.De-commisioning of the existing 11kV 400A six panel MV Switchgear.

3.Decommisioning existing Type B mini substation, 1 complete with 11 kV oil insulated RMU, 315kVA transformer, and low voltage section.
4.De-commisioning existing 11000/400v, 500kVA indoor distribution transformer.
5.Supply and install 11kV MV Switchgear panels and battery tripping unit (BTU).
6.Supply and install Type B Mini substation, 1 with complete 11kV vacuum insulated RMU, 315kVA transformer, and low voltage section.
7.Supply and install Type B mini substation 3 complete with 11KV vacuum insulated RMU, 500kVA transformer, and low voltage section.
8.Supply and install power quality meters for load logging and harmonic content monitoring.
9.Supply and install power factor units.
10.Supply and install 6.35/11kv medium voltage cables.
11.Supply and install 600/1000v low voltage cables.
12. Refurbishment and waterproofing of the main substation building.
13.Supply and install a new 11000v/400V indoor distribution transformer.
14.Supply and install an 11kV vacuum insulated ring main unit.
15.Replacement of low voltage main distribution panels, distribution panels, distribution boards, and outdoor kiosk.
16.Supply and install digital meters in Minisub and 4 low voltage sections.
17.Supply and installation of earthing system and lightning protection.
18. Excavations and backfilling, drilling , grinding, Manual and mechanical lifting and handling, Elevated work etc
19.Close-out.

5.3 THE PROJECT TEAM

The Project Team is as follows:

Initials and Surname	Organisation	Discipline	Tel	E-mail
Nduduzo Danisa	DoPW	Electrical Design Engineer	0722981012	Nduduzo.danisa@kaznworks.gov.za
Simiso Mathonsi, PR Eng	DoWP	Project leader	0760974697	Simiso.mathonsi@kznworks.gov.za
PS Van Loggerenberg	DoPW	OHS (CHSR)	0763958026	Fanie.vloggerenberg@kznworks.gov.za
Phumlani Mdlalose, PR Eng.	DOH	Project Leader	0725746460	Phumlani.mdlalose@kznworks.gov.za

6. SUMMARY OF DESIGNERS RISK ASSESSMENTS

INDEX

S	**Safety**
H	**Health**
E	**Environmental**
C	**Construction**
U	**Use**
M	**Maintenance**
D	**Demolition**

Discipline	Electrical								
	Hazard	Risk	Type			Stage				Recommended Mitigating Measures .
			S	H	E	C	U	M	D	
	1.Insulation oil spillage. .	Burns, pollution etc	x	x	x				x	RAMS, PPE, Competent Supervision, spill kit etc
	2.Rigging failure.	Equipment Damage, Personal Injuries, death, property damage etc	x		x	x		x	x	RAMS, Lifting Plan, Competent Supervision, Rigger and operator, Inspection of lifting equipment, Load test certificate etc.
	3.Unknown location of underground services	Electrocution, damage to services, supply interuption etc	x			x		x	X	RAMS, LOTO, Competent supervision, use of insulated tools, Digging of pilot holes, use of detention equipment etc
	4.Excavation work	Falling into open excavations, striking of underground services,Tripping etc	x			x		x	X	RAMS, Competent Supervision. Barricading, correct storage of excavated material, Signage etc
	4. Contact with energized sources	Electrocution, burns, death etc	x			x		x	X	RAMS, Competent Supervision, LOTO, Insulated tools and PPE etc

	5.High environmental temperatures.	Sunburn, dehydration, reduced concentration etc.	x	x		x		X	X	RAMS, Competent Supervision, Training , Adequate fresh water supplies, regular breaks etc
	6.Struck by and use of hand tools.	Bruising, fractures, skin penetrations, death etc	x			x		x	x	RAMS, Competent Supervision, Inspection of tools, Competent users etc.
	7.Sharp edges	Cuts, lacerations etc	x			x		x	x	RAMS, Competent Supervision
	8.Explosions.	Fire, burns, death, service interruption, death ect.	x	x	x	x		x	x	RAMS, Competent Supervision, Close proximity fire extinguishers. Emergency response Plan etc
	9.HCS	Skin irritations, dermatitis, respiratory tract irritation etc	x	x	x	x		x	x	RAMS, Competent Supervision, MSDS's,PPE etc

7. 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 5(1)(l) 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 as **stipulated and in addition to Annexure C:**

- Completion and submission of "Health and Safety Declaration" which can be found under the Annexures Section of this document 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.

- A completed OHS BOQ which can also be found under the Annexures Section of this document.

9. 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).
- 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.

9. 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.

10.	SITE SPECIFIC OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT (IN ALPHABETICAL ORDER)
10.1.	Accident, Incident Investigation.
10.2.	Alcohol and Drugs.
10.3.	Appointments.
10.4.	Consultation, Communication and Liaison
10.5.	Close-out requirements.
10.6.	COIDA.
10.7.	Competency and Training
10.8.	Confined Space Work.
10.9.	Construction Supervision.
10.10.	Cranes, Cradles and Man Cages.
10.11.	Defects Reporting and Correction.
10.12.	Demolition.
10.13.	Delivery and Placement of Containers, Park Homes etc.
10.14.	DSTI's.
10.15.	Electrical Connections.
10.16.	Emergency Drills and Evacuation Procedures.
10.17.	Environmental Management Plan.
10.18.	Edge Protection.
10.19.	Excavations.
10.20.	Explosive Actuated Fastening Devices.
10.21.	Extreme Weather Conditions.
10.22.	Fall Prevention Plan and Planning.
10.23.	First Aid Boxes and Equipment.
10.24.	Fire Extinguishers, Precautions and Fighting.
10.25.	Fuel and Flammable Liquids.
10.26.	General Record Keeping.
10.27.	Hand Tools.

10.28.	**Hazardous Chemical Substances**
10.29.	**Hazard Identification and Risk Analysis (HIRA).**
10.30.	**Hazards and Potentially Hazardous Situations.**
10.31.	**Health and Safety Audits, Monitoring, Reporting and Statistics.**
10.32.	**Health and Safety Disciplinary Procedure.**
10.33.	**Health and Safety Management Notice Board.**
10.34.	**Health and Safety Organogram.**
10.35.	**Health and Safety Plan Submission.**
10.36.	**Health and Safety Policy.**
10.37.	**Health and Safety Training.**
10.38.	**Heat Stress and Sun Protection.**
10.39.	**High Voltage Equipment and Installations.**
10.40.	**Housekeeping.**
10.41.	**Incident and Injury Management.**
10.42.	**Induction Training**
10.43.	**Ladders, Portable.**
10.44.	**Lighting.**
10.45.	**Lifting Machines and Tackle.**
10.46.	**Manual Handling of Materials.**
10.47.	**Maintenance.**
10.48.	**Medical Fitness / Fitness to work**
10.49.	**Method Statements, Safety (SMS)(SWP'S)**
10.50.	**Noise.**
10.51.	**Notices.**
10.52.	**Notification of Construction Work**
10.53.	**Occupational Hygiene (Personal Hygiene and Infectious Diseases).**
10.54.	**Permits to Work**
10.55.	**Personal Protective Equipment. (PPE)**
10.56.	**Plant and Machinery.**

10.57.	**Planned Task Observations**
10.58.	**Pneumatically Powered Tools and Equipment.**
10.59.	**Portable Electrical Tools.**
10.60.	**Public Safety and Security.**
10.61.	**Risk Assessment of Plant and Equipment.**
10.62.	**Safety Meetings: Pre- Start, Review etc.**
10.63.	**Safety, Health and Environmental Representatives and Committee's.**
10.64.	**Safety Officer (CHSO), Roles and Responsibilities.**
10.65.	**Scaffolding.**
10.66.	**Signage.**
10.67.	**Site Establishment**
10.68.	**Site Layout Plan.**
10.69.	**Site Specific Safety Rules.**
10.70.	**Smoking on Site.**
10.71.	**Speed restrictions and Protections.**
10.72.	**Stacking and Storage of materials.**
10.73.	**Structures and Temporary Works.**
10.74.	**Sub-Contractors.**
10.75.	**Transportation of Workers.**
10.76.	**Trespassing.**
10.77.	**Toolbox Talks**
10.78.	**Vehicles and Traffic Management.**
10.79.	**Ventilation.**
10.80.	**Vibration.**
10.81.	**Visitors to Site.**
10.82.	**Waste Management.**
10.83.	**Water Management.**
10.84.	**Welding, Grinding, Cutting etc.**
10.85.	**Welfare Facilities.**

10.86.	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.

10.1.	Accident, Incident Investigations

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.

10.2.	Alcohol and Drugs

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.

10.3.	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.

10.4	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.

10.5.	Close-out

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.

<u>Health and Safety close out file requirements.</u>

<u>PC File to include the following</u>:

- Copy of Notification of Construction Work/Construction Permit, 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 PC.
- 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 records.

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.

10.6.	COIDA

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.

10.7.	Competence and Training

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 Crane Operations, Riggers, 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.

10.8.	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.

10.9.	Construction Supervision

As indicated in the previous paragraphs 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. 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 CHSO is kept up to date with all planned activities, to ensure all H&S requirements are met.

10.10.	Cranes, Cradles and Man Cages

The PC must implement and ensure compliance with OH&S Act - Driven Machinery Regulation 2015, Section 18(8), General Safety Regulation 13C, and Lift Escalator and Passenger Conveyer Regulations. Special cognisance must be taken of the requirement that no user of machinery may require or permit any person to be moved or supported by means of a lifting machine fitted with a cradle (man-cage)

unless approved for that purpose by an Inspector from the local Department of Employment and Labour.

In the event where the use of such equipment is required for the purpose of reaching otherwise inaccessible places, the PC must advise the CHSO of the equipment required and produce a certificate of approval from the Chief Inspector from the DEL.

The PC must ensure that every Man Cage or similar device is securely suspended and is constructed in such a manner to prevent any occupant from falling from such equipment. Each employee within the cradle must wear an approved safety harnesses and attached by a lifeline/sling to an anchorage point, which does not form part of the cradle. No employee may be permitted to climb onto rails or any other part to extend their reach. The Man Cage must be correctly positioned to ensure workers are able to achieve the required reach to perform their intended activities. Appropriate means of communication such as two-way radios must be provided to ensure communication with workers inside the cradle.

The PC must ensure that all equipment is inspected before use, that the permissible workload is displayed, that load test certificates are available, equipment is operated by trained competent operators etc.

10.11.	**Defects reporting and correction**

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.

10.12.	**Demolition**

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.

10.13.	**Delivery and Placing of Containers. Park homes etc.**

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.

10.14.	**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.

10.15.	**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.

10.16.	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.

10.17.	Environmental Management

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.

10.18.	Edge Protection

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.

10.19.	Excavations

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.

10.20.	Explosive Actuated Fastening Devices

The PC must implement and comply with Construction Regulation 21. The PC shall not use or permit the use of an explosive actuated fastening device, unless-

- It is provided with a protective guard around the muzzle end, which effectively confines any flying fragments or particles.
- The firing mechanism is so designed that the explosive actuated fastening device will not function unless it is held against the surface with a force of at least twice its weight; and the angle of inclination of the barrel to the work surface is not more than 15 degrees from a right angle, unless the energy of the cartridge is transmitted to the bolts, nails or similar relevant objects by means of an intermediate piston which has a limited distance of travel.
- Only cartridges suited for the explosive actuated fastening device and the work to be performed are used.
- The explosive actuated fastening device is cleaned and examined daily before use and as often as may be necessary for its safe operation by a competent person who has been appointed and certified as being competent.
- The safety devices are confirmed to be in proper working order prior to use.
- When not in use, the explosive actuated fastening device and the cartridges are locked up in a safe place, which is inaccessible to unauthorised persons and adequate control is exercised over the keys and storage area.
- The explosive actuated fastening device is not stored in a loaded condition.
- A warning notice or warning notices are displayed if more than one entrance gives access to a place where the explosive power tool is utilised.
- The issuing, collection and recording in a register of cartridges and nails, used and unused are controlled and done in writing by a competent person who has been appointed in writing.
- Every person using an explosive actuated fastening device has been trained in the operation, maintenance and safety requirements of the equipment and provided with the required PPE.

10.21.	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.

10.22.	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.

10.23.	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.

10.24.	Fire Extinguishers, Precautions and Fighting

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.

10.25.	Fuel and Flammable liquids

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.

10.26.	General Record Keeping

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.

10.27.	Hand Tools

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.

10.28.	Hazardous Chemical Substances (HCS)

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.

10.29.	Hazard Identification and Risk Assessment (HIRA)

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 and must be as a minimum of the same standard as required by the CHSA. 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.**

10.30.	Hazards and Potentially Hazardous Situations

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.

10.31.	Health and Safety Audits, Monitoring, Reporting and Statistics

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.

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 is the SSHSF.

10.32.	Health and Safety Disciplinary Procedure

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.

10.33.	Health and Safety Management Information Notice Board

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.

10.34.	Health and Safety Organogram

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.

10.35.	Health and Safety Plan and Submission

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.**

10.36.	Health and Safety Policy

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.

10.37.	Health and Safety Training

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.

10.38.	Heat Stress and Sun Protection

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.

10.39.	High Voltage Equipment and installations

In the event where the presence or location of High Voltage Equipment such as underground cables are not known with a high level of certainty, the PC must ensure that the necessary precautionary steps are taken such as the manual digging of pilot holes, use of detection equipment, lock out and isolation at sources, use of insulated tools and equipment etc.

Where work must be conducted in the presence or below overhead lines issues such as the correct lifting of conductive materials, keeping of safe distances to prevent flash over etc must be documented and communicated to employees. No isolation, termination of services may take place without the documented permission of the Electrical Engineer and the issue of an appropriate permit, which will include the necessary lockout, tagging and testing by an appointed competent person.

No unauthorised person may in any way interfere with or switch off any high voltage or critical electrical supply.

10.40.	Housekeeping

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.

10.41.	**Incident and Injury Management**

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.

10.42.	Induction Training

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.

10.43.	Ladders, Portable

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.

10.44.	Lighting

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.

10.45.	Lifting Machines and Tackle.

The Principal Contractor and Sub-Contractors must ensure that lifting machinery and tackle is inspected before use and thereafter in accordance with the Driven Machinery Regulations as published in Government Notice No. R. 298 dated 26 February 1988 and CR 22.

The PC must take note of the following and apply it as a minimum standard, where it is not possible to meet the standards listed below the CHSR must be engaged regarding the issue.

Each contractor carrying out lifting operations on the project site must develop, document and implement Method Statements (SWP) Procedures that are aligned with the requirements of this standard.

Design, Manufacturing and Safety Features

An Equipment Profile (dossier) must be compiled for each crane. A copy must be kept in the cab of the crane and must be kept current.

As a minimum, the design and manufacturing of each crane or hoist used on the project premises must comply with the requirements of the relevant ISO standard or national standards, implementing the most stringent standards.

The Safe Working Load (SWL) must be clearly indicated on each crane, hoist, and item of lifting tackle.
If the safe working load (rated capacity) of a crane varies with the conditions of use (i.e. varies with the angle of the boom and the boom length) then the manufacturer’s load chart(s) indicating the crane’s rated capacity at various boom lengths and angles must be available in the crane cabin. If the crane has a single load chart, it must be displayed in a position visible to the crane operator. If the crane has numerous load charts, they must be easily accessible to the operator.

For each crane or hoist, the manufacturer’s operating manual must be available to the operator. The load chart(s) and operating manual for a crane or hoist must be in a language understood by the operator.
All lifting hooks must be fitted with a safety latch to prevent the load from accidentally detaching.

Each crane or hoist must be fitted with a load cell (with the mass of the load displayed in the visual range of the operator) and a load limiting device to prevent the crane or hoist from being operated outside of its safe working limits.

Where practicable, each crane must be equipped with an upper hoist limit switch (or anti two-block device) to prevent the hook block from colliding with the drum, and a lower hoist limit switch to prevent

the rope on the drum from unwinding completely. These systems must provide both a visual and an audible alarm to the operator.

Under no circumstances may any limit switch or warning device be bypassed, disconnected, or adjusted to lift a load higher (or to lower a load lower) than the respective switches allow. Limit switches MAY NOT be adjusted to stop the hoist at a particular height under normal operating conditions - these are safety devices, and as such, should not be used as operating tools. The same applies to lifting heavier loads.

For a vehicle-mounted crane, the operator control station must be in a position protected from swinging loads and from the crane jib.

A fall protection system must be provided for the assembly, dismantling, operation, maintenance and inspection of any crane where falling from height is identified as a hazard.

Each crane should be fitted with a stability monitoring device to prevent it from toppling over.

Only items of lifting tackle that have been designed and manufactured with adequate factors of safety may be used on site. The following minimum factors of safety with respect to the Safe Working Load must be met:

Ten (10) for natural fibre ropes,
Six (6) for synthetic-fibre ropes or woven webbing; Six (6) for steel-wire ropes,
Five (5) for steel chains; and
Four (4) for high-tensile or alloy steel chains.

An excavator or tractor-loader-backhoe (TLB) may not be used to lift a load unless all of the requirements of this standard as would apply to a crane have been complied with and authorisation has been granted by the nominated project representative.

Planning and Risk Assessment

For each critical lift that must be carried out on site, a documented and detailed lift plan and risk assessment must be prepared to address all associated hazards. Only suitably qualified, competent, and experienced persons (lift planners) may evaluate critical lifts and prepare lift plans.

The lifting supervisor, crane operators, riggers and spotters responsible for carrying out a critical lift must have input into the lift plan and risk assessment and must be consulted before these documents are finalised. All lifting supervisors, crane operators must be appointed in writing. No critical lift may commence until the lift plan and risk assessment has been compiled and approved by the contractor.

Critical lifts include:

- All multiple (including dual) crane lifts.
- Lifts where the operational arcs of two or more cranes can overlap.
- Lifts over operating facilities where this may endanger personnel.
- Lifts carried out near power lines (over, under, or adjacent to).
- Any lift carried out in close proximity to equipment or a vessel containing a flammable or toxic substance.
- Any lift carried out near an embankment or an excavation.
- Lifts where the centre of gravity of the load could change.
- Any lift where the total weight on the hook exceeds 20 tonnes.

- Lifts near the rated capacity of the crane (i.e., exceeding 85% of the rated capacity at the working radius).
- Any lift when the wind speed (including gusting) exceeds 35 kilometres per hour (if a crane is not fitted with an anemometer, a handheld anemometer must be available).
- Lifts involving a man basket (safety cage).
- Lifts to and from water.
- Lifts requiring specialised equipment or involving complicated lifting or rigging configurations.
- Lifts requiring non-standard rigging or slinging techniques.
- Lifts involving the simultaneous use of more than one hoist on the same crane; and
- Any other lift deemed to be critical by the nominated project management representative or assessed as critical during a risk assessment.

The lift plan for a critical lift must include:

- General Information - crane manufacturer, crane model, items to be lifted, and reason for lift.
- Lift Data - load weight, lifting block and hook weight, hoist rope weight, rigging weight, total weight, height of lift, radius of lift, surface area of load, and centre of gravity of load.
- Rigging Data - sling material (chain, wire rope, or synthetic), sling diameter, sling length, sling configuration, sling capacity, hook type, shackle size and capacity.
- Lift Computation - boom length, jib length, radius of lift, crane capacity as configured, size of outrigger footplates, and wind speed.
- Proximity to Power Lines and Process Areas- mobile cranes working in proximity to energised power lines must operate under a Permit to Work, which must define exclusion zones and spotter duties.
- Local Hazards and Controls - including the route for the crane, ground stability, proximity of people or equipment, and agreed communication method; and
- Diagrams (sketches) a rigging diagram, and a crane set-up diagram illustrating the positioning of the crane(s) in relation to surrounding structures and the initial and final positions of the load (including crane boom movement).

The use of a crane-suspended man basket (safety cage) may only be considered when all other avenues to safely perform the work (e.g., scaffolding, mobile elevating work platform, etc.) have been exhausted. Cranes used to lift or suspend personnel must be approved as suitable for this purpose.

If a crane must be operated in proximity to energised overhead power lines (or any other exposed electrical conductors) then minimum clearance distances (specified by the electrical power utility or the nominated project management representative) must be observed. Whenever possible, power lines must be de-energised and isolated while lifting operations are carried out.

Operation

At the start of every day or shift, the operator of a crane or hoist must carry out a pre-operation safety check using a prescribed checklist. The specific requirements of the pre-operation safety check (and associated checklist) must be based on:

- A risk assessment that addresses all aspects of safe operation of the crane or hoist; and
- The inspection recommendations of the manufacturer.

As a minimum, the pre-operation safety check must include:

- A thorough visual inspection of all wire ropes, chains, hooks and safety latches, hook blocks, sheaves, hydraulic hoses, electrical cables, and the general condition of the crane or hoist.
- Checks to confirm the serviceability of the operating controls.
- Tests to confirm the correct operation of all limit switches, emergency shutdowns, load indicators, alarms and other safety devices; and
- A thorough visual inspection of all lifting tackle to be used.

The operator must:

- Check for any loose or missing parts.
- Make sure that the wire rope (or chain) of the hoist is properly seated in its drum and sheave grooves without any slack or overlapping.
- Operate each control to make sure it functions properly, releases immediately, and does not stick. Each control must be labelled to indicate its function.
- Listen for any unusual mechanical noises and look for any jerky movements while operating the crane and / or hoist several feet in each direction that it travels.
- Check the functionality of the upper and lower hoist limit switches (if applicable) by slowly raising and then lowering the block to trip the respective switches.
- Check all hooks. Hooks must not be cracked, stretched, bent, or twisted. Each hook must have a safety latch that automatically closes the throat of the hook. If the latch is bent, has a broken spring, or is otherwise damaged, it must be repaired before use. Hooks must rotate freely in the block assembly without any “grinding” felt or heard.
- Check the wire rope by lowering the block to its lowest level and looking for the following signs of damage:
- Reduced rope diameter. This may indicate that the rope has been stretched, has lost its inner core support, or has worn outside wires.
- Broken wire strands (any number).
- Kinked, crushed, cut, or “bird caged” wiring, or wiring with heat damage.
- Check all chains for damage including wear at contact points, cracks, or distorted links (bent, twisted, or stretched). All mechanical coupling links must be inspected to ensure that the linking pins are secure and in good condition. The capacity rating of each chain must be adequate for the load and the attachment method.
- Check the condition and capacity of wire rope and synthetic web slings. Capacity ratings must be legible on the manufacturer’s label. The capacity of the sling being used must be adequate for the load and the attachment method. A sling must be replaced immediately if it is excessively worn.

The operator must report any fault, defect, or damage to his supervisor immediately.

A crane or hoist must not be operated if any safety device is out of order or defective, or if any rope, chain, hook, or other component is worn or damaged.

Completed checklists must be made available (on request) for inspection by the nominated project management representative. Wherever possible, these checklists must be kept with the crane or hoist.

All lifting operations must be supervised by suitably qualified, competent, and experienced supervisors.

An effective method of communication between the crane operator and those assisting with the lift must be in place and documented.

Documented Method Statements (SWP) must be in place to ensure the following:

- Access into an area where lifting operations are being carried out must be restricted. Such an area (i.e., where there is a risk of a load falling and striking a person) must be barricaded and only authorised persons may enter (i.e. those directly involved with the lifting operations). Warning signage must be conspicuously displayed.
- Where a load is being moved from one location to another (i.e., the lifting operations are not being carried out in a discrete area that can be barricaded), measures must be taken to ensure that all persons in the path of the suspended load are made aware of the approaching hazard and that they move, and remain, well clear of it. All persons potentially affected must be given warning before the load is lifted.
- A lift must be directed and controlled by a single person (a suitably qualified, competent, and experienced rigger).
- Dedicated spotters (one or more, as determined during the risk assessment) must be in place during a lift to observe and provide warning (if necessary) to prevent incidents and ensure that safety protocols are adhered to.
- Before commencing with a lift, it must be verified that the load being lifted is both within the rated capacity of the crane (or hoist) and lifting tackle and within the limits set out in the lift plan and / or risk assessment. The rated load capacities of the crane, hoist, rope, chains, slings, or other components may never be exceeded.
- Only certified lifting tackle may be used to lift a load.
- No tackle that has been used for towing may be used for lifting operations.
- Only an approved material box (skip box) may be used for lifting loose items or materials.
- Before commencing with a lift, it must be verified that no safety devices (including load limiting devices) have been bypassed, overridden, or disconnected.
- To prevent the load from swinging as it is lifted, the hoist must be centred over the load (when using slings or chains) or positioned directly above the lifting point of the load.
- Hoisting ropes must be kept vertical. No side loading of a crane boom is permitted (i.e., a crane may not be used to make a side pull).
- Three full wraps of rope must always remain on the hoisting drum. If a lower hoist limit switch has been fitted, and it is working correctly, it should not be possible to lower the block below the point where less than three full wraps of rope are on the drum.
- Before commencing with a lift, it must be verified that all rigging connections are correct and secure. Slings, chains, or other lifting devices must be fully and securely seated in the saddle of the hook.
- Slack must be removed from the slings, chains and / or hoisting ropes before lifting the load. It must be ensured that multiple lines are not twisted around each other and that the hoist rope is not wrapped around the load.
- To ensure that the load is properly secured and balanced, it must initially only be lifted a few centimetres. Slings must be repositioned if required.
- Before moving a suspended load, it must be lifted high enough to clear all obstructions. The load must only be lifted to the height necessary to clear obstructions, and no higher.
- Directional movement must be made smoothly and deliberately (there must be no sudden acceleration or deceleration of the moving load). Abrupt, jerky movements of the load in any direction must be avoided.
- Tag lines must be used in situations where a load needs to be steadied or guided while suspended.
- When using tag lines to steady or guide a suspended load that is being moved using a crane, personnel on foot must always remain in sight of and in communication with the crane operator (through the rigger), must never walk between the crane and the load, and must always remain clear of the load and the crane (at least 5 metres). The load must be moved at a slow walking. speed.
- A suspended load must be always monitored closely.

- If a crane operator's view of a suspended load is unavoidably obscured (completely or partially), or if a suspended load is unavoidably obscuring (completely or partially) a crane operator's view, then suitably positioned spotters must be in place to provide guidance to the crane operator.
- A load MAY NOT be moved over, or be suspended above, any person or any occupied building. No person may walk beneath, or position himself below, a suspended load.
- No person may pass or work beneath the boom of a crane.
- No person may be positioned between a suspended load and a solid object where there is a risk of being crushed should the load swing.
- No person may be positioned within the radius of the boom of a crane unless directly involved with the lift.
- Under no circumstances may any person ride on a crane's hook or on a load.
- No load may be left suspended unless the operator is at the controls and is monitoring the load. In such a situation, the load must be kept as close as possible to the ground or floor to minimise the possibility of injury should the load drop.
- The controls of a crane or hoist may never be left unattended while a load is suspended. If it becomes necessary to leave the controls, the operator must lower the load to the ground or floor.
- No lifting may be carried out using a mobile crane unless the outriggers have been deployed and are locked in position.
- Load spreaders or packing under the outriggers must be used irrespective of the underfoot conditions.
- Before a mobile crane is moved into position to carry out a lift, the area must be inspected by a suitably qualified person who must verify that the underfoot conditions are satisfactory. If any uncertainty exists, DCP (Dynamic Cone Penetration) testing must be carried out. For critical lifts, ground compaction must be assessed using suitable instrumentation (e.g. Troxler).
- When using a mobile crane, slewing to test the effectiveness of the outriggers must be carried out prior to commencing with a lift.
- Under no circumstances may a mobile crane (or vehicle-mounted crane) travel with a suspended load.
- Slew pins must be securely in place while a mobile crane is travelling.
- Unauthorised use of a crane or hoist must be prevented by removing the keys, locking the cabin, isolating the controls, etc. when lifting operations have been completed.
- When not in use, lifting tackle must be stored off the ground and must be protected from the elements (rain, harsh sunlight, etc.) and contamination (dust, solvents and other chemicals) in order to prevent damage and / or deterioration.

A crane or hoist or an item of lifting tackle may only be used for the purposes for which it was designed.

Inspection, Testing and Maintenance

Any crane or hoist brought onto the project premises must have a current test certificate and record of inspection as well as a suitable checklist (derived from the crane or hoist manufacturer's inspection recommendations) for use by the operator(s) when carrying out pre-operation safety checks.

A register of all cranes, hoists and lifting tackle brought onto the project premises must be compiled and maintained.

Each crane, hoist and item of lifting tackle must have a unique identification code or number, which must be referenced in the register.

For each crane, hoist and item of lifting tackle, the following documentation must be kept on site and must be made available (on request) to the nominated project management representative for inspection:

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

All cranes, hoists and lifting tackle must be inspected, tested, and confirmed fit for purpose (i.e. safe for use):

- Before being operated or put into service.
- Before being returned to service following any repair or modification; and
- Periodically as follows (unless local regulations require examination more frequently):
- Each crane or hoist (including all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices that form an integral part of the crane or hoist) must be thoroughly examined by a competent, experienced person every 6 months.
- Each crane or hoist must be subjected to an annual performance test (i.e., load test) by a competent, experienced person; and
- All lifting tackle must be thoroughly inspected by a competent, experienced, and appointed person every 3 months.

The system of inspection and testing must provide verification that each crane or hoist is able to function to its design specifications, and must verify the integrity of:

- Mechanical and electrical components.
- Controls.
- Cables and all lifting attachments.
- Structural components including boom, hoist, brakes, wheels, hooks, baskets, out-riggers, hook-blocks and rails; and
- Load limiting devices, hoist limit switches, alarms or warning devices, and other safety devices and control systems (including independent fail-safe braking systems, devices to stop the crane or hoist such as a dead man's switch, and emergency shut-off switches).

A preventative maintenance system must be in place to ensure that all cranes and hoists are maintained in a safe and serviceable condition.

For any crane or hoist, all inspections, testing, maintenance, and repairs must, as a minimum, be carried out in compliance with the requirements and specifications of the manufacturer as well as all applicable regulatory requirements (in terms of both the frequency of inspection, testing and maintenance, and the physical condition of the crane or hoist).

Repairs to a crane or hoist may only be carried out by competent persons. After repairs have been made, the crane or hoist must be tested and recertified fit for purpose (unless the repairs did not affect the integrity of the lifting mechanism).

Any modification to a crane or hoist must be subject to the approval of the original equipment manufacturer and a rigorous change management process.

Each item of lifting tackle must be tagged following each quarterly (3-monthly) inspection. Details of these inspections must be recorded in the lifting tackle register which must be made available to the nominated project management representative on request.

The following colour coding system is recommended for the tagging of all lifting tackle:

Quarter	Tag Colour
January – March	**Blue**
April - June	**Red**
July - September	**Green**
October - December	**Yellow**

The tag placed on an item of lifting tackle must be traceable to an entry in the lifting tackle register where the following information concerning the inspection of that item of tackle must be recorded:

- Item description.
- Unique item identification code or number.
- Item owner.
- Item location.
- Date of inspection.
- Name and signature of competent person who carried out the inspection; and
- Any comments concerning the inspection.

Any item of lifting tackle that is found to be damaged or defective must be removed from service (and tagged, “Out of Service”) immediately and must then either be repaired and recertified (if possible) or destroyed to prevent further use.

Similarly, any lifting tackle that is known (or is suspected) to have been overloaded must be removed from service immediately and destroyed to prevent further use.

If an item of lifting tackle is removed from service or destroyed (scrapped), this must be indicated in the lifting tackle register.

Any item of lifting tackle without a tag or with an out-of-date inspection may not be used.

Training and Competency

Only suitably trained, competent, and experienced persons are permitted to:

- Evaluate and plan critical lifts.
- Supervise lifting operations.
- Operate cranes and hoists.
- Use lifting tackle, and rig (sling) loads.
- Provide signals for controlling lifts; and
- Inspect, maintain, or test cranes, hoists and lifting tackle.

Each operator must meet the competency requirements for the particular class or type of crane or hoist to be operated. Depending on the project location and applicable legislation, operators may need to hold a certificate of competency issued by a recognised training institution.

10.46.	Manual handling of materials

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.

10.47.	Maintenance

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.

10.48.	Medical Fitness/ Fitness for work

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.

10.49.	Method Statements, Safety (SMS)/ Safe work procedures (SWP)

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.

10.50.	Noise

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 nighttime 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.

10.51.	Notices

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.

10.52.	Notification of Construction Work/ Construction Permit

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.

The PC is once again reminded 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.

10.53.	Occupational Hygiene (Personal Hygiene and infectious Disease Management)

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.

10.54.	Permit to work

The PC must implement a permit-to-work system to control identified high-risk activities such as:

- Major lifting operations.
- Hot works.
- Cold work in areas where operational plant or equipment can pose a threat.
- Working in confined spaces.
- Excavation work (cable clearance permit).
- Use of a hazardous substance, e.g., lead.
- Roof work etc.

Permits to work must list the specific conditions and hazards involving the specific task. Only authorized competent persons may issue and sign off Permits-to-work.

10.55.	Personal Protective Equipment (PPE)

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 (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.

10.56.	**Plant and Machinery**

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 filled 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.

10.57.	Planned Task Observations

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.

10.58.	Pneumatically powered tools and equipment

Compressed air and associated tools may only be used when compliant with the OHS Act, DMR 14. Air to operate pneumatic tools may only be supplied from compressors or compressed air lines. No homemade compressors may be used on site. All airlines must be in a good working condition and fitted with suitable clamps to prevent accidental connection. Compressed air may not be used for general cleaning including the cleaning of overalls.

Pneumatic powered tools must only be driven by filtered compressed air with an in-line lubrication system or be lubricated prior to use if there is no in-line lubrication system. When using pneumatic powered tools, the designated tool pressure must be attained using a regulator.

Pneumatic powered tools must be disconnected when not in use. They must not be disconnected from the air supply until all the residual pressure has been released or contained by a shut-off device. Hoses must not be kinked as a means of containment.

Employees operating pneumatic powered tools, and any potentially affected employee in the vicinity of use, must wear suitable PPE.

All rotary compressed air tools (e.g., drills) must have the rated revolution per minute (RPM) permanently marked on the casing. Only attachments of compatible RPM must be used with these machines.

The actual RPM of the tool must be checked every three months to ensure that the speed is as rated by manufacturers specifications.

Pneumatic powered tools must be secured to the air supply hose by an approved positive means to prevent the tool from becoming accidentally disconnected. Safety clips or retainers must be securely installed and maintained on pneumatic impact (percussion) tools to prevent attachments from being accidentally expelled.

All pneumatically driven nailers, staplers, and other similar equipment provided with automatic fastener feed, which operate at more than 100 kPa pressure at the tool, must have a safety device on the muzzle to prevent the tool from ejecting fasteners unless the muzzle is in contact with the work surface.

If an impact wrench is used, the sockets must be impact rated.

Compressed air must not be used for cleaning purposes except where reduced to less than 30 kPa, and then only with effective chip guarding and personal protective equipment in place. The 30 kPa requirement does not apply to concrete form, mill scale and similar cleaning purposes. Compressed air must not be pointed at any part of the body or used for cleaning clothing.

Airless spray guns of the type which atomize paints and fluids at high pressures must be equipped with automatic or visible manual safety devices which will prevent pulling of the trigger to prevent release of the paint or fluid until the safety device is manually released. A diffuser nut which will prevent high pressure, high velocity release while the nozzle tip is removed, plus a nozzle tip guard which will prevent the tip from coming into contact with the operator, or other equivalent protection must be provided in lieu of the above.

Abrasive cleaning nozzles must be equipped with an operating valve, which must be held open manually to enable operation. A support must be provided on which the nozzle may be mounted when it is not in use.

10.59.	**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.

10.60.	**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.

10.61.	Risk Assessment of Plant and Equipment

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.

10.62.	Safety meetings: Pre-start, Review etc.

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 singing, 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.

10.63.	SHE Representatives and Committees

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.

10.64.	CHSO Roles and Responsibilities

The PC must appoint a Part Time SHE Officer who must be on-site at least 3 days a week. These days must coincide with High-Risk activities such as when lifting operations take place

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.

10.65	Scaffolding

Scaffolding if incorrectly used or erected can result in serious injuries and even death. Scaffolding must be erected by trained competent persons. After erection it must be inspected by a trained competent person. During the process of erection the scaffolding must be tagged “Unsafe for use “ until it has been certified safe for use.

Persons erecting scaffolding must use fall prevention equipment until the structure has been certified safe for use. Scaffolding must not be overloaded. If scaffolding is modified, it must be re-tagged as being unsafe for use until it has been re-tagged as being safe for use. Scaffold Erectors and Scaffold inspectors must be separate appointment’s and they have to be appointed in writing. Scaffolding must be inspected, and the results of such inspections recorded in a Scaffold Inspection Register.

10.66.	Signage

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.

10.67.	Site Establishment

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.

10.68.	Site Layout Plan

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.

10.69.	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.

10.70.	**Smoking on site**

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 buts to ensure good housekeeping standards are maintained and prevent accidental fires being started.

10.71.	**Speed Restrictions and Protections**

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.

10.72.	Stacking and Storage of Materials

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.

10.73.	Structures and Temporary Works

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.

10.74.	Sub-Contractors

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.

10.75.	Transportation of Workers

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.

10.76.	Trespassing

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.

10.77.	Toolbox Talks

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.

10.78.	Vehicles and Traffic Management

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.

10.79.	Ventilation

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.

10.80.	Vibration

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.

10.81.	Visitors to Site

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.

10.82.	Waste Management

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, asbestos etc must be disposed of in line with applicable legislative requirements.

10.83.	Water Management

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.

10.84.	Welding, Grinding, Cutting etc.

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.

10.85.	Welfare Facilities

The PC must implement and comply with Construction Regulation 30. PC to ensure:

- Sufficient chemical ablution 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.

10.86.	Working at Heights

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.

11.0	Annexure B: Draft Baseline Risk Assessment

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:	WIMS NO: 079513

REF N0	079513	RISK ASSESSOR	PS Van Loggerenberg	REVISION	1	DATE	22 April 2025

Likelihood		Consequence		RISK = LIKELYHOOD X CONSEQUENCE	RISK RANKING 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

Ref Nr	Activity	Potential Hazard	Potential Risk	S	H	E	Pure Risk	Mitigation Measures	Residual Risk	Risk Ranking
1	Vehicles accessing and exiting the site	1.1. Vehicles can run out of control due to mechanical failure etc.	1.1. Collisions with pedestrians, buildings, other vehicles. etc	x			4x5=20	1.1. Vehicle Maintenance Records. 1.1.2. Pre-trip Inspection. 1.1.3. Checking documentation	2x5=10	2

								before granting permission to enter site etc.		
		1.2. Medically unfit operator.	1.2. Medically unfit operator could cause collisions, death , injury etc.	x			4x5=20	1.2. Medical fitness certificate to be available before site entry etc.	2x5=10	2
		1.3. Load falling off vehicle.	1.3. Striking persons, other vehicles or structures etc.	X			3x4=12	1.3. Load securing must be inspected before trip and before entering the site.	2x2=4	1
		1.4. Incompetent operator.	1.4. Accidents, injury, death, damage etc.	X			4x5=20	1.4. Driver's proof of competence verified before entrance to site is granted etc.	2x5=10	2
		1.5. Vehicle leaking fuel and oil.	1.5. Contamination of Natural resources, Road surface damage etc. 1.5.1. Slippery surfaces etc			x	2x2=4	1.5. Maintenance records, pre- trip inspections etc.	1x1=1	1
	Totals		**Pure Risk**				**76**	**Residual Risk**	**35**	

Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
2.	Manual Offloading of materials	2.1. Sharp Edges	2.1. Cuts to hands etc.	X			3x3=9	2.1 Use of hand Protection etc.	2x1=2	1
		2.2. Incorrect Lifting methods	2.2. Back strain, injury etc.		H		3x2=6	2.2. Training in correct lifting methods etc.	2x2=4	1
		2.3. Hands caught between surfaces.	2.3. Bruising, Fractures etc.	X			3x2=6	2.3. Awareness Training etc	2x1=2	1
		2.4. Flammable substances	2.4. Fires, Explosions Burns etc.	x			3x3=9	2.4. Storage in correct sealed containers 2.4.1. No close proximity ignition sources 2.4.2. Close proximity fire extinguishers etc.	1x1=1	1
		2.5. Spillage of fuel and other HCS.	2.5. Contamination of Soil etc.			x	3x2=6	2.5. Storage in correct sealed containers etc.	1x1=1	1
	Totals		**Pure Risk**				**36**	**Residual Risk**	**10**	
Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
3.	Placement of Containers	3.1. Incompetent Operator	3.1Damage to equipment, injuries, death etc	X			3x5=15	3.1. Proof of Competency	2x2=4	1

								of the operator.		
		3.2. Defective lifting equipment can fail when being used.	3.2. Load can detach strike persons, damage container etc	X			3x5=15	3.2. Load test Certificates for lifting equipment. 3.2.1Inspection of equipment before use. 3.2.2. Competent Supervision etc	2x2=4	1
		3.3. Uncontrolled movement of Load.	3.3. Load can strike persons or property etc.	X			3x5=15	3.3. Use of guide Ropes. 3.3.2. Competent Supervision etc	2x2=4	1
		3.4. Persons under suspended load.	3.4. Load can crush Persons, injuries, death etc.	X			3x5=15	3.4. Barricading lifting zone off. 3.4.1 Competent Supervision etc	1x1=1	1
		3.5. Incorrect placement of containers due to poor planning.	3.5. Re-positioning of load=re-exposure to risks etc.	x			3x3=9	3.5. Planning site Office area layout beforehand etc	1x1=1	1
	Totals		**Pure Risk**				**69**	**Residual Risk**	**14**	
Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
4.	Erecting Fencing/ Barricading/Hoarding	4.1. Manual Handling of material	4.1. Physical exertion		x		3x3=9	4.1. Training in	1x1=1	1

			and muscular Strain etc.					correct lifting methods. 4.1.2. Competent Supervision etc		
		4.2. Sharp edges etc	4.2. Cuts to hands, skin penetrations etc.	x			3x2=6	4.2. Use of correct hand protection. 4.2.1. Competent Supervision etc	1x1=1	1
		4.3. Persons/limbs being struck with tools/items. etc	4.3. Bruising, fractures etc.	x			2x1=2	4.3. Training. 4.3.1. Competent Supervision etc.	1x1=1	
		4.4. Unknown location of underground services etc.	4.4. Damage to services 4.4.1Electrocution etc	x			3x4=12	4.4. Reference to Drawings. 4.4.1 Use of detection equipment etc 4.4.3. Pilot holes 4.4.4. Insulated tools 4.4.5. Competent Supervision etc.	1x2=2	1
		4.5. Hot Environmental Temperatures.	4.5. Heat exhaustion, sunburn etc.	x			3x3=9	4.5. Adequate drinking water supplies. 4.5.1. Use of Sunscreen cream.	1x1=1	1

								4.5.2. Regular breaks 4.5.3 Competent Supervision 4.5.4. Medical Fitness Certificates etc.		
	Totals		**Pure Risk**				**38**	**Residual Risk**	**6**	
Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
5.	Temporary Service Connections	5.1. Inadequate information available to ensure safe isolation or connection to energy sources etc	5.1. burns, electrocution Death etc 5.2. Disconnection of incorrect sources. resulting in service delivery interruption etc	x			4x5=20	5.1. Obtain Drawings. 5.1.2. Engage with Hospital Maintenance, Designer on required information. 5.1.3. Use of testing equipment 5.1.4. LOTO 5.1.5. Competent Supervision etc.	2x2=4	1
		5.2. Poor quality connections, exposed wiring etc.	5.2. Accidental contact with energy sources resulting in electrocution burns. death etc 5.2.1. Fire etc.	x			4x5=20	5.2. Competent Installers. 5.2.1 Competent Supervision etc	2x2=4	1

		5.3 Incompetent workers	5.3. Electrocution 5.3.1. Burns 5.3.2. Death 5.3.3. Service interruption etc	x			4x5=20	5.3. Proof of Competency 5.3.1. LOTO 5.3.2. Competent Supervision etc	2x2=4	1
	TOTALS		**PURE RISK**				**60**	**RESIDUAL RISK**	**12**	
Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
6	De-commissioning of transformer, substation, MV Switchgear etc	6.1. Energised electrical items	6.1. Electrocution 6.1.1 Burns 6.1.2. Death 6.1.3. Service interruption etc	x			4x5=20	6.1. LOTO 6.1.2. Competent Supervision. 6.1.3. Use of insulated tools. 6.1.4. Use of insulated PPE 6.1.5 Competent workers etc	2x3=6	2
		6.2. Physical exertion	6.2. Muscular strain 6.2.1. Reduced level of concentration etc	x			3x3=9	6.2. Competent Supervision. 6.2.1. Regular breaks 6.2.2. Medical Fitness Certificate etc.	2x2=4	1
		6.3. Sharp edges	6.3. Cuts 6.3.1. Skin penetrations etc	x			3x1=3	6.3. Competent Supervision. 6.3.1. Competent Workers. 6.3.2.PPE etc	2x2=4	1

		6.4. Confined workspaces.	6.4. Poor working posture 6.4.1. Muscular strain etc	x			3x1=3	6.4. Competent Supervision. 6.4.1. Regular breaks etc	1x2=2	1
TOTALS			**PURE RISK**				**35**	**RESIDUAL RISK**	**16**	
Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
7.	Removing and re-installation of transformers, mini-sub stations, meters, RMU etc	7.1. Incompetent Operator	7.1. Damage to equipment, injuries, death etc	X			4x5=20	7.1. Proof of Competency of the operator. 7.1.2. Medical fitness for operator 7.1.3. Competent Supervision etc.	2x2=4	1
		7.2. Defective lifting equipment.	7.2. Load can detach strike persons, damage equipment, infrastructure etc.	X			4x5=20	7.2. Load test Certificates for lifting equipment. 7.2.1Inspection of equipment before use. 7.2.2. Competent Supervision etc	2x2=4	1

		7.3. Uncontrolled movement of Load.	7.3. Load can strike persons or property etc.	X			4x5=20	7.3. Use of guide ropes etc. 7.3.1. Competent Supervision etc.	2x2=4	1
		7.4. Persons under suspended load.	7.4. Load can crush Persons, injuries, death etc.	X			4x5=20	7.4. Barricaded lifting zone. 7.4.1Competent Supervision etc.	1x1=1	1
		7.5. Inclement weather	7.5. Could cause control over the load being compromised resulting in injuries, death or damage etc.	X			3x5=15	7.5. Competent Supervision. 7.5.1. Weather forecasts to be consulted, no operation in wind more that 30km/h or lightning conditions etc	2x2=4	1
		7.6. Fitting and securing components and wiring etc.	7.6. Bumping against and contact with sharp edges. 7.6.1 Physical exertion. 7.6.2. Poor working posture etc 7.6.3. Eye strain due to poor illumination etc	x			3x3=9	7.6. Competent Supervision. 7.6.1. Use of PPE. 7.6.2. Regular breaks. 7.6.3. Adequate illumination etc.	2X2=4	1
TOTALS		**PURE RISK**					**104**	**RESIDUAL RISK**	**21**	

Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
8.	Excavation Work (Cable Fitment) (Manual and Mechanical Excavation)	8.1. Potential contact with hidden services.	8.1. Electrocution. 8.2. Death. 8.3. Disruption of services etc.	X			4x5=20	8.1. LOTO 8.1.2. Competent Supervision. 8.1.3. Referencing with plans to locate services. 8.1.4. Use of detection equipment 8.1.5 Digging pilot holes. 8.1.6. Use of insulated tools and PPE etc.	2x2=4	1
		8.2. Use of defective Plant.	8.2. Uncontrolled movement of plant 8.2.1. Persons truck by plant resulting in damage, injuries, death etc.	x			3X5=15	8.2. Competent Supervision. 8.2.1 Maintenance Records. 8.2.2. Pre- use inspections etc.	2x2=4	1
		8.3. Incompetent Operator.	8.3. Damage to plant	X			3x5=15	8.3. Competent Supervision	2x2=4	1

			8.3.1. Contact with person resulting in injury, death 8.3.2. Damage to property etc.					8.3.1. Proof of Competency for operator 8.3.2 Medical fitness certificate for operator etc.		
		8.4. Unbarricaded Excavations.	8.4. Persons falling into excavations sustaining etc.	X			3X3=9	8.4. Suitable Barricading. 8.4.1. Warning Signage. 8.4.2. Daily Excavation. Inspections. 8.4.3. Competent Supervision etc.	1x1=1	1
		8.5. Unshored Excavations.	8.5. Excavation collapse could result in persons being trapped and sustaining injuries etc.	X			3X3=9	8.5. Consult with engineer when I doubt if shoring is required. 8.5.1. Competent Supervision etc.	1x1=1	1
		8.6. Water ingress into excavation.	8.6. Could result in Slipping and tripping etc.	X			3x3=9	8.6. Daily inspections. 8.6.1. No entry until drained etc.	3x2=6	2
		8.7. Workers struck by uncontrolled movement of cable	8.7. Fractures, bruising death etc.	X			3x3=9	8.7. Competent Supervision.	2x3=6	2

		when lowered into excavation.						8.7.1. Trained workers. 8.7.2. Sufficient labour etc.		
		8.8. Vehicular movement in close proximity to excavations.	8.8. Excavation collapse resulting in vehicle falling into excavation, injuring, worker or death etc	X			3x5=15	8.8. Barricading. 8.8.1. Warning Signage. 8.8.2. Designated vehicle route 8.8.3 Competent Supervision etc.	3x3=9	2
		8.9. Use of unsafe hand tools.	8.9. Cuts 8.9.1. Lacerations etc	x			3x2=6	8.9. Competent Supervision 8.9.1. Hand tool Inspections 8.9.2. Updated Checklists etc.	2x1=1	1
		8.10. Incompetent user of hand tools.	8.10. Striking of other persons 8.10.1. Striking himself with tools etc	X			3x2=6	8.10. Competent Supervision 8.10.1Training in correct use of Hand tools etc.	2x1=2	1
		8.11. Harmful Natural elements, e.g., sun, wind lightning etc.	8.11. Heat stroke, sun burn etc.	x			3x2=6	8.11. Competent Supervision 8.11.1. Monitoring Exposure to harmful sun radiation.	2x1=2	1

								8.11.2. Adequate drinking water, sunscreen, regular breaks 8.11.3. Monitoring weather forecast to prevent dehydration, lightning weather etc.		
TOTALS			**PURE RISK**				**119**	**RESIDUAL RISK**	**40**	
Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
9.	Backfilling and Compaction (Manual and Mechanical)	9.1. Incompetent Operator	9.1. Striking himself when operating compactor 9.1.1. Striking other workers etc.	x			3x4=12	9.1. Competent Supervision. 9.1.1. Training in correct use of equipment. 9.1.2. Medical fitness Certificate etc	2x3=6	2
		9.2. Flammable Substances	9.2. Leaking fuel on heated surfaces could result in Fire, 9.2.1. Explosions 9.2.2. Burns etc	x			3x4=12	9.2. Competent Supervision 9.2.1. Pre-use inspection etc	2x3=6	2
		9.3. Unsafe Hand tools	9.3. Hand injuries	x			3x2=6	9.3. Competent Supervision	2x2=4	1

			9.3.1, Cuts, lacerations etc					9.3.1. Tool Inspection. 9.3.2. Updated Inspection registers etc		
		9.4. Unsafe Compactor	9.4. Excessive Vibration could cause HAVS 9.4.1. Muscular strain etc		x		3x3=6	9.4. Competent Supervision. 9.4.1. Use of hand protection. 9.4.2. Regular Breaks 9.4.3 Equipment inspections etc		
	Totals		**Pure Risk**				**36**	**Residual Risk**	**16**	
Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
10.	Concrete cutting and chasing etc (Mechanical and manual)	10.1. Potential noise generation above OEL Limits	10.1. Exceeding of OEL could result in noise induced hearing loss taking place etc.		X		3x3=9	10.1. Assessment of noise levels, 10.1.1.Use of correct hearing protection (SNR) etc.	1x1=1	1
		10.2. Harmful dust type or concentrations could be generated.	10.2. Inhalation of harmful silica dust. 10.2.1 Dust concentration levels could exceed OEL levels leading to onset of silicosis etc.		X		3x3=9	10.2. Use of wet Methods. 10.2.1. Use of appropriate respiratory protection etc.	2x1=1	1

		10.3. Possibility of high speed harmful flying Particles being generated	10.3. Risk of flying particles coming into contact with the eyes, or penetration of the skin etc	x			3x4=12	10.3. Competent Supervision 10.3.1Use of correct eye and face protection, long sleeve overalls etc.	1x2=2	1
		10.4. Hands being struck by tools.	10.4. Fractures. 10.4.1. Cuts 10.4.2. Bruising etc	x			3x4=12	10.4. Competent Supervision. 10.4.1. Tools Inspections. Trained workers. 10.4.2 PPE etc	2x2=4	1
		10.5. Harmful vibration could be present. etc	10.5. Extended Exposure to vibration could result in HAVS etc.		x		3x3=9	10.5. Competent Supervision. 10.4.1. Use of properly maintained equipment. 10.4.2. Hand Protection 10.4.3 Regular work breaks etc.	1x2=2	1
	Total		**Pure Risk**				**51**	**Residual Risk**	**10**	
Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
11.	Installation of earthing and lightning protection systems	11.1. Working from a fall risk position	11.1. Falls, fractures, death etc.	X			3x4=12	11.1. Competent Supervision.	2x3=6	2

								11.1.1Fall Prevention Plan. 11.1.2. Medical Fitness Certificate. 11.1.3. Use of fall arrest equipment etc.		
		11.2. Manual Handling	11.2. Fatigue, muscular strain etc	X			2x2=4	11.2. Competent Supervision. 11.2.1. Training 11.2.2. Regular Breaks etc.	2x1=2	1
		11.3. Falling materials, tools	11.3. Head and other body parts injuries etc.	X			3x3=9	11.3. Competent Supervision. 11.3.1. Use of Tool Belts, lanyards etc.	2x2=4	1
		11.4. Physical exertion	11.4. Fatigue, muscular strain etc.	X			3x2=6	11.4. Competent Supervision. 11.4.1. Regular Breaks. 11.4.2. Sufficient Labour etc.	2x1=2	1
		11.5. Natural elements, sun, wind rain.	11.5. Dehydration, sun burn etc.	x			3x2=6	11.5. Competent Supervision. 11.5.1 Monitoring Exposure.	2x1=2	1

								11.5.2. Sufficient Drinking water, water, use of sunscreen etc.		
		11.6. Unsafe/ incorrect positioned ladders.	11.6. Falls, fractures death etc.	x			3x5=15	11.6. Competent Supervision 11.6.1. Training, Supervision 11.6.2. Ladder Inspections etc.	2x3=6	2
		11.7. Poor working Posture.	11.7. Musculoskeletal injuries, cramping etc.		X		3x3=9	11.7. Competent Supervision. 11.7.1 Regular Breaks etc.	2x2=4	1
		11.8. Poor Illumination.	11.8. Eye strain, falls, etc.	X			2x2=4	11.8. Competent Supervision. 11.8.1. Lux readings, 11.8.2. Use of artificial temporary lighting etc.	1x1=1	1
	Total		Pure Risk				65	Residual Risk	30	
Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
12.	Bricklaying and plastering	12.1. Working from a fall risk position	12.1. Falls, fractures, death etc	X			3x4=12	12.1. Competent Supervision.	2X3=6	2

								12.1.1. Fall Prevention Plan. 12.1.2. Use of Fall arrest Equipment. 12.1.3. Medical Fitness Certificate etc.		
		12.2. Abrasive surfaces.	12.2. Abrasions, etc.	X			3x2=6	12.2. Competent Supervision. 12.2.1 Use of correct gloves etc.	2X1=2	1
		12.3. Silica and cement containing dust.	12.3 Respiratory tract irritation, onset of silicosis etc.	x			3x3=9	12.3. Competent Supervision. 12.3.1 Use of Masks etc.	2X3=6	2
		12.4. Poor ergonomics	12.4. Physical exertion, back strain injuries etc.	x			3x2=6	12.4. Competent Supervision. 12.4.1. Regular Breaks. 12.4.2. Training in good ergonomical practices etc.	2X1=2	1
		12.5. Unsafe /overloaded scaffolding etc.	12.5. Collapse, falls, Fractures, death etc.	X			3x5=15	12.5. Competent Supervision. 12.5.1. Competent Erectors and inspectors	2X3=6	2

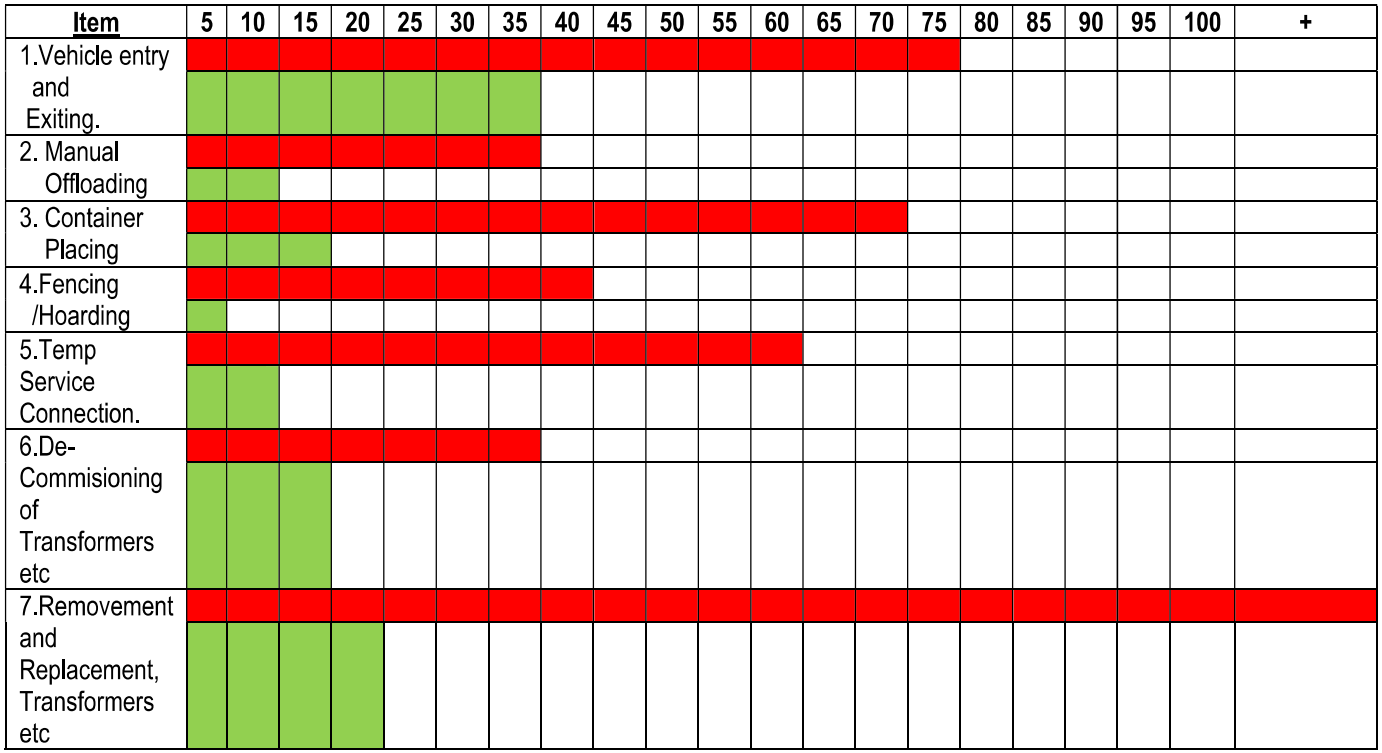
								12.5.2. Scaffolding inspections etc.		
		12.6. Poor condition/ non-use of fall arrest etc.	12.6. Falls, fractures etc.	X			3x4=12	12.6. Competent Supervision. 12.6.1. Training, in use of equipment. 12.6.2. Inspection of equipment before use etc.	2=3=6	2
		12.7. Exposure to harmful natural environmental factors etc.	12.7. Dehydration, heat exhaustion etc.	x			3x2=6	12.7. Competent Supervision. 12.7.1. Regular Breaks. 12.7.2Long sleeve overalls, hard hat brims etc	2X1=2	1
	TOTALS		PURE RISK				66	RESIDUAL RISK	30	
Ref Nr	**Activity**	**Potential Hazard**	**Potential Risk**	**S**	**H**	**E**	**Pure Risk**	**Mitigation Measures**	**Residual Risk**	**Risk Ranking**
13.	Refurbishment and Waterproofing of Main Sub-Station Building	13.1. Accessing Elevated positions	13.1 Falling from elevated position	x			3x5=15	13.1. Competent Supervision. 13.1. Fall Prevention Plan 13.1.1 Medical fitness etc	2x2=4	1

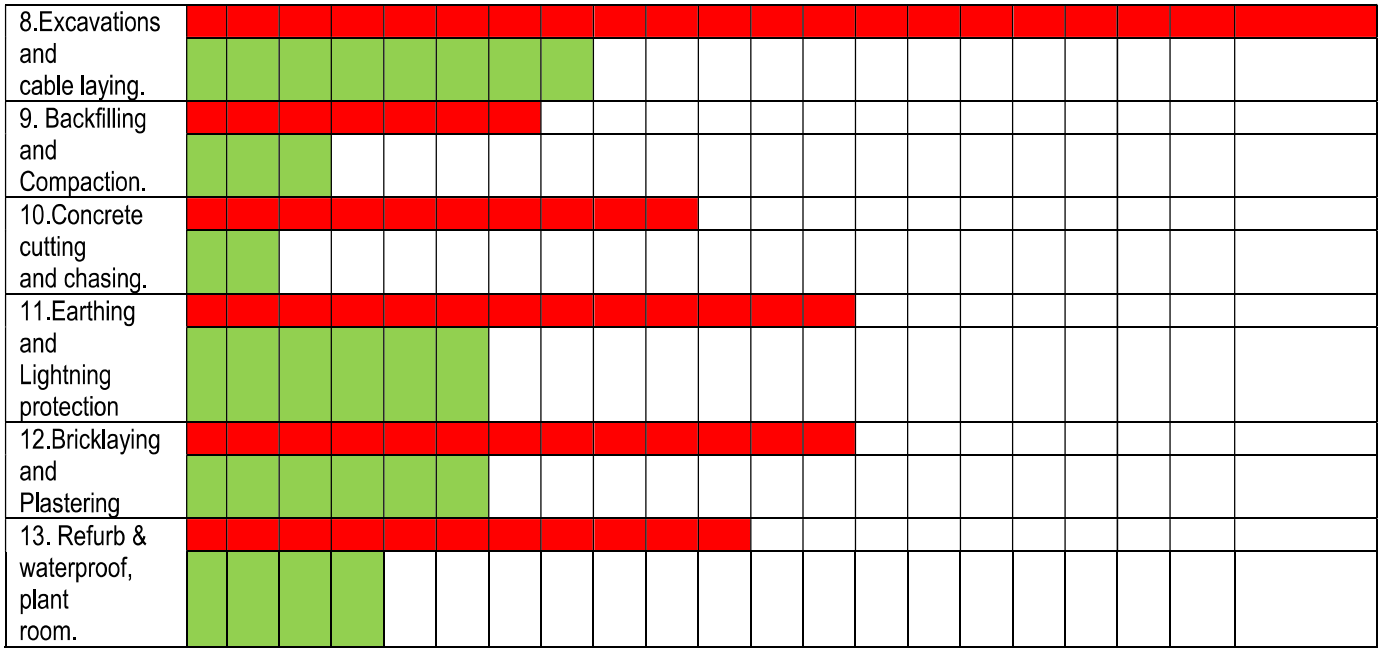
		13.2. Use of Flammable Substance under Pressure.	13.42. Explosion. 13.2.1 Burns. 13.3 Heated substances etc.	X			4x3=12	13.4. Competent Supervision. 13.4.1. Hot Work Permit. 32.4.2. Standby Fire Extinguisher. 13.4.3. 13.4.4. PPE etc.	3x2=6	2
		13.3. Toxic Vapours etc.	13.3. Respiratory tract irritation etc.	X			3x3=9	13.3. Competent Supervision. 13.3.1 Respiratory Protection etc.	2x2=4	1
		13.4. Physical exertion etc	13.4. Muscular strain Etc.	x			2x3=6	13.4. Competent Supervision 13.4.1Regular Breaks etc.	1x2=2	1
		13.5. Sanding.	13.5. Inhalation of dust. 13.5.1. Dust entering the eyes. 13.5.1. Physical exhaustion etc	x			2X3=6	13.5. Competent Supervision. 13.5.1. Use of Respiratory Protection. 13.5.2. Use of eye protection. 13.5.3. Regular breaks etc	1x2=2	1

		13.6. Painting.	13.6. Skin Contact 13.6.1. Contact with eyes. 13.6.2. Inhalation of vapour concentration above OEL limits etc.	x			2X3=6	13.6.2. Competent Supervision. 13.6.2.1. Use of Gloves, eye and Respiratory Protection etc	1x2=2	1
TOTALS			**PURE RISK**				**54**	**RESIDUAL RISK**	**20**	

RISK PROFILE

ITEM	PURE RISK
	RESIDUAL RISK




8.Excavations and cable laying.
9. Backfilling and Compaction.
10.Concrete cutting and chasing.
11.Earthing and Lightning protection
12.Bricklaying and Plastering
13. Refurb & waterproof, plant room.

ANNEXURE A: OHS BILL OF QUANTITIES

HEALTH AND SAFETY IMPLEMENTATION AND MANAGEMENT COSTING

Due to the nature of this project, the contractor must keep this page updated as work progresses. Items may be added or deleted if required

ITEM	DESCRIPTION	UNIT	QUAN-TITY	MONTHS (Indicative)	RATE	AMOUNT (a)x(b)
1	**MEDICALS**					
1.1	Pre-employment medical	Nr.				
1.2	Psychological medical for working at heights	Nr.				
1.3	Psychological medical for working motorized equipment & construction machinery	Nr.				
1.4	Medical for working asbestos	Nr.				
1.5	Routine medical as per requirement of job activities	Nr.				
1.6	Re-medicals - yearly	Nr.				
	OTHER ITEMS					

	TOTAL					
2	**PERSONAL AND GENERAL PROTECTIVE EQUIPMENT**					
2.1	Overalls Blue					
2.2	Hard Hats					
2.3	Safety Boots/Shoes. Steel toecap Gumboots					
2.4	Gloves					
2.5	Hearing Protection					
2.6	Eye Protection					
2.7	Reflective vests					
2.8	Orange Star Netting - 1.2m High	m				
2.9	Orange Plastic road cones	Nr.				
2.10	Plastic Reinforce Caps(Rebar)	Nr.				
2.11	Dust masks	Nr.				
	OTHER ITEMS					

	TOTAL					
3	**FIRE FIGHTING**					
3.1	Fire extinguishers - 4.5Kg	Nr.				
3.2	Training	Nr.				
3.3	Surveys	Nr.				
3.4	Other - Drip trays	Nr.				
	OTHER ITEMS					
	TOTAL					
4	**HEALTH AND SAFETY PERSONNEL**					
4.2	Part Time Safety Officer (3 x days a week)	Nr.				
4.3	Full time Safety Representatives if required	Nr.				

4.4	Fire Watchers	Nr.				
4.5	First aiders	Nr.				
4.6	External auditors costs	Nr.				
4.7	Occupational hygienist	N/A				
4.8	Construction Phase SHE Plan					
	OTHER ITEMS					
	TOTAL					
5	**FACILITIES**					
5.1	Provision of ablution facilities	Nr.				
5.2	Service and maintenance of ablution facilities	Nr.				
5.3	Provision of eating areas	Nr.				
5.4	Cleaning of Lay down and other storage areas	Nr.				
5.5	Wash hand basin	Nr.				
5.6	Hot and Cold running water	Nr.				
	OTHER ITEMS					

	TOTAL					
6	**FALL PREVENTION / PROTECTION**					
6.1	Safety harnesses with double lanyards	Nr.				
6.2	Lanyard extenders	Nr.				
6.3	Scaffold hooks	Nr.				
6.4	Lifelines and vertical fall arrest systems	Nr.				
6.5	Scaffolding – material, erection and inspection (Estimate for project)	Nr.				
6.6	Temporary hand railing material and kick flats	Nr.				
6.7	Inspection for approval of equipment (AIA)	Nr.				
6.8	Chin Straps/Toolbags/Wrist straps	Nr.				
	OTHER ITEMS	Item				

	TOTAL					
7	**VEHICLE / MOBILE EQUIPMENT UPGRADE FOR USE ON SITE**					
7.1	Raised lights	Nr.				
7.2	Rotating orange light	Nr.				
7.3	Flag as per procedure	Nr.				
7.4	Fire extinguisher - 4.5Kg	Nr.				
7.5	First aid box	Nr.				
7.6	Reflector tape	m				
7.7	Danger Tape	Rolls				
7.8	Signage	Nr.				
7.9	Roll over & fall over protection	N/A				
7.10	Safety belts for all passengers (LDV)	N/A				
7.11	Wheel; Chocks	N/r				

7.12	Directional control Signage	N/r				
	OTHER ITEMS					
	TOTAL					
8	**LIFTING MACHINERY AND EQUIPMENT**					
8.1	Annual inspections and load testing as per legal requirement	Nr.				
8.2	Certification of all lifting gear during the course of the project	Nr				
8.3	Third Party Inspections	N/r				
8.4	Inspections for approval of equipment (AIA)	N/r				
8.5	Slings	N/r				
8.6	Chains	N/r				
	OTHER ITEMS					
	TOTAL					

9	**INSURANCES**					
9.1	COID cover for the project	Nr.				
9.2	Liability insurances	Nr.				
	TOTAL					
10	**FIRST AID**					
10.1	First aid boxes	Nr.				
10.2	Rescue equipment and stretchers	Nr.				
10.3	Replenishment of boxes and other supplies	Nr.				
10.4	Hazchem Spill kits	Nr.				
	OTHER ITEMS					
	TOTAL					

11	**TRAINING**					
11.1	SHE Representative	Nr.				
11.2	Supervisor A2 (No cost)	Nr.				
11.3	First Aid Level 1	Nr.				
11.4	Fire Fighting	Nr.				
11.5	Legal Liability	Nr.				
11.6	Scaffold Inspector					
11.7	Scaffold Erector					
11.8	Basic Working at Heights					
	OTHER ITEMS					
	TOTAL					
12	**SIGNAGE**					
12.1	All signage as required by law: regulatory, warning and information	Nr				

	OTHER ITEMS					
	TOTAL					
13	**ELECTRICAL**					
13.1	Locks required for lockouts	Nr.				
13.2	Tags	Nr.				
13.3	Permit books	Nr				
13.4	Callipers	Nr				
13.5	Key safes	Nr				
13	**ELECTRICAL**					
13.1	Locks required for lockouts	Nr.				
13.2	Tags	N/r				
13.3	Permit Books	N/r				
13,4	Callipers	N/r				
13.5	Key Safes	N/r				
	OTHER ITEMS					
	TOTAL					

14	**PLANT & SCAFFOLDING**					
14.1	Telescopic Hoist	month				
14.2	TH-Driver	month				
14.3	Scaffolding	month				
14.4						
14.5						
	OTHER ITEMS					
	TOTAL					

ANNEXURE B: HEALTH AND SAFETY DECLERATION

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

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 have 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 have 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)

ANNEXURE C: STRUCTURE OF SSHSP, APPOINTEMENTS AND REGISTERS

Number	Item	To be submitted with SSHSP for approval	Comments
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.		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 SSHSF.
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
42.	Material Hoist Inspector (CR 19(8)(a))	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
45.	Crane Supervisor (CR 22(a))		Proof of Competency, medical fitness. 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
49.	Fire Team Member (CR 29 (i))	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
60.	Registered Asbestos Removal Contractor (AR 21(1)(i))	No	Proof of registration with DOL,SHE Plan to be submitted to DEL with Notification. Signed off by AIA and CHSR.
Registers as required by scope of work, equipment, facilities etc.			

ANNEXURE D: DESIGNERS ACKNOWLEDGEMENT OF RECEIPT.

By virtue of the appointee's signature, he /she acknowledges that they have received a copy of this document and understands the contents thereof. They also acknowledge that should there be any part of this document which needs clarification the onus lies with the appointee to engage with the appointed CHSR to obtain such clarification.

Organisation	Designation	Initials and Surname	Signature	Date

KWAZULU-NATAL PROVINCE
PUBLIC WORKS
REPUBLIC OF SOUTH AFRICA

Directorate: IMTS
Private Bag X9041
PIETERMARITZBURG
3200
Tel:
Cell:
Enquiries:
Email:

Site Establishment Checklist

Note: This checklist is for Site Establishment only. To be submitted to the Client Health and Safety Representative upon completion and attached to claim for Site Establishment.

Site:		**Contractor:**
Completed by:		**Date:**
Item	✓ or ✗ or N/A	
OHS Administration/Records		
1		Approved PC and Sub-Contractors SHE Plans on site.
2		Safety Induction program in place and on site.
3		SHE Representative/s nominated.
4		Incident notification/reporting system in place and on site.
5		OHS Regulations, Act, etc on site.
6		Safety needs for job identified and addressed.
8		Sub-contractors involved in Site Establishment SHE Plans approved.
9		PC and Sub-contractor RAMS called for and approved prior to work and on file.
10		Site registers, training, and qualification records on site.
11		Notices, permits and construction plans obtained and available on site.
12		Medical Fitness records available for all persons on site, job/task demands included on Annexure 3 Form.
13		DSTI's for establishment activities, signed, dated, communicated, on file.
Existing Site Building Hazards		
14		Asbestos and other hazardous materials audit conducted and recorded.
15		Underground services located and marked on site layout plan.
16		Stored substances & underground tanks identified; location marked.
17		Potential for soil contamination assessed and recorded.
18		Electrical wiring and powerlines identified; recorded location communicated.
19		Strength of structural members, floors, roofs, stairs, and guard rails assessed and recorded.
Safety Signs and Warnings		
20		PPE signs posted where needed in work areas

		(such as footwear, eye, hearing, respiratory protection and hard hats.)
21		Safety hazard and warning signs available (such as excavations, scaffold incomplete, danger tags, explosive tools).
22		"Construction Site" signage posted at entrances to site.
Fire Protection		
23		Fire protection needs evaluated and recorded.
24		Hot work procedures in place.
25		Fire extinguishing equipment available and location marked on site layout plan.
Site Security		
26		Site security needs evaluated and recorded.
27		Suitable Barriers, fences or hoarding in place and secure.
28		"No unauthorized Entry" – Report to Site Office signs posted at entrances to site.
29		Access to the site effectively controlled.
Public Protection		
30		Public protection needs evaluated & documented.
31		Adequate signage provided.
32		Footpaths safe with no trip hazards.
33		Overhead protection gantries, scaffolding, catch platforms, catch fans used to contain falling objects.
33		Rubbish chutes enclosed & skip covered.
34		Skips and rubbish chutes barricaded and fitted with warning signs.
35		All accessible pits, excavations guarded or fenced.
Site Amenities		
36		Weather- proof Meals/Dining area/s with sufficient tables and chairs.
37		Clean water for drinking and washing hands and eating utensils available.
38		Separate gender toilets and washing facilities items such as soap and towels.
39		Separate Gender Change Rooms with lockable storage facilities available.
40		Regular cleaning of amenities arranged and recorded on register.
First Aid		
41		First aid needs for job assessed and recorded.
42		First aid kit/s available, clearly labelled and accessible.
43		First aid procedure, first aider names and emergency contact numbers displayed.
44		First Aid Register and first aid treatment records system in place.
Emergencies		
45		Emergency procedures in place, communicated and recorded.
46		Emergency exits signposted, unobstructed and sufficiently illuminated.
47		Fire extinguishers clearly marked, accessible and serviced.
		Emergency Gathering points sign posted.
Traffic Management		
48		Traffic Management Plan in place.
49		Appropriate traffic control to warn and guide users of roads, footpaths and near excavations.
50		Appropriate warning/ information signage posted.

51		Flagmen used where required to ensure effective warning, vehicle movement etc.
Electrical Safety		
52		Sufficient number of switchboards in place.
53		Initial electrical testing and tagging carried out.
54		Power tools numbered, on register and inspected by competent person.
55		Certificates of electrical safety available on site (COC).
Access/Egress and Housekeeping		
56		Entry, access, egress, walkways, and passageways clearly marked, unobstructed and well illuminated.
57		Building materials, in designated areas, demarcated, sign posted etc.
58		Sufficient rubbish bins, skips in place
59		Refuse/Waste removal frequency arrangements in line with refuse/waste generation frequency to ensure that skips and storage areas do not overflow.
Fall Risk Management		
60		Fall risks areas identified.
61		Fall protection measures I place for all work where there is a fall risk.
62		Scaffold tagging, handover and inspection system in place.
63		Ladders tagged, numbered, on register and inspected.
		Harnesses on register, checked, users trained.
Personal Protective Equipment		
64		PPE program, training and use procedures in place followed and recorded.
65		PPE correct for type of hazard.
Plant, Machinery and Hand Tools		
66		Initial plant checklist & register acceptance to use system in place.
67		Plant hazard ID and risk assessment carried out.
68		Operators hold relevant certification/licenses (where required) and/or are trained and competent to use.
69		Adequate guarding and safe operating procedures in place.
70		Maintenance registers/logbooks in place.
		Spill kits on site to deal with fuel spillages when re-fuelling.
Hazardous Substances and Dangerous Goods		
71		Registers for hazardous substances and dangerous goods established.
72		Risk assessment done for all hazardous substances and dangerous goods.
73		MSDSs available & readily accessible to users.
74		Adequate controls in place.
75		Special storage and handling requirements (such as flammables/combustibles & ignition sources; access, ventilation, lighting, security) addressed.
76		Fire protection measures in place and maintained (such as fire extinguishers, fire blankets) .
Manual Handling & Mechanical Aids		
77		Hazards and risks assessed.
78		Lifting and handling aids (such as forklift, pallet trolley) provided and maintained, maintenance and inspection records available where required.
79		Training provided about risk factors and the proper technique to do the task and only authorised persons to operate equipment.

80		Control mechanisms implemented to eliminate or reduce manual handling risk.
Noise Generation and Exposure Control		
81		Noise hazards identified and risks assessed.
82		Noise control plan documented.
83		Noise control measures in place.
Compressed Air		
84		Hoses couplings secured and fitted with safety clips.
85		Protective clothing (goggles, face shields, earmuffs).
86		All compressors, on register, checked and pressure test records available.
Explosive Powered Tools		
87		Risk assessment done for each job.
88		Safety equipment and signs available and used.
89		Compliance with CR21requirements.
Other specific hazards to be addressed		
90		
Item	**Comments and / or corrective action**	

Certified correct:

Initials and Surname	Signature (CR 8.5)	Date
Initials and Surname	Signature (CR 8.1/8.7)	Date

Annexure 7

HEALTH AND SAFETY IMPLEMENTATION COSTING

Contractor to give a breakdown of his Health and Safety costs on this sheet.

ITEM	DESCRIPTION	UNIT	QUAN-TITY	MONTHS (Indicative)	RATE	AMOUNT
			(a)		(b)	(a) x (b)
1	**MEDICALS**					
1.1	Pre-employment medical	Nr.	-			
1.2	Re-medicals - yearly	Nr.	-			
	TOTAL					
2	**PERSONAL PROTECTIVE EQUIPMENT**					
2.1	Overalls	Nr.	-			
2.2	Hard Hats	Nr.	-			
2.3	Safety boots/shoes	Nr.	-			
2.4	Gloves	Nr.	-			
2.5	Gumboots steel toe cap	Nr.	-			
2.6	Safety glasses	Nr.	-			
2.7	Reflector Bibs	Nr.	-			
2.8	Barricading Material	M	-			
2.9	Dust masks	Box 20	-			
	TOTAL					
3	**FIRE FIGHTING**					
3.1	Fire extinguishers - 4.5Kg	Nr.	-			
3.2	Surveys - Annual Service	Nr.	-			
	TOTAL					
4	**HEALTH AND SAFETY PERSONNEL**					
4.1	Safety Manager	Nr.	-			
4.2	Safety Officer	Nr.	-			
4.3	Construction Phase Safety, Health, Environmental and Waste Management Plan	Nr.	-			
	TOTAL					
5	**FACILITIES**					
5.1	Provision of ablution facilities	Nr.	-			
5.2	Service and maintenance of ablution facilities	Nr.	-			
5.3	Provision of eating areas	Nr.	-			
5.4	Cleaning of Lay down and other storage areas	Nr.	-			
5.5	Wash hand basin	Nr.	-			
5.6	Hot and Cold running water	Nr.	-			
5.7	Degreasing & Toilet soap	Nr.	-			
	TOTAL					

6	**FALL PREVENTION / PROTECTION**					
6.1	Safety harnesses with double lanyards	Nr.	-			
6.2	Safety harnesses with Scaffold hooks	Nr.	-			
6.3	Lifelines and vertical fall arrest systems	Nr.	-			
6.4	Scaffolding – material, erection and inspection (Estimate for project)	Nr.	-			
6.5	Temporary hand railing material and kick flats	Nr.	-			
6.6	Chin Straps	Nr.	-			
	TOTAL					
7	**FIRST AID**					
7.1	Replenishment of boxes and other supplies	Nr	-			
	TOTAL					
8	**TRAINING**					
8.1	SHE Representative	Nr.	-			
8.2	First Aid Level 1	Nr.	-			
8.3	Fire Fighting	Nr.	-			
	TOTAL					
9	**SIGNAGE**					
9.1	All Signage as required by Law, regulatory, warning and information	Nr.	-			
9.2	Posters for awareness	Nr.	-			
	TOTAL					
10	**ELECTRICAL**					
10.1	Replacement of Locks required for lockouts	Nr.	-			
10.2	Replacement of tags	Nr.	-			
10.3	Replacement for Permit books	Nr.	-			
10.4	Replacement of Callipers	Nr.	-			
	TOTAL					
11	**OTHERS (Project Specific)**					
11.1		Nr.				
	TOTAL					
	GRAND TOTAL TO BE CARRIED TO THE PRELIMINARIES AND GENERAL IN BILL OF QUANTITIES					

Annexure 8

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):	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**
Site:	Southern Region: uMgungundlovu District Municipality: uMngeni Local Municipality

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

ANNEXURE 9

ADDITIONAL SPECIFICATION - EPWP

SL **EMPLOYMENT AND TRAINING OF EPWP BENEFICIARY ON THE EXPANDED PUBLIC WORKS PROGRAMME (EPWP) Infrastructure Projects:**

CONTENTS

SL 01 SCOPE
SL 02 TERMINOLOGY AND DEFINITIONS
SL 03 APPLICABLE LABOUR LAWS
SL 04 EXTRACTS FROM MINISTERIAL DETERMINATION REGARDING EPWP
SL 05 EMPLOYER'S RESPONSIBILITIES
SL 06 PLACEMENT OF RECRUITED EPWP BENEFICIARY
SL 07 TRAINING OF YOUTH WORKERS
SL 08 BENEFICIARY (EPWP BENEFICIARY) SELECTION CRITERIA
SL 09 CONTRACTUAL OBLIGATIONS IN RELATION TO EPWP BENEFICIARY
SL 10 PROVINCIAL RATES OF PAY
SL 11 MEASUREMENTS AND PAYMENT
EXAMPLE EPWP EMPLOYMENT AGREEMENT

SL 01 SCOPE

This project is part of the Expanded Public Works Programme aims to train young people and provide them with practical work experience as part of this programme. Youth aged between 18 and 35 will be recruited and trained in skills relevant to the work to be done on this project. These youth will have to be employed by the contractor as part of this project so that they can gain their work experience on these projects. The training of the youth will be coordinated and implemented by a separate service provider. This service provider will provide the contractor with a list of all the youth and the training each of these youth have received. The Contractor will be required to employ all of these youth for a minimum period of 6 months. Furthermore the Contractor will be required to supervise these youth to ensure that the work they perform is of the required standard. If necessary the contractor's staff will be required to assist and mentor the youth to ensure that they are able to perform the type of work they need to do to the satisfactory standards required. The contractor will not be required to employ all youth in the programme at the same time, but may rotate the youth on the project, as long as all youth are employed for the minimum duration stated earlier.

This specification contains the standard terms and conditions for workers employed in elementary occupations and trained on a Expanded Public Works Programme (EPWP) for the Infrastructure Programme.

SL 02 TERMINOLOGY AND DEFINITIONS

SL 02.01 TERMINOLOGY

(a) EPWP The Code of Good Practice for Expanded Public Works Programmes, which has been gazetted by the Department of Labour, and which provides for special conditions of employment for these EPWP projects. In terms of the Code of Good Practice, the workers on these projects are entitled to formal training, which will be provided by training providers appointed (and funded) by the Department of Labour. For projects of up to six months in duration, this training will cover life-skills and information about other education, training and employment opportunities.

(b) EPWP Expanded Public Works Programme, a National Programme of the government of South Africa, approved by Cabinet.

(c) UYF Umsobumvu Youth Fund.

(d) DOL Department of Labour.

SL 02.02 DEFINITIONS

(a) "employer" means the contractor or any party employing the worker / beneficiary under the EPWP Programme.

(b) "client" means the Department of Public Works.

(c) " worker / trainee" means any person working or training in an elementary occupation on a EPWP.

SL 03 APPLICABLE LABOUR LAWS

In line with the Expanded Public Works Programme (EPWP) policies, the Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of labour in government Notice No. R63 of 25 January 2002, of which extracts have been reproduced below in clauses SL 04 shall apply to works described in the scope of work and which are undertaken by unskilled or semi-skilled workers. The Code of Good Practise for Employment and Conditions of Work for Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice No. R64 of 25 January 2002 shall apply to works described in the scope of work and which unskilled or semi-skilled workers undertake.

Sl 04 EXTRACTS FROM MINISTERIAL DETERMINATION REGARDING EPWP

SL 04.01 DEFINITIONS

(a) "department" means any department of the State, implementing agent or contractor;

(b) "employer" means any department that hires workers to work in elementary occupations on a EPWP;

(c) "worker" means any person working in an elementary occupation on a EPWP;

(d) "elementary occupation" means any occupation involving unskilled or semi-skilled work;

(e) "management" means any person employed by a department or implementing agency to administer or execute a EPWP;

(f) "task" means a fixed quantity of work;

(g) "task-based work" means work in which a worker is paid a fixed rate for performing a task;

(h) "task-rated worker" means a worker paid on the basis of the number of tasks completed;

(i) "time-rated worker" means a worker paid on the basis of the length of time worked

(j) "Service Provider" means the consultant appointed by Department to coordinate and arrange the employment and training of labour on EPWP infrastructure projects.

SL 04.02 TERMS OF WORK

(a) Workers on a EPWP are employed on a temporary basis.

(b) A worker may NOT be employed for longer than 24 months in any five-year cycle on a EPWP.

(c) Employment on a EPWP does not qualify as employment and a worker so employed does not have to register as a contributor for the purposes of the Unemployment

SL 04.03 NORMAL HOURS OF WORK

(a) An employer may not set tasks or hours of work that require a worker to work–

(i) more than forty hours in any week
(ii) on more than five days in any week; and
(iii) for more than eight hours on any day.

(b) An employer and a worker may agree that the worker will work four days per week. The worker may then work up to ten hours per day.

(c) A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks (based on a 40-hour week) allocated to him.

Every work is entitled to a daily rest period of at least eight consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next dav.

SL 04.04 MEAL BREAKS

(a) A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.

(b) An employer and worker may agree on longer meal breaks.

(c) A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.

SL 04.05 SPECIAL CONDITIONS FOR SECURITY GUARDS

(a) A security guard may work up to 55 hours per week and up to eleven hours per day.

(b) A security guard who works more than ten hours per day must have a meal break of at least one hour duration or two breaks of at least 30 minutes duration each.

SL 04.06 DAILY REST PERIOD

Every worker is entitled to a daily rest period of at least eight consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

SL 04.07 WEEKLY REST PERIOD

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work (“emergency work”).

SL 04.08 WORK ON SUNDAYS AND PUBLIC HOLIDAYS

(a) A worker may only work on a Sunday or public holiday to perform emergency or security work.

(b) Work on Sundays is paid at the ordinary rate of pay.

(c) A task-rated worker who works on a public holiday must be paid –

(i) the worker’s daily task rate, if the worker works for less than four hours;

(ii) double the worker’s daily task rate, if the worker works for more than four hours.

(d) A time-rated worker who works on a public holiday must be paid –

(i) the worker’s daily rate of pay, if the worker works for less than four hours on the public holiday;

(ii) double the worker’s daily rate of pay, if the worker works for more than four hours on the public holiday.

SL 04.09 SICK LEAVE

(a) Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.

(b) A worker who is unable to work on account of illness or injury is entitled to claim one day’s paid sick leave for every full month that the worker has worked in terms of a

(c) A worker may accumulate a maximum of twelve days' sick leave in a year.

(d) Accumulated sick-leave may not be transferred from one contract to another contract.

(e) An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.

(f) An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.

(g) An employer must pay a worker sick pay on the worker's usual payday.

(h) Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –

(i) absent from work for more than two consecutive days; or

(ii) absent from work on more than two occasions in any eight-week period.

(i) A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.

(j) A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

SL 04.10 MATERNITY LEAVE

(a) A worker may take up to four consecutive months' unpaid maternity leave.

(b) A worker is not entitled to any payment or employment-related benefits during maternity leave.

(c) A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.

(d) A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.

(e) A worker may begin maternity leave –

(i) four weeks before the expected date of birth; or

(ii) on an earlier date –

(1) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or

(2) if agreed to between employer and worker; or

(iii) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.

(f) A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

(g) A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the EPWP on which she was employed has ended.

SL 04.11 FAMILY RESPONSIBILITY LEAVE

(a) Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -

(i) when the employee's child is born;

(ii) when the employee's child is sick;

(iii) in the event of the death of –

(1) the employee's spouse or life partner

(2) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling

SL 04.12 STATEMENT OF CONDITIONS

(a) An employer must give a worker a statement containing the following details at the start of employment –

(i) the employer's name and address and the name of the EPWP;

(ii) the tasks or job that the worker is to perform;

(iii) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;

(iv) the worker's rate of pay and how this is to be calculated;

(v) the training that the worker may be entitled to receive during the EPWP.

(b) An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

(c) An employer must supply each worker with a copy of the relevant conditions of employment contained in this specification.

(d) An employer must enter into a formal contract of employment with each employee. A copy of a pro-forma is attached at the end of this specification.

SL 04.13 KEEPING RECORDS

(a) Every employer must keep a written record of at least the following –

(i) the worker's name and position;

(ii) in the case of a task-rated worker, the number of tasks completed by the worker;

(iii) in the case of a time-rated worker, the time worked by the worker;

(iv) payments made to each worker.

(b) The employer must keep this record for a period of at least three years after the completion of the EPWP.

SL 04.14 PAYMENT

(a) A task-rated worker will only be paid for tasks that have been completed.

(b) An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer. Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

(c) A time-rated worker will be paid at the end of each month and payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

(d) Payment in cash or by cheque must take place –

(i) at the workplace or at a place agreed to by at least 75% of the workers; and

(ii) during the worker's working hours or within fifteen minutes of the start or finish of work;

(e) All payments must be enclosed in a sealed envelope which becomes the property of the worker.

(f) An employer must give a worker the following information in writing –

(i) the period for which payment is made;

(ii) the number of tasks completed or hours worked;

(iii) the worker's earnings;

(iv) any money deducted from the payment;

(v) the actual amount paid to the worker.

(g) If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.

(h) If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

SL 04.15 DEDUCTIONS

(a) An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.

(b) An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.

(c) An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.

(d) An employer may not require or allow a worker to –

(i) repay any payment except an overpayment previously made by the employer by mistake;

(ii) state that the worker received a greater amount of money than the employer actually paid to the worker; or

(iii) pay the employer or any other person for having been employed.

SL 04.16 HEALTH AND SAFETY

(a) Employers must take all reasonable steps to ensure that the working environment is healthy and safe and that all legal requirements regarding health and safety are strictly adhered to.

(b) A worker must:

(i) work in a way that does not endanger his/her health and safety or that of any other person;

(ii) obey any health and safety instruction;

(iii) obey all health and safety rules;

(iv) use any personal protective equipment or clothing issued by the employer;

(v) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

SL 04.17 COMPENSATION FOR INJURIES AND DISEASES

(a) It is the responsibility of employers to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.

(b) A worker must report any work-related injury or occupational disease to their employer or manager.

(c) The employer must report the accident or disease to the Compensation Commissioner.

(d) An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

SL 04.18 TERMINATION

(a) The employer may terminate the employment of a worker provided he has a valid reason and after following existing termination procedures.

(b) A worker will not receive severance pay on termination.

(c) A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.

(d) A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

(e) A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

SL 04.19 CERTIFICATE OF SERVICE

(a) On termination of employment, a worker is entitled to a certificate stating –

(i) the worker's full name;
(ii) the name and address of the employer;
(iii) the SPWP on which the worker worked;
(iv) the work performed by the worker;
(v) any training received by the worker as part of the EPWP;
(vi) the period for which the worker worked on the EPWP;
(vii) any other information agreed on by the employer and worker.

SL 05 EMPLOYER'S RESPONSIBILITIES

The employer shall adhere to the conditions of employment as stipulated in the *Code of Good Practice for Employment and Conditions of Work for Expanded Public Works Programmes* . Over and above the conditions stipulated above, he shall be responsible to:

(a) formulate and design a contract between himself/ herself and each of the recruited EPWP beneficiary, ensuring that the contract does not contravene any of the Acts stipulated in South African Law, e.g. Basic Conditions of Employment Act, etc. (A copy of a pro-forma contract is attached at the end of this specification);

(b) screen and select suitable candidates for employment from the priority list of EPWP beneficiary provided by the Umsobumvu Youth Fund (UYF);

(c) ensure that the recruited EPWP beneficiary are made available to receive basic life skills training which will be conducted and paid for by the Umsobumvu Youth Fund;

(d) ensure that all EPWP beneficiary receive instruction on safety on site prior to them commencing with work on site;

(e) ensure that all EPWP beneficiary are covered under workmen's compensation for as long as they are contracted to the contractor. Payment to the Compensation Commissioner shall be the responsibility of the contractor;

(f) assist in the identification and assessment of potential EPWP beneficiary to undergo advanced technical training in respective trades;

(g) test and implement strict quality control and to ensure that the health and safety regulations are adhered to;

(h) provide all EPWP beneficiary with the necessary protective clothing as required by law for the specific trades that they are involved in.

(i) provide overall supervision and day-to-day management of EPWP beneficiary and/or sub-contractors; and

(j) ensure that all EPWP beneficiary are paid their wages on time through a pre-agreed payment method as stipulated in the contract with the EPWP beneficiary.

SL 06 PLACEMENT OF RECRUITED EPWP BENEFICIARY

Employers will be contractually obliged to:

(a) employ EPWP beneficiary from targeted social groups from the priority list provided by the Service Provider/ Umsobumvu Youth Fund.

(b) facilitate on-the-job training and skills development programmes for the EPWP beneficiary;

(c) achieve the following minimum employment targets:

(i) 55% people between the ages of 18 and 35

(ii) 55% women;

(iii) 2% people with disabilities.

(d) brief EPWP beneficiary on the conditions of employment as specified in sub clause SL 04.09 above;

(e) enter into a contract with each EPWP beneficiary, which contract will form part of the Employment Agreement;

(f) allow EPWP beneficiary the opportunity to attend life skills training through DOL. This shall be arranged at the beginning of the contract;

(g) ensure that payments to EPWP beneficiary are made as set out in sub clauses SL 04.14 and SL 04.15 above.

(h) set up of personal profile files as prescribed by EPWP beneficiary and as set out in sub clause SL 04.13 above.

(i) in addition to (h)
- a copy of the I.D;
- qualifications;
- career progress;
- EPWP Employment Agreement, and
- list of small trade tools;

must be included in the EPWP beneficiary's personal profile file.

SL 07 TRAINING OF EPWP BENEFICIARY

Three types of training are applicable, namely

· Life skills;

· On the job training and

· Technical Skills training.

Training will be implemented by training instructors accredited by DOL and/or CETA :

· EPWP beneficiary shall be employed on the projects for an average of 6 months.

· EPWP beneficiary shall be deployed on projects in the vicinity of their homes. The same arrangements as for other workers regarding accommodation, subsistence and travel shall be applicable to EPWP beneficiary.

(a) Life skills training

All EPWP beneficiary are entitled to undergo life skills training. Training of this module will be flexible enough to meet the needs of the employer. Training should take place immediately after site hand-over and during the period of site establishment and pre-planning before actual construction starts, alternatively this will be spread over the duration of the contract period. The contractor will be required to work closely with the person to schedule the training sessions so that the timing of the training is aligned with the contractors work schedule and his demand for workers.

(b) On-the job training

The Employer shall provide EPWP beneficiary with on-the-job training to enable them to fulfil their employment requirements. The employer shall also be expected to closely monitor the job performance of EPWP beneficiary and shall identify potential EPWP beneficiary for skills development programmes.

(c) Technical skills training
The Employer shall assist in identifying EPWP beneficiary for further training. These EPWP beneficiary will undergo further technical training to prepare them for opportunities as semi-skilled labourers.

Such training will comprise of an off-site theoretical component and practical training on-site. The contractor will be responsible for on-site practical work under his supervision. EPWP beneficiary who graduate from the first phase of the training programme will be identified and given opportunities to register for skills development programmes. These can ultimately result in a accredited qualification. The programme will consist of theoretical instruction away from the construction site as well as on-site practical work under the supervision of the employer. Candidates will be entitled to employment to complete all training modules.

SL 08 BENEFICIARY (EPWP BENEFICIARY) SELECTION CRITERIA

SL 08.01 PREAMBLE

The *Code of Good Practise for Employment and Conditions of Work for Expanded Public Works Programmes* encourages:

- optimal use of locally-based labour in a Expanded Public Works Programme (EPWP);
- a focus on targeted groups which consist of namely youth, consisting of women, female-headed households, disabled and households coping with HIV/AIDS; and
- the empowerment of individuals and communities engaged in a SPWP through the provision of training.

SL 08.02 BENEFICIARY (EPWP BENEFICIARY) SELECTION CRITERIA

(a) The EPWP beneficiary of the programmes should preferably be non-working individuals from the most vulnerable sections of disadvantaged communities who do not receive any social security pension income. The local community must, through all structures available, be informed of and consulted about the establishment of any EPWP

(b) In order to spread the benefit as broadly as possible in the community, a maximum of one person per household should be employed, taking local circumstances into account.

(c) Skilled artisans from other areas may be employed if they have skills that are required for a project and there are not enough persons in the local communities who have those skills or who could undergo appropriate skills training. However, this should not result in more than 20% of persons working on a programme not being from local communities.

(d) Programmes should set participation targets for employment with respect to youth, single male- and female-headed households, women, people with disabilities, households coping with HIV/AIDS, people who have never worked, and those in long-term unemployment.

(e) The proposed targets as set out in sub clause SL 06 (c)

- 55% youth from 18 to 35 years of age;
- 10% women;
- 0% disabled.

SL 09 CONTRACTUAL OBLIGATIONS IN RELATION TO YOUTH LABOUR

The EPWP beneficiary to be employed in the programme (EPWP) shall be directly contracted to the employer. Over and above the construction and project management responsibilities, the employer will be expected to perform the tasks and responsibilities as set out in clause SL 05 above.

SL 10 PROVINCIAL RATES OF PAY

It is stipulated that youth workers on the EPWP receive a minimum of R 1 000 per month whilst working and R 600 per month whilst on training in ALL provinces. Should EPWP beneficiary be attending training whilst employed by the contractor, the contractor will still be responsible for payment to the EPWP beneficiary whilst at training.

SL 11 MEASUREMENTS AND PAYMENT

The number of EPWP beneficiary specified for this contract that will receive life skills training is 0 and technical training is 0

SL 11.01 PAYMENT FOR TRAINING OF EPWP BENEFICIARY
(TARGET:- 15 EPWP BENEFICIARY)

SL 11.01.01 Skills development and Technical training for EPWP beneficiary for an average of 0 days ……(Prov.Sum)……..…..Unit: R/EPWP beneficiary

The above item is only applicable if DoL does not fund the Technical Training PRIOR to site handover.

SL 11.01.02 Penalty due to not meeting the target as in SL 11.01.01….……..Unit: EPWP beneficiary

LESS R 2000 per EPWP beneficiary

SL 11.02 PAYMENT FOR TRAVELLING AND ACCOMMODATION DURING OFF-SITE TRAINING

SL 11.02.01 Life skills training for 26 days:

01 Travelling (based on 50 km/EPWP beneficiary) ……Unit: km

02 Accommodation……..(Prov.Sum)…..Unit: R/EPWP beneficiary

03 Profit and attendance……. Unit: %

SL 11.02.02 Skilled development and Technical training:

01 Travelling (based on 50 km/EPWP beneficiary)……...Unit: km

02 Accommodation…….(Prov.Sum)….Unit: R/EPWP beneficiary

03 Profit and attendance …….. Unit: %

The units of measurement for sub items SL 11.02.01 (01) and SL 11.02.02 (01) above shall be the distance travelled in km by the EPWP beneficiary trained off site. The tendered rate shall include full compensation to safely transport the youth workers to and from the training venue/s.

The unit of measurement for sub items SL 11.02.01 (02) and SL 11.02.02 (02) above shall be the amounts in Rand expended for accommodation and daily meal allowances for the EPWP beneficiary trained off site that must be arranged by the contractor. Amounts quoted shall be corrected according to re-measurement based on actual invoices.

The tendered percentages under sub items SL 11.02.01 (03) and SL 11.02.02 (03) will be paid to the contractor on the value of each payment pertaining to the accommodation and advance meal allowances to cover his expenses in this regard.

SL 11.03 ALTERNATIVE WORKERS FOR THE PERIOD OF OFF-SITE TRAINING

SL 11.03.01 Life skills training for 26 days ……. Unit: worker-days

SL 11.03.02 Skilled development and Technical training for EPWP beneficiary for (…….) days…….. Unit: worker-days

The unit of measurement shall be the number of EPWP beneficiary replaced while in training multiplied by the number of days absent from the site.

The rates tendered shall include full compensation for additional replacement labour during periods of off-site training.

SL 11.04 EMPLOYMENT OF EPWP BENEFICIARY

SL 11.04.01 Employment of EPWP beneficiary……...(Prov.Sum)¼.Unit: R/ worker-month

SL 11.04.02 Employment of EPWP beneficiary……...(Prov.Sum)¼.Unit: R/ worker-month

The unit of measurement shall be the number of EPWP beneficiary at the statutory labour rates of R ……. multiplied by the period employed in months and the rate tendered shall include full compensation for all costs associated with the employment of EPWP beneficiary and for complying with the conditions of contract. The cost for the training shall be excluded from this item. This item is based on 6 months appointment for EPWP beneficiary.

SL 11.05 PROVISION OF EPWP DESIGNED OVERALLS TO EPWP BENEFICIARY

SL 11.05.01 Supply EPWP designed overalls to EPWP beneficiary ……..…….. (Prov.Sum)…….Unit: R

EPWP beneficiary overalls should be orange (top and bottom) as per EPWP specification with the exception of Correctional Services contracts where the EPWP beneficiary top would be blue and the bottom orange.

SL 11.05.02 Profit and attendance……... Unit: %

An amount has been provided in the Schedule of Quantities under sub item SL 10.05.01 for the supply of EPWP designed overalls, as per the specification provided by the EPWP unit, arranged by the Service Provider. The Engineer will have sole authority to spend the amounts or part thereof. The tendered percentage under sub items SL 10.05.02 will be paid to the contractor on the value of each payment pertaining to the supply of overalls to cover his expenses in this regard.

SL 11.06 PROVISION OF SMALL TOOLS FOR EPWP BENEFICIARY

SL 11.06.01 Provide all EPWP beneficiary with prescribed tools for their respective trades. Specification for the mentioned tools to be provided by the EPWP Service Provider. These tools will become the property of the EPWP beneficiary after the completion of the programme.....(Prov.Sum)….Unit: **R 500-00** /youth worker

SL 11.06.02 Profit and attendance……... Unit: %

SL 11.07 APPOINTMENT OF EPWP BENEFICIARY TEAM LEADER/S

SL 11.07.01 Appointment of (_____) EPWP beneficiary team leader/s for the duration of the contract…….(Prov.Sum)……..... Unit: R / EPWP beneficiary team leader

The EPWP beneficiary Team Leader will act as CLO/PLO to facilitate the project work between the EPWP beneficiary and the contractor. Umsobumvu Youth Fund can assist with the sourcing of EPWP beneficiary Team Leader for employment by the contractor.

SL 11.08 <u>LIAISON WITH SERVICE PROVIDER</u> ……Unit: hours

The tendered rate shall include full compensation for the cost of liaising with the Service Provider and Social Facilitators on all issues regarding the works.

PAGE NO	ITEM NO	DESCRIPTION	UNIT	QUANTITY	RATE	AMOUNT
1		**BILL NO 2**				
1		**EMPLOYMENT AND TRAINING OF LABOUR ON THE EPWP BENEFICIARY INFRASTRUCTURE PROJECTS**				
1		**PREAMBLES**				
1		Tenderers are advised to study the Additional Specification SL: Employment and training of Labour on the Expanded Public Works Programme (EPWP) Infrastructure Projects as bound elsewhere in the Bills of Quantities and then price this Bill accordingly				
1		**TRAINING OF EPWP BENEFICIARY**				
1		(TARGET: 15 EPWP BENEFICIARY)				
1		Skills development and Technical training:				
1	1	Skills development and technical training for EPWP beneficiary for an average of 0 days (ref. SL11.01.01)	Item	1		
1	2	Penalty due to not meeting the target as in SL 11.01.02	Y/Work	R 2,000.00		
1		**TRAVELLING AND ACCOMMODATION DURING OFF SITE TRAINING:**				
1		Life skills training for 5 days (ref. SL 11.02.01)				
1	3	Travelling (based on 10km/EPWP beneficiary)	km	150		
1	4	Profit and attendance on Items 1, 2 & 3	%			
1		**EMPLOYMENT OF EPWP BENEFICIARY**				
1	5	Employment of EPWP beneficiary (30 youth) [New Office Block]	Item	1		
1		The unit of measurement shall be the number of EPWP beneficiary at the statutory labour rates of R 180/day multiplied by the period employed in months and the rate tendered shall include full compensation for all costs associated with the employment of EPWP beneficiary and for complying with the conditions of contract. The cost for training shall be excluded from this item. This item is based on 4 months appointment for EPWP beneficiary				
		TOTAL CARRIED TO SUMMARY				

			UNIT	QUANTITY	RATE	AMOUNT
2		**PROVISION OF EPWP DESIGNED OVERALLS TO YOUTH WORKERS**				
2	8	Supply EPWP designed overalls to EPWP beneficiary (ref. SL 11.05.01) for 15 workers	Item	1		
2	9	Profit and attendance on Items 5 - 8 (ref. SL 11.05.02)	%	7.5		
2		**PROVISION OF SMALL TOOLS FOR EPWP BENEFICIARY**				
2	10	Supply of small tools to EPWP beneficiary. Specification to be supplied by the EPWP-NYS Serviced Provider for the respective trades (ref. SL 11.06.01) for 15 workers	Item	1		
2	11	Profit and attendance (ref. SL 11.06.02)	%	7.5		
2		**APPOINTMENT OF YOUTH TEAM LEADERS**				
2	12	Appointment of EPWP beneficiary Team Leaders for the duration of the contract (ref. SL 11.07)	Item	1		
2	13	Liaison with Service Provider (ref. SL 11.08)	Hrs	30		
2	14	Profit and attendance on Items 12 & 13	%	7.5		
		FINAL TOTAL CARRIED TO PRELIMINARY AND GENERAL IN BILL OF QUANTITIES				

SCOPE OF WORKS IN RESPECT OF WORK RELATING TO THE EXTENDEND PUBLIC WORKS PROGRAMME (EPWP)			
Project title:	**UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**		
Project Code:	**079513**	EPWP NO:	**N/A**

Introductory notes:

1. The works, or parts of the works will be constructed using labour-intensive methods only in terms of this specification. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The items marked with the letters **LI** are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour intensive specification in the Scope of Works.
2. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.

DESCRIPTION OF THE WORKS

Employer's objectives

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

Labour-intensive works

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

LABOUR-INTENSIVE COMPETENCIES OF SUPERVISORY AND MANAGEMENT STAFF

Contractors shall only engage supervisory and management staff in labour-intensive works that have completed the skills programme including Foremen/ Supervisors at NQF level 4 "National Certificate: Supervision of Civil Engineering Construction Processes" and Site Agent/ Manager at NQF level 5 "Manage Labour-Intensive Construction Processes" or equivalent QCTO qualifications (See Appendix C). at NQF outlined in Table 1. (See GUIDELINES FOR THE IMPLEMENTATION OF LABOUR-INTENSIVE INFRASTRUCTURE PROJECTS UNDER THE EXPANDED PUBLIC WORKS PROGRAMME (EPWP) -THIRD EDITION 2015)

Emerging contractors shall have personally completed, or be registered on a skills programme for the NQF level 2 unit standard. All other site supervisory staff in the employ of emerging contractors must have completed, or be registered on a skills programme for the NQF level 2 unit standards or NQF level 4 unit standards. Table 1: Skills programme for supervisory and management staff.

Table 1: Skills programme for supervisory and management staff

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour-Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, and
		Use Labour-Intensive Construction Methods to Construct and Maintain Roads and Storm water Drainage	any one of these 3 unit standards
		Use Labour-Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour-Intensive Construction Methods to Construct, Repair and Maintain structures	

Personnel	NQF level	Unit standard titles	Skills programme description
Foreman/supervisor	4	Implement Labour-Intensive Construction Systems and Techniques	This unit standard must be completed, and
		Use Labour-Intensive Construction Methods to Construct and Maintain Roads and Storm water Drainage	any one of these 3 unit standards
		Use Labour-Intensive Construction Methods to Construct and Maintain Water an Sanitation Services	
		Use Labour-Intensive Construction Methods to Construct, Repair and Maintain structures	
Site Agent /Manager (i.e. the contractor's most senior representative that is resident on the site)	5	Manage Labour-Intensive Construction Processes	Skills Programme against this single unit standard
Details of these skills programmes may be obtained from the CETA ETQA manager (e-mail :gerard@ceta.co.za , tel: 011-265 5900)			

EMPLOYMENT OF UNSKILLED AND SEMI-SKILLED WORKERS IN LABOUR-INTENSIVE WORKS

1.1 Requirements for the sourcing and engagement of labour.

1.1.1 Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

1.1.2 The rate of pay set for the SPWP per task or per day will be an acceptable rate determined by the Department of Labour.

1.1.3 Tasks established by the contractor must be such that:

a) the average worker completes 5 tasks per week in 40 hours or less; and

b) the weakest worker completes 5 tasks per week in 55 hours or less.

1.1.4 The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.1.3.

1.1.5 The Contractor shall, through all available community structures, inform the local community of the labour-intensive

a) where the head of the household has less than a primary school education;

b) that have less than one full time person earning an income;

c) where subsistence-agriculture is the source of income.

d) that who are not in receipt of any social security pension income

1.1.6 The Contractor shall endeavour to ensure that the expenditure on the employment of unskilled and semi-skilled workers is in the following proportions:

a) 10% women;

b) 55% youth who are between the ages of 18 and 35; and

c) 0% on persons with disabilities.

1.2 Specific provisions pertaining to SANS 1914-5

1.2.1 Definitions

Targeted labour: Unemployed persons who are employed as local labour on the project.

1.2.2 Contract participation goals

1.2.2.1 There is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.

1.2.2.2 The wages and allowances used to calculate the contract participation goal shall, with respect to both time-rated and task rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.

1.2.3 Terms and conditions for the engagement of targeted labour

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

1.2.4 Terms and conditions for the engagement of targeted labour

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

1.2.5 Variations to SANS 1914-5

1.2.5.1 The definition for net amount shall be amended as follows:
Financial value of the contract upon completion, exclusive of any value added tax or sales tax which the law requires the employer to pay the contractor.

1.2.5.2 The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

1.3 Training of targeted labour

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

1.3.2 The cost of the formal training of targeted labour, will be funded by the local office of the Department of Labour. This training will take place as close to the project site as practically possible. The contractor must access this training by informing the relevant regional office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The Employer and the Department of Public Works (Fax: 012 3258625/ EPWP Unit, Private Bag X65, Pretoria 0001) must be furnished with a copy of this request.

1.3.3 The contractor shall do nothing to dissuade targeted labour from participating in training programmes and shall take all reasonable steps to ensure that each beneficiary is provided with two days of formal training for every 22 days worked.

1.3.4 An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of the above.

1.3.5 Proof of compliance with the above requirements must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

GENERIC LABOUR-INTENSIVE SPECIFICATION

1 Scope

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

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

2 Precedence

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

3 Hand excavateable material

Hand excavateable material is material:

a) Granular materials:

i) whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or

ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;

b) Cohesive materials:

i) whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or

ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note: 1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.

2) A dynamic cone penetrometer is an instrument used to measure the in-situ shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of. 60 degrees with respect to the horizontal) into the material being used.

Table 2: Consistency of materials when profiled

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

4 Trench excavation

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

5 Compaction of backfilling to trenches (areas not subject to traffic)

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

a) to 90% Proctor density;

b) such that in excess of 5 blows of a dynamic cone penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or

c) such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

6 Excavation

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

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

7 Clearing and grubbing

Grass and small bushes shall be cleared by hand.

8 Shaping

All shaping shall be undertaken by hand.

9 Loading

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

10 Haul

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

11 Offloading

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

12 Spreading

All material shall be spread by hand.

13 Compaction

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

14 Grassing

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

15 Stone pitching and rubble concrete masonry

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

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

Grout shall be mixed and placed by hand.

16 Manufactured Elements

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

(Insert Your Company Logo)

(This shall serve as the cover page on employment contracts for local labour)

EMPLOYMENT AGREEMENT

BETWEEN

[CONTRACTOR NAME].....

AND

[WORKER NAME].....

1. PARTIES

The Parties to this Agreement are -

1.1. Contractor: _____

herein represented by: _____

duly authorised thereto

And

1.2. Mr / Me: _____
[worker's name]

2. DEFINITIONS AND INTERPRETATION

2.1. In this Agreement and any Annexure thereto, unless inconsistent with or otherwise indicated by the context-

"Agreement"	means the contents of this Agreement.
"Company"	means the company that employs the worker
"Department"	means the Department of Public Works
"Worker"	is a person that performs a specific or necessary task or who completes tasks in a certain way
"EPWP"	The Expanded Public Works Programme is a government programme aimed at the alleviation of poverty and unemployment. The programme ensures the full engagement on Labour Intensive Methods of Construction (LIC) to contractors for skills development. The EPWP focuses at reducing unemployment by increasing economic growth by means of improving skills levels through education and training and improving the enabling environment for the industry to flourish.

3. PURPOSE

The purpose of this agreement is to:-

Ensure that the agreement is binding to both the Worker and the Employer.

4. TERMS AND CONDITIONS

- The worker will have no entitlement to the benefits of a full time employee, namely;

_____

_____

- The worker should not have the expectation that this contract will be renewed or extended.
- The worker will be subject to all laws, rules, policies, codes and procedures applicable to the;

_____

- The worker must meet the standards and requirements of the contractor
- The worker must render his/her services during normal working hours of minimum of forty to fifty five hours in any week; which comprise of an eight-hour working day in a five-day week.

5. REMUNERATION

The worker will receive compensation to the amount of R_____00 which must be paid by the 25th or on the last day of each month.

6. ROLES AND RESPONSIBILITIES

6.1 Employer / Worker

- Work for _____ in terms of the period as specified in the employment agreement contract.
- Be available for and participate in all learning and work experience required by the company.
- Comply with workplace policies and procedures.
- Complete any attendance or any written assessment tools supplied by the contractor to record relevant workplace experience.
- Demonstrate willingness to grow and learn through work experience.

  Provide the following documentation to the employer,

  - Certified identity document not longer than 3 months
  - ID size photos
  - Sign employment contract

6.2 Employer

- Employ the worker for a period specified in the agreement.
- Provide the worker with appropriate work based experience in the work environment.
- Facilitate payments of wages / stipends.
- Keep accurate records of workers.
- Where a worker/ learner is disabled, the employer will have to provide in the additional needs e.g. special materials, learning aids and in some cases physical or professional support (such aids remain the property of the employer).
- Keep up to date records of learning and discuss progress with the intern on a regular basis.
- Apply fair disciplinary, grievance and dispute resolution procedures to the worker.
- Prepare an orientation/ induction course to introduce worker/ learner to the workplace and specific workplace requirements.
- Ensure the daily attendance register is signed by the worker.

7. DURATION.

This agreement commences on: _____

and

expires on: _____

8. BREACH.

If either party commits any breach of the terms of this contract (and fails to rectify it within 30 days of receipt of a written notice calling it to do so, then) the other party shall be entitled to terminate the contract or to claim specific performance without prejudice to any of its other legal rights, including its rights to claim damages.

9. CONDITIONS OF EMPLOYMENT

9.1. Meal Breaks

9.1.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.

9.1.2 An employer and worker may agree on longer meal breaks.

9.1.3 A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.

9.1.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

9.2. Special Conditions for Security Guards (Only applicable to security Guards)

9.2.1 A security guard may work up to 55 hours per week and up to eleven hours per day.

9.2.2 A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

9.3. Weekly Rest Period

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

9.4. Work on Sundays and Public Holidays

9.4.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.

9.4.2 Work on Sundays is paid at the ordinary rate of pay.

9.4.3 A task-rated worker who works on a public holiday must be paid;

(a) the worker's daily task rate, if the worker works for less than four hours;

(b) double the worker's daily task rate, if the worker works for more than four hours.

9.4.4 A time-rated worker who works on a public holiday must be paid

(a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday;

(b) double the worker's daily rate of pay, if the worker works for more than four hours on the public holiday.

9.5 Sick leave

9.5.1 Only workers who work more than 24 hours per month have the right to claim sick-pay in terms of this clause.

9.5.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.

9.5.3 A worker may accumulate a maximum of twelve days' sick leave in a year.

9.5.4 Accumulated sick-leave may not be transferred from one contract to another contract.

9.5.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.

9.5.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.

9.5.7 An employer must pay a worker sick pay on the worker's usual payday.

9.5.8 Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is

(a) absent from work for more than two consecutive days; or

(b) absent from work on more than two occasions in any eight-week period.

9.5.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.

9.5.10 A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

9.6. Maternity Leave

9.6.1 A worker may take up to four consecutive months' unpaid maternity leave.

9.6.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.

9.6.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.

9.6.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.

9.6.5 A worker may begin maternity leave as follows;

(a) four weeks before the expected date of birth; or

(b) on an earlier date

(i) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or

(ii) if agreed to between employer and worker; or

(c) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.

10.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

9.7. Family responsibility leave

9.7.1 Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances;

(a) when the employee's child is born;

(b) when the employee's child is sick;

(c) in the event of a death of

(i) the employee's spouse or life partner;

(ii) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

9.8. Keeping Records

9.8.1 Every employer must keep a written record on site for the duration of the project and three (3) year after completion records should consists of at least the following;

(a) the worker's name and position;

(b) copy of an acceptable worker identification

(c) in the case of a task-rated worker the number of tasks completed by the worker;

(d) in the case of a time-rated worker, the time worked by the worker;

(e) payments made to each worker in a form of Proof of Payment, Payroll registers and the acknowledgement of payment receipt signed by the worker.

9.8.2 The employer must keep this record for a period of at least three years after the completion of the EPWP.

9.9. Payment

9.9.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.

9.9.2 A worker may not be paid less than the Ministerial Determination wage rate.

9.9.3 A task-rated worker will only be paid for tasks that have been completed.

9.9.4 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.

9.9.5 A time-rated worker will be paid at the end of each month.

9.9.6 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

9.9.7 Payment in cash or by cheque must take place

(a) at the workplace or at a place agreed to by the worker;

(b) during the worker's working hours or within fifteen minutes of the start or finish of work;

(c) in a sealed envelope which becomes the property of the worker.

9.9.8 An employer must give a worker the following information in writing

(a) the period for which payment is made;

(b) the numbers of tasks completed or hours worked;

(c) the worker's earnings;

(d) any money deducted from the payment;

(e) the actual amount paid to the worker.

9.9.9 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.

9.9.10 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

9.10. Inclement weather

If no work has begun on site, and if an employee has reported for work, the employee will be paid for four hours. Should work be stopped after the first four hours, the employee will be paid for the hours worked. Where the employer has given employees notice on the previous working day that no work will be available due to inclement weather, then no payment will be made.

9.11. Deductions

9.11.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.

9.11.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.

9.11.3 An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement of Law; court order or arbitration

9.11.4 It is the responsibility of the employers to arrange for all persons employed on a Project to be covered in terms of the Unemployment Insurance Fund Contributions Act, 2002 (Act No. 4 of 2002)

9.11.5 An employer may not require or allow a worker to

(a) repay any payment except an overpayment previously made by the employer by mistake;

(b) state that the worker received a greater amount of money than the employer actually paid to the worker; or

(c) pay the employer or any other person for having been employed.

9.12. Health and Safety

9.12.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.

9.12.2 A worker must;

(a) work in a way that does not endanger his/her health and safety or that of any other person;

(b) obey any health and safety instruction;

(c) use any personal protective equipment or clothing issued by the employer;

(d) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

9.13. Compensation for Injuries and Diseases

9.13.1 It is the responsibility of the employers to arrange for all persons employed on a Project to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993 as amended by COIDA Act 61, 1997.

9.13.2 A worker must report any work-related injury or occupational disease to their employer or manager.

9.13.3 The employer must report the accident or disease to the Compensation Commissioner.

9.13.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

9.14. Termination

9.14.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.

9.14.2 A worker will not receive severance pay on termination.

9.14.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.

9.14.4 A worker **who is absent for more than three consecutive days** without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

9.14.5 A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available.

Notice procedure is as follows;

- One week if employed for four weeks or less
- Two weeks if employed for more than four weeks but not more than a year
- Four weeks of employed for one (1) year or more

9.15. Certificate of Service

9.15.1 On termination of employment, a worker is entitled to a certificate stating;

(a) the worker's full name;
(b) the name and address of the employer;
(c) the Project on which the worker worked; the work performed by the worker;
(d) any training received by the worker;
(e) the period for which the worker worked on the Project; and
(f) any other information agreed on by the employer and worker.

9.16. DOMICILE

The address to which notices and all legal documents may be delivered or served are as follows:

Employee Details

Name & Surname: _____

ID No: _____

Residential Address: _____

_____

Contact No: _____

Date of Employment: _____

To be supervised by: **Main Contractor:** ☐
or Sub Contractor: ☐

Category of employment: **Skilled:** ☐
Semi-skilled: ☐
Unskilled: ☐

For Skilled & Semi-skilled state the trade: _____

Period of employment: Fixed for until when your services are still required on site

I confirm that I have been inducted and fully understand the condition of my appointment.

Employee Signature: _____ **Witness by SGB/CLO:** _____

Signature by Witness: _____

Employer Details

Name & Surname: _____

Designation: _____

Contact No: _____ **Signature:** _____

KWAZULU-NATAL DEPARTMENT OF PUBLIC WORKS

EXPANDED PUBLIC WORKS PROGRAMME

The Attendance Register for on-site Workers

Reporting month: _____ Cell No: _____

Surname: _____ First Name: _____

Project Name: **UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES**

Project Code: **079513** Tender No **ZNTM01256W**

IDENTITY NUMBER:

Day	Date	Time In	Signature	Time Out	Signature	Report On Any Formal Training Provided In The Reporting Month
WEEK 1						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 2						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 3						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 4						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
WEEK 5						
MONDAY						
TUESDAY						
WEDNESDAY						
THURSDAY						
FRIDAY						
Total Days worked						

BUSINESS PLAN

Reference No	
Profile ID	
Project Name	
Project Details	
Project Name	
Project Reference Number	
Project description	
Project Start Date	
Project End Date	
Estimated Budget	
Project Location	
Province	
District/Metro Municipality	
Local Municipality/Metro Region	
Latitude (in decimal format)	
Longitude (in decimal format)	
Public Body Details	
Public body sphere	
Reporting public body that is the project owner (and will report on the project)	
Implementing public body type	
Public body that will implement the project	
IDP reference number allocated to the project	
EPWP Details	
EPWP Sector	
EPWP Program	
EPWP Sub programme	
Budget Amount	
April 2014/March 2015	
April 2015/March 2016	
Total Budget Amount	
Wages	
UIF	
COIDA	
Training	
Administration	
Equipment and materials	
Other	
Describe other	
Outputs and Training	
Output	
Despription	
Target Quantity	
Number of persons to be trained	
Contact person	
Title	
Initials	
First Name	
Surname	
Email	
Tel (Office)	
Fax Number	
Cell Number	
Physical Address 1	
Physical Address 2	
Physical Address 3	
Physical Address 4	
Postal Address 1	
Postal Address 2	
Postal Address 3	
Postal Address 4	

KZN PUBLIC WORKS
Monthly Data collection for LOCAL Labour

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

EXPANDED PUBLIC WORKS PROGRAMME

Name of Contractor: _____ Project Code: **079513** Project location name (area):_____

Name of Project: **UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES** Reporting month:_____ Project location (Ward No.):_____

Beneficiary Details																								Experience/Literacy				Location Details				Household Details		
No	First Name	Initial	Surname	ID number													D.O.B	Gender F/M	Disability Y/N	Start Date on the current month	End Date on the current month	Total days worked	Job description	Registered on UIF (Y/N)	Registered with COIDA (Y/N)	Are you receiving any Gov grant? (Y/N)	1st Language	Other Language 1	Other Language 2	Education Level (See Codes below)	Highest Level of Education	Address	Ward No.	Cell No.	Nationality	No. of people in Household	No. of Dependants in Household	No. of Children attending school
1																																				
2																																				
3																																				
4																																				
5																																				
6																																				
7																																				
8																																				
9																																				
10																																				

- Education Levels – use the codes (1,2,3) on the excel spreadsheet
  - **(1)** Unkn **(3)** Grade 1-3 (Sub A – Std 1) **(5)** Grade 5-6 (Std 3-4) ABET 2 **(7)** Grade 9 (Std 7) ABET 4 **(9)** Grade 12 (Std 10)
  - **(2)** No S **(4)** Grade 4 (Std 2) ABET 1 **(6)** Grade 7-8 (Std 5-6) ABET 3 **(8)** Grade 10-11 (Std 8-9) **(10)** Post Matric

Contractor sign:_____ **DPW Official/Consultant sign:**_____ **EPWP Official sign:**_____

Designation:_____ Designation:_____ Designation:_____

Date:_____ Date:_____ Date:_____

Contact no:_____ Contact no:_____ Contact no:_____

KZN PUBLIC WORKS

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

EXPANDED PUBLIC WORKS PROGRAMME

Worker payment capture form for LOCAL Labour

Name of Contractor: _____ Project Code: 079513

Name of Project: UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

Reporting month: _____

Payment Upload

No.	First Name	Initials	Surname	Identity No.	D.O.B	Job Description	Daily Wage Rate	Total Paid Days	Total Amount Paid	Total days Worked Days
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

Contractor sign:_____
Designation:_____
Date:_____
Contact no:_____

DPW Official/Consultant sign:_____
Designation:_____
Date:_____
Contact no:_____

EPWP Official sign:_____
Designation:_____
Date:_____
Contact no:_____

KZN PUBLIC WORKS

Worker Training capture form for LOCAL Labour

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

EXPANDED PUBLIC WORKS PROGRAMME

Name of Contractor: _____ Project Code: 079513

Name of Project: UPGRADE OF MEDIUM VOLTAGE (MV) DISTRIBUTION SYSTEM AND RELATED ANCILLARIES

Reporting month: _____

Training														
No	Name	Surname	ID No.	Job description	Course Name	Was training Accredited or Non - accredited by a relevant SETA	Start date on current month	End date on current month	Training Days Paid	Training Days Not Paid	Total Number of Training Days	Cost per trainee	Is training complete or on - going	Name of Training Provider
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														
15														

Contractor sign: _____

Designation: _____

Date: _____

Contact no: _____

DPW Official/Consultant sign: _____

Designation: _____

Date: _____

Contact no: _____

EPWP Official sign: _____

Designation: _____

Date: _____

Contact no: _____

Location	
Locality Name	Howick
Municipality	uMngeni Local Municipality
Subplace	Greendale Park
Ward	
Government Facility	Umgeni Hospital
Latitude	30.232779
Longitude	-29.5008778
Physical Address/Location	1 Main Road, Howick, 3290