MOHOKARE
LOCAL MUNICIPALITY

MOHOKARE LOCAL MUNICIPALITY

PROJECT DOCUMENT

CONTRACT NO.: SCM/MOH/13/2024

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

A tender for Category 3CE or higher CIDB Registered Contractors

Tender closing date: 08 OCTOBER 2024
Closing Time: 14h00

NAME OF TENDERER: ……..

TENDERED AMOUNT: ……

TIME OF COMPLETION: ……..(weeks)

ISSUED BY:
The Municipal Manager
Mohokare Local Municipality
1 Hoofd Street
Zastron
9950

PREPARED BY engineering ACES

T: 051 430 0994 / 051 011 3444

admin@engineeringaces.com
engineeringaces.com
Unit No.5, Prospes House, 58 Victoria Road,
Willows, Bloemfontein 9301

Engineering Aces (Pty) Ltd | Reg No. 2015/140918/07

PART A INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE (*Mohokare Local Municipality*)					
BID NUMBER:	SCM/MOH/13/2024	CLOSING DATE:	08 OCTOBER 2024	CLOSING TIME:	14h00
DESCRIPTION	RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)				
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).					

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT *(STREET ADDRESS)*

MOHOKARE LOCAL MUNICIPALITY
1 HOOFD STREET
ZASTRON
8340

SUPPLIER INFORMATION						
NAME OF BIDDER						
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:		**OR**	CSD No:		
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	☐ Yes ☐ No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	☐ Yes ☐ No		

[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐Yes ☐No [IF YES ENCLOSE PROOF]	**ARE YOU A FOREIGN BASED SUPPLIER FOR** THE GOODS /SERVICES /WORKS OFFERED?	☐Yes ☐No [IF YES, ANSWER PART B:3]
TOTAL NUMBER OF ITEMS OFFERED		TOTAL BID PRICE	**R**
SIGNATURE OF BIDDER	……	DATE	
CAPACITY UNDER WHICH THIS BID IS SIGNED			

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		**TECHNICAL INFORMATION MAY BE DIRECTED TO:**	
DEPARTMENT	SCM	CONTACT PERSON	Mr. S Shamase
CONTACT PERSON	Mr. T. Lebete	TELEPHONE NUMBER	074 085 3384
TELEPHONE NUMBER	064 472 2549	FACSIMILE NUMBER	051 673 1550
FACSIMILE NUMBER	051 673 1550	E-MAIL ADDRESS	mohokarepmu@gmail.com
E-MAIL ADDRESS	pule@mohokare.gov.za		

PART B
TERMS AND CONDITIONS FOR BIDDING

1.	**BID SUBMISSION:**
1.1.	BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
1.2.	**ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED) OR ONLINE**
1.3.	THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
2.	**TAX COMPLIANCE REQUIREMENTS**
2.1	BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
2.2	BIDDERS 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 THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE 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	FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3.
2.5	BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
2.6	IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
2.7	WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
3.	**QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS**
3.1.	IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? ☐ YES ☐ NO
3.2.	DOES THE ENTITY HAVE A BRANCH IN THE RSA? ☐ YES ☐ NO
3.3.	DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA ☐ YES ☐ NO
3.4.	DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? ☐ YES ☐ NO
3.5.	IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? ☐ YES ☐ NO
	IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS 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 BID INVALID.
NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.

SIGNATURE OF BIDDER:…… ……

CAPACITY UNDER WHICH THIS BID IS SIGNED:……

DATE:…….. ……

LIST OF PROJECT DOCUMENTS

The Tender Documents for this Contract comprise the following:

1: *General Conditions of Contract for Construction Works,* Third Edition, 2015, issued by South African Institution of Civil Engineering (SAICE), which the Tenderer shall purchase himself.

2: The SANS *Standardized Specification for Civil Engineering Construction,* prepared by Standards South Africa, which the Tenderer shall purchase himself.

3: The Project Document, containing the Tender Notice, Conditions of Tender, Tender Data, Returnable Schedules, General Conditions of Contract, Contract Data, Project Specifications, Pricing Instructions, Bills of Quantity, Form of Offer and Site Information, is issued by the Employer. The Employer's Form of Acceptance and any correspondence from the selected Tenderer, Performance Security and all Addenda issued during the period of tender will also form part of this document once a successful tenderer has been appointed.

4. Book of Tender Drawings (Bound in Document).

1 and 2 are available from the following organisations (as applicable):

- **CESA, PO Box 68482, Bryanston, 2021.Tel: 011 463 2022 Fax: 011 463 7383, Email: general@cesa.co.za**
- **SAICE, Private Bag X200, Halfway House, 1685. Tel: 011 805 5947/8, Email: civilinfo@saice.org.za**
- **SAFCEC**
- **South African Bureau of Standards**

MOHOKARE LOCAL MUNICIPALITY

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FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

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THE TENDER

MOHOKARE LOCAL MUNICIPALITY

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FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

PART T1 TENDERING PROCEDURES

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

T1.1 TENDER NOTICE AND INVITATION TO TENDER

MOHOKARE
LOCAL MUNICIPALITY

P. O. Box 20, Zastron, 9950
Tel: 051 673 9600
Fax: 051 673 1550
E-mail info@mohokare.gov.za
www.mohokare.gov.za

TENDER INVITATION

Bid Number	Description	Evaluation Criteria	Service Required	Compulsory Briefing Session	Contact person (Technical)	Contact person (SCM)	Closing date and time
SCM/MOH/13/2024	Re-Advert: Appointment of a Contractor: Construction of the Rouxville Sports Ground (Phase 1)	80/20 Functionality : details in the document	Contractor (CIDB) grading of 3CE or higher)	26 September 2024 10h00 Rouxville Town Hall	Mr. S. Shamase (074) 085 3384 mohokarepmu@gmail.com	Mr. T Lebete SCM (051) 673 9600 thabiso@mohokare.gov.za	08 October 2024 14h00 Town Hall Zastron

Bid documents will be obtainable from Mohokare Local Municipality Website and E-Tender Portal. List of minimum requirements and returnable documents of the tender are included in the tender documents. **Tender validity period is 90 days**

Completed tender documents with attachments/supporting documents must be deposited in the Tender Box at Mohokare Local Municipality, 1 Hoofd Street, Zastron, 9950.

Late / telephonic/ faxed and emailed tender documents will not be considered.

All Supply Chain Management enquiries must be directed to Mr. T. Lebete at 064 472 2549 during weekdays between 08h00 to 16h30

_____

Mr. M. Mohale
Acting Municipal Manager
15 September 2024

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

MOHOKARE LOCAL MUNICIPALITY

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FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

T1.2 TENDER DATA

The Conditions of Tender are the Standard Conditions of Tender as published in Annex C of the CIDB Standard for Uniformity in Construction Procurement in Board Notice 423 Government Gazette No 42622 of 8 August 2019. A copy is attached directly after this section.

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 in the Standard Conditions of Tender to which it mainly applies.

C.1.1	The Employer is:	Mohokare Local Municipality
	Postal Address	Physical Address
	1 Hoofd Street	1 Hoofd Street
	Zastron	Zastron
	9950	9950

C.1.2 The Tender Documents issued by the Employer comprise:

THE TENDER

Part T1 Tendering procedures
T1.1 Tender Notice and Invitation to Tender
T1.2 Tender Data

Part T2 Returnable documents
T2.1 List of returnable documents
T2.2 Returnable schedules

THE CONTRACT

Part C1 Agreements and Contract Data
C1.1 Form of Offer and Acceptance
C1.2 Contract Data
C1.3 Performance Guarantee
C1.4 Agreement in terms of Occupational Health and Safety Act, 1993

Part C2 Pricing Data
C2.1 Pricing Instructions
C2.2 Bill of Quantities

Part C3 Scope of Work
C3 Scope of Work

Part C4 Site Information
C4 Site Information

Part C5 Appendices
C5 Appendices

C.1.4 The Employer's agent is:

Name:	Engineering Aces (Pty) Ltd
Address:	Unit No.5, Prospes House 58 Victoria Road Bloemfontein 9301
Contact person:	Stephen Mothibi
Tel:	051 430 0994
Email:	admin@engineeringaces.com

Add the following:

"Tenderers shall note that verbal information given by the Employer's agent during clarification meetings, site visits or at any time prior to the award of the Contract will not be regarded as binding on the Employer. Only information issued formally in writing in terms of either an Addendum (C.3.2) or a Clarification of a Tender Offer (C.3.10) will be considered as amending the Tender Documents.

C.1.5 The Employer may accept or reject any variation, or deviation, or part of any tender offer, or whole Tender Offer, or alternative Offer, and may cancel the Tender process and reject all Tender Offers at any time before the formation of a Contract. The Employer shall not accept or incur any liability to a Tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.

C.2.1 Only those tenderers who satisfy the following eligibility criteria are eligible to submit tenders:

i. Registration on National Treasury's Suppliers Database.
ii. Full compliance with the Employer's preferential Procurement Policy.

Add the following after C.2.1.2:

C.2.1.3 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 **3CE**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 **3CE**or Higher class of construction work; or not lower than one level below 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 **3CE o**r Higher class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.

C.2.7 The arrangements for a compulsory clarification meeting are stated in the Tender Notice and Invitation to Tender:

*Tenderers must sign the attendance list in the name of the tendering entity. Addenda will be issued to and tenders will be received only from those tendering entities appearing on the attendance list.

C.2.12 No alternative offer will be accepted.

C.2.13.3 Parts of each tender offer communicated on paper shall be submitted as an original, plus **NIL** copies.

C.2.15 The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.

C.2.15.1 The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are:

Location of Tender box: **Mohokare Local Municipality (Zastron Town Hall)**

Physical address: **1 Hoofd Street, Zastron**

Identification details:

Bid Number: SCM/MOH/13/2024
Title of Tender: RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

C.2.13 A two-envelope procedure will **not** be followed.

C.2.13.9 Telephonic, facsimile or emailed tender offers will **not** be accepted.

C.2.16 The tender offer validity period is **Ninety days** (**90**) days.

C.2.20 The Tenderer is required to submit with his Tender a letter of intent from an approved insurer undertaking to provide the Performance Guarantee to the format included in Part C1.3 of this procurement document.

C.2.22 Return all retained Tender Documents within 28 days after the expiry of the validity period.

C.2.23 The tenderer is required to submit with his tender a Certificate of Contractor Registration issued by the Construction Industry Development Board and a copy of an original valid Tax Clearance Certificate issued by the South African Revenue Services.

Where a tenderer satisfies CIDB Contractor grading designation requirements through joint venture formation, such tenderers must submit the Certificates of Contractor Registration in respect of each partner.

The tenderers shall also submit a certified for Specific Goals **"specific goals"** means specific goals as contemplated in section 2(1)*(d)* of the Act which may include contracting with persons, or categories of persons, historically disadvantaged by unfair discrimination on the basis of race, gender and disability including the implementation of programmes of the Reconstruction and Development Programme as published in *Government Gazette* No. 16085 dated 23 November 1994:

(a) The name and domicilium citandi of the tenderer.
(b) The registration and VAT number of the tenderer.
(c) Sufficient evidence to claim points for specific goal.
(d) The expiry date of the Verification Certificate
(e) A unique identification number.
(f) The standard and/or normative document, including the issue and/or revision used to evaluate the tenderer

C.3.4 The time and location for opening of the tender offers are:

Time **14H00** on the **08 October 2024**
Location: **Mohokare Local Municipality (Zastron Town Hall), 1 Hoofd Street, Zastron**

C.3.11 *Add the following new sub item to Item 3.11:*

C.3.11.1 The tender evaluation method for the evaluation of all responsive tender offers will be **Method 4: Financial offer, quality and preferences**

Scoring financial offers

Risk Analysis

In Table below, the percentage deviation of the tendered amount is indicated. The risk to the Municipality increases where rates of tenderer's deviate by more than 15% and less than 15% below average.

Too low rates result in cash flow problems to the contractor, slower progress of the works, increased safety risks and reduction in quality of work; but alternatively, where rates are more than 15% higher than the average tendered rates, the risk to the Municipality increases with regard to a possible increase in project costs when the quantities increase substantially.

Critical Section	
High Risk, Low rate	Deviation < -15%
Low Risk, High Rate	Deviation > +15%

Scoring Quality

Quality shall be scored in accordance with the specified criteria. Only bidders that are successful during the pre-evaluation stage will be evaluated for functionality. Bidders with a minimum score of **70/100** will proceed to the financial scoring.

The system for earning functionality points (including Categories, Criteria and the points to be awarded for specific achievements) is described below.

CATEGORY OF FUNCTIONALITY	**MAXIMUM SCORE**
1) Key Personnel	30
2) Experience	40
3) Plant and Equipment	15
4) Locality	15
TOTAL POINTS (N_Q)	**100**

1. Key Personnel

Description	**No. of work experience**	**Points**	**Max Points**
Contracts Manager Attach CV certified ID and Qualifications. Min B-Tech Civil Eng	10 or more	10	**30**
	5 to 9	7	
	1 to 4	5	
	0	0	
Site Agent Attach CV and certified ID and Qualifications. Min National Diploma Civil Eng	10 or more	10	
	5 to 9	7	
	1 to 4	5	
	0	0	
Foreman Attach CV (Qualifications will be added advantage)	10 or more	10	
	5 to 9	7	
	1 to 4	5	

2. Experience

Contractor is required to submit proof of similar project to qualify for points.

Attach appointment and completion letters of completed projects from **Government institutions. If a bidder was a Subcontractor an additional reference letter from the Client (Government Institution) should be attached.**

Description	No. of projects	Points	Max Points
Similar Projects of a minimum value of R1.5m (Sports Facility, Earthworks, Road Construction, Fencing etc).	Over 4	40	**40**
	3-4	30	
	1-2	10	
	0	0	

3. Plant and Equipment

The Contractor to attach the proof of ownership of the plant or a signed letter of intent to hire from a plant hire company (signed by the owner of the plant hire company) including proof of ownership of the plant from the plant hire Company.

Description	Plant	Points	Max Points
Equipment	Grader	5	**15**
	Water Tanker	5	
	Excavator/ TLB	2.5	
	10-ton roller	2.5	
	None	0	

4. Locality

Provide municipal account statement, municipal proof of residence or lease agreement not older than 3 months (This will be

Description	Points	Max Points
Contractors with offices within Mohokare	15	**15**
Contractors with offices within Xhariep District	10	
Contractors with offices outside the Xhariep District	5	

C.3.13 Tender offers will only be accepted if:

Note: All parties in a Joint Venture are required to submit the required documents

(a) A bidder's must be registered on the Central Supplier Database (CSD) of the National Treasury. Failure to submit CSD Registration Documentation will lead to disqualification.
(b) Tax compliance on CSD status.
(c) In case of the Joint Venture (JV), all JV companies must have tax compliance status on CSD.
(d) Certified copy of Company Registration certificate reflecting names and identity numbers of active shareholding members.
(e) Certified copy of shareholders ID's
(f) In case of JV, each JV companies must attach its Company Registration Certificate reflecting names and identity numbers of active shareholders.
(g) Copy of JV agreement (in case of JV).
(h) Municipal Rates and Taxes Account not older than 120 days OR Lease Agreement must be accompanied by Landlord Municipal Rates Account. Failure to submit will be disqualification. The municipal rates and taxes must not be in arrears for more than 90 days.
(i) In case of a JV Municipal Rates and Taxes Account not older than 120 days– for all parties must be attached. The municipal rates and taxes must not be in arrears more than 90 days.
(j) No bid will be considered from the persons in the Service/Employment of the State/Government/State Owned Entities.
(k) All service provider(s) are requested to submit a Valid BBB-EE certificate, CIPC. Certified Copy of the ID Certificate and
(l) Bids must be valid for a minimum period of 90 days.
(m) CIDB grading of 3 CEor higher for the appropriate tenders

C.3.17 The number of paper copies of the signed Contract to be provided by the Employer is **ONE**.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Add the following:

The additional Conditions of Tender are:

Annex C

Standard Conditions of Tender

As published in Annexure C of the cidb Standard for Uniformity for construction Procurement, Notice 423 Government Gazette No 42622 of 8 August 2019

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, 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. Tenderers 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 at the start of any deliberations relating to 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 a 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 readily read, copied and recorded. Communications 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 require 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.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 posit ion 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.

C.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 tenderers 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 fourteen (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 a single tendering entity or as a member in a joint venture to provide the whole of the works 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 substituted 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 stated in C.2.16 lapses before the employer evaluating tender, 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 employer's 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 twenty-eight (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 requests 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 requirements;
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) working 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 tenderers' 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 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 item 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 or 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 follows:

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 system 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 or capacity, 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 processes, 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 the 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.

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

PART T2 RETURNABLE DOCUMENTS

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

T2.1 LIST OF RETURNABLE DOCUMENTS

The Tenderer must complete the following returnable documents:

1 RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES

2 OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

3 RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO THE CONTRACT

4 OTHER DOCUMENTS THAT WILL BE INCORPORATED INTO THE CONTRACT

5 C1.1 OFFER AND ACCEPTANCE (INCLUDED IN PART C1: AGREEMENT AND CONTRACT DATA)

6 C1.2 CONTRACT DATA (PART 2) DATA PROVIDED BY THE CONTRACTOR (INCLUDED IN PART C1: AGREEMENT AND CONTRACT DATA)

7 C2.2 BILL OF QUANTITIES (INCLUDED IN PART C2: PRICING DATA)

MOHOKARE LOCAL MUNICIPALITY

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FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

T2.2 RETURNABLE SCHEDULES

The Tenderer must complete the following returnable documents.

T2.2.1 RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES

T2.2.2 OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

T2.2.3 RETURNABLE SCHEDULES THAT WILL BE INCORPORATED IN THE CONTRACT

FORM A1 AUTHORITY FOR SIGNATORY

Status of concern submitting tender (delete whichever is not applicable.)

COMPANY /PARTNERSHIP /ONE-PERSON BUSINESS / CLOSE CORPORATION/ JOINT VENTURE

A. COMPANIES

If the bidder is a company, a certified copy of the resolution of the Board of Directors, personally signed by the chairperson of the board, authorizing the person to signs this bid to do so, as well as to sign any contract resulting from this bid and any other documents and correspondence in connection with this bid or contract on behalf of the company must be submitted with this Bid.

An example is shown below:

By resolution of the board of Directors on ……20….., Mr. / Ms ……has been duly authorized to sign all documents in connection with BID NO. ……

SIGNED ON BEHALF OF THE COMPANY: ……..

IN HIS CAPACITY AS: ……

DATE: ……

SIGNATURE OF SIGNATORY:……

WITNESSES: 1. ……

2. ……..…..…..…..….

B. PARTNERSHIP

The following particulars in respect of every partner must be furnished and signed by every partner:

Full name of partner	Residential address	Signature
……..	…….	……..
……..	…….	……..
……..	…….	……..

We, the undersigned partners in the business trading as,……..

Hereby authorize …….. …… to sign this bid as well s any contract resulting from the bid and any other documents and correspondence in connection with this bid / or contract on our behalf.

……	…….	……
Signature	Signature	Signature
……	…….	……
Date	Date	Date

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

C. ONE-PERSON BUSINESS

I, the undersign …….hereby confirm that I am the sole owner of the business

trading as …….

…….. ……

Signature date

D. CLOSE CORPORATION

If the case of a close corporation submitting a bid, a certified copy of the founding Statement of such corporation shall be included with the Bid, together with a resolution by its members authorizing a member or other official of the corporation to sign the documents and correspondence in connection with this bid or contract on behalf of the company must be submitted with this Bid.

An example is shown below:

By resolution of the members at the meeting on the ……..20…….at ……Mr. / Ms ……whose signature appear below, has been duly authorized to sign all documents in connection with BID NO. ……

SIGNED ON BEHALF OF THE CLOSE CORPORATION: ……..

IN HIS / HER CAPACITY AS:…….

DATE: ……

SIGNATURE OF SIGNATORY:……

WITNESSES: 1. ……...

2.……..

E. JOINT VENTURE

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr./Ms. ……..., authorised signatory of the company……..., acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	**ADDRESS**	**DULYAUTHORISEDSIGNATORY**
Lead Partner: …… CIDB Registration ……		Signature:……..…… Name:……..... Designation:……
Firm 1: …… CIDB Registration ……		Signature:……..…… Name:……..... Designation:……
Firm 2: …… CIDB Registration ……		Signature:……..…… Name:……..... Designation:……
Firm 3: …… CIDB Registration ……		Signature:……..…… Name:……..... Designation:……
Firm 3: …… CIDB Registration ……		Signature:……..…… Name:……..... Designation:……

FORM A2 SCHEDULE OF WORK CARRIED OUT BY TENDERER

The Tenderer shall list below the last five civil engineering contracts of a similar nature awarded to him. This information is material to the award of the Contract.

EMPLOYER (Name, tel no)	**CONSULTING ENGINEER** (Name, tel no)	**NATURE OF WORK**	**VALUE OF WORK**	**YEAR OF COMPLETION**

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM A3 PROPOSED KEY PERSONNEL

The Tenderer shall list below the key personnel (including first nominee and the second choice alternate), whom he proposes to employ on the Contract should his tender be accepted, both at his headquarters and on the Site, to direct and for the execution of the work, together with their certified qualifications, experience (CV), positions held and their nationalities.

DESIGNATION	NAME AND NATIONALITY OF: (i) NOMINEE (ii) ALTERNATE	SUMMARY OF QUALIFICATIONS, EXPERIENCE AND PRESENT OCCUPATION
HEADQUARTERS Partner/Director Project manager Other key staff (give designation)		

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

DESIGNATION	NAME AND NATIONALITY OF: (i) NOMINEE (ii) ALTERNATE	SUMMARY OF QUALIFICATIONS, EXPERIENCE AND PRESENT OCCUPATION
SITE OFFICE Contracts Manager		
Site Engineer/Agent		
Site Supervisor		
Construction Foreman (give designation)		
Other key staff (give designation)		

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM A4 SCHEDULE OF CONSTRUCTIONAL PLANT

The Tenderer shall state below what Constructional Plant will be available for the work should he be awarded the Contract. The Contractor should attach to his offer proof of ownership of plant or lease agreement of such plant to be allocated to this Contract. The Lessor of the plant must provide proof of ownership of the plant to be allocated to this Contract.

DESCRIPTION, SIZE, CAPACITY	NUMBER	OWNED/ HIRED

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

DESCRIPTION, SIZE, CAPACITY	NUMBER	OWNED/ HIRED

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM A5 SCHEDULE OF PROPOSED SUBCONTRACTORS

The Tenderer shall, in accordance with the provisions of Conditions of Tender, list below the subcontractors he proposes to employ for part(s) of the work.

I/We hereby confirm that the works outlined in the schedule below together with the values assigned have been designated as Sub-Contracting for work in the contract. The works below will be executed by Sub-Contractors procured in line with conditions set out below:

i. An EME or QSE.

ii. An EME or QSE which is at least 51% black owned by black people;

iii. An EME of QSE which is at least 51% owned by black people who are youth;
iv. An EME of QSE which is at least 51% owned by black people who are women;

v. An EME of QSE which is at least 51% owned by black people with disabilities;

vi. An EME of QSE which is at least 51% owned by black people living in rural or

2. Underdeveloped areas or townships;

i. A co-operative which is at least 51% owned by black people;

ii. An EME of QSE which is at least 51% owned by black people who are military veterans;

iii. More than one of the categories referred to above.

NB: Tenderers not agreeing or accepting the conditions contained herein will be deemed an unacceptable tender and accordingly eliminated.

Subcontractors must be chosen from the local community through the MOHOKARE Local Municipality Database. All subcontractors must be registered on National Treasury's Central Supplier Database which can be accessed on National Treasury's website.

The successful contractor must submit periodic reports to the Project Engineer as follows:

- Name of sub-contractor and BBBEE status
- Area and location of project
- Scope of work issued to the sub-contractor
- Value of the work issued (auditable)
- Assistance provided to the sub-contractor e.g. acquisition of materials, machinery and tools
- Performance of the sub-contractor

Upon completion of the project, the contractor is required to provide a final report to JW on skills acquired, description and value of work performed as well as their overall performance.

(The above information will assist the sub-contractor to improve their CIDB grading)

Skills transfer

It is an absolute requirement that the successful tenderer empowers the appointed sub-contractor through the transfer of skills. In this regard a skills-transfer plan must be submitted prior to commencement of the project.

This tender is subjected to the following Conditions in addition to any other conditions stipulated and made part of this tender as described hereunder. By signing this document, the tenderer agrees to comply with all conditions hereunder in the event of being successful.

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT

ITEM	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
TOTAL VALUE (EXCLUDING VAT)					
TOTAL PERCENTAGE SUB-CONTRACTED					

FORM A6 FINANCIAL REFERENCES

Financial Statements

I/We agree, if required, to furnish an audited copy of the latest set of financial statements together with my/our Directors' and Auditors' report for consideration by the Employer.

Details of Company's Bank Rating (To be completed by bank):

DESCRIPTION OF BANK DETAIL	BANK DETAILS APPLICABLE TO TENDERER'S HEAD OFFICE
Name of bank	
Branch name	
Branch code	
Street address	
Postal address	
Telephone number	
Fax number	
Account number	
Bank Rating Level	

ATTACH BANK RATING LETTER AND BANK CONFIRMATION LETTER ON THE BANK'S LETTERHEAD WITH STAMP

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM A7 SCHEDULE OF CURRENT COMMITMENTS

Notes to Tenderer:

1. **The Tenderer shall list below all Contracts currently under construction or awarded and about to commence and tenders for which offers have been submitted but awards not yet made.**
2. **In the event of a joint venture enterprise, details of all the members of the joint venture shall similarly be attached to this form.**
3. **The lists must be restricted to not more than 20 Contracts and 20 Tenders. If a tenderer's actual commitments or potential commitments are greater than 20 each, those listed should be in descending order of expected final contract value or sum tendered.**

Table 1 Contracts awarded				
Employer	Project	Expected total value of contract (incl. VAT)	Duration (Months)	Expected completion date

Table 2 TENDERS NOT YET AWARDED				
Employer	Project	Sum Tendered (incl. VAT)	Tendered Duration (Months)	Expected commencement

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM A8 ESTIMATED MONTHLY EXPENDITURE

The Tenderer shall state below the estimated value of work to be completed every month, based on his preliminary programme and his tendered unit rates.

The amounts for contingencies must not be included.

MONTH	VALUE
1	R .....
2	R .....
3	R .....
4	R .....
5	R .....
6	R .....
7	R .....
8	R .....
9	R .....
10	R .....
11	R .....
12	R .....
13	R .....
14	R .....
15	R .....
16	R .....
17	R .....
18	R .....
	COMPLETION OF CONTRACT
TOTAL	R .....

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM A9 PROPOSED DEVIATIONS AND QUALIFICATIONS BY TENDERER

The Tenderer should record any **proposed** deviations or qualifications he may wish to make to the Tender Documents in this Returnable Schedule. Alternatively, a tenderer may state such proposed deviations and qualifications in a covering letter attached to his tender and reference such letter in this schedule.

The Tenderer's attention is drawn to clause F.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the Employer's handling of material deviations and qualifications.

If no deviations or modifications are desired, the schedule hereunder is to be marked **NIL** and signed by the Tenderer.

PAGE	CLAUSE OR ITEM	DESCRIPTION

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM A10 CERTIFICATE OF INSURANCE COVER

Note to Tenderer:
In the event of the Tenderer being a joint venture/consortium, the details of the individual members must also be provided.

The Tenderer shall provide the following details of this insurance cover:

(i) Name of Tenderer: .....

(ii) Period of Validity: .....

(iii) Value of Insurance:

- Insurance for Works and Contractor's equipment

  Company: .....

  Value: .....

- Insurance for Contractor's personnel

  Company: .....

  Value: .....

- General public liability

  Company: .....

  Value: .....

- SASRIA

  Company: .....

  Value: .....

SIGNED ON BEHALF OF TENDERER: .....

FORM A11 PRELIMINARY CONSTRUCTION PROGRAMME

Note to Tenderer:
If a tenderer wishes to submit an alternative tender then this form, appropriately completed, shall be attached to the Pricing Schedule for the alternative proposal.

The Tenderer shall attach a preliminary programme, to this Form.

This programme shall:

- be in the form of a bar chart (Gantt chart) or similar acceptable time/activity form reflecting the proposed sequence and tempo of execution of the various activities and the quantities that will be carried out every week under each of the elements, comprising the work for this contract;
- also indicate the point where the Tenderer intends to commence work operations and the direction in which the work will proceed;
- be in accordance with the information provided in Form A4: Schedule of Constructional Plant, Form A8: Estimated monthly expenditure, and with all other aspects of the Tender; and
- indicate planned working hours.

Details of the preliminary programme shall be appended to this Form.

Number of sheets, appended by the Tenderer to this Form ..... *[If NIL, enter NIL]*

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM A12 RETURNABLE DOCUMENT CHECKLIST

This form has been created as an aid to ensure a tenderer's compliance with the completion of the returnable schedules.

Reference No	Document Description	Tick if completed
Form A1	Authority for signatory	
Form A2	Schedule of work carried out by Tenderer	
Form A3	Proposed key personnel	
Form A4	Schedule of constructional plant	
Form A5	Schedule of proposed subcontractors	
Form A6	Financial references	
Form A7	Schedule of current commitments	
Form A8	Estimated monthly expenditure	
Form A9	Proposed deviations and qualifications by Tenderer	
Form A10	Certificate of insurance cover	
Form A11	Preliminary construction programme (for information purposes only)	
Form A12	Returnable document checklist	
Form B1	Certificate of Tenderer's attendance at the Site/Clarification meeting	
Form B2	Proof of registration with Construction Industry Development Board	
Form B3	Form concerning fulfilment of the Construction Regulations, 2014	
Form B4	Record of Addenda of Tender Documents	
Form B5	Letter of Intent to provide a Performance Guarantee	
Form C1	Declaration That Information on Central Supplier Database Is Correct and up to date	
Form C2	Compulsory Enterprise Questionnaire	
Form C3	Tax clearance certificate requirements and application form (MBD 2)	
Form C4	Declaration of Interest (MBD 4)	
Form C5	Preferencing Schedules: Preference points claim form in terms of Preferential Procurement Regulations, 2022 (MBD 6.1)	
Form C6	Local Content in terms of PPR 2022 (MBD 6.2)	
Form C7	Contract form - purchase of goods/works (MBD 7.1)	
Form C8	Declaration of Bidder's Past Supply Chain Management Practices (MBD 8)	
Form C9	Certificate of Independent Bid Determination (MBD 9)	
Form C10	Protection of Personal Information	
Form C1.1	Form of Offer	
Form C2.2	Bills of Quantities	

SIGNED ON BEHALF OF TENDERER: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM B1 CERTIFICATE OF TENDERER'S ATTENDANCE AT THE SITE/CLARIFICATION MEETING

This is to certify that I, ... ,

representative of *[Tenderer]* .....

.....

of *[address]* .....

.....

.....

Telephone number .....

Fax number .....

visited and examined the Site on *[date]* .....

in the company of *[Engineer/Engineer's Representative]* .....

TENDERER'S REPRESENTATIVE: .....

ENGINEER'S REPRESENTATIVE: .....

MUNICIPALITY STAMP:

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM B2 PROOF OF REGISTRATION WITH CONSTRUCTION INDUSTRY DEVELOPMENT BOARD

The Tenderer shall provide a printed copy of the Active Contractor's Listing off the CIDB website. (www.cidb.org.za). In the case of a joint venture, a printed copy of the Active Contractor's listing must be provided for each member of the joint venture.

Name of Contractor: .....

Contractor Grading Designation: .....

CIDB Contractor Registration Number: .....

SIGNED ON BEHALF OF THE TENDERER: .....

FORM B3 FORM CONCERNING FULFILMENT OF THE CONSTRUCTION REGULATIONS, 2014

In terms of Regulation 5(1)(h) of the Construction Regulations, 2014 (hereinafter referred to as the Regulations), promulgated on 7 February 2014 in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), the Employer shall not appoint a Contractor to perform construction work unless the Contractor can satisfy the Employer that his/her firm has the necessary competencies and resources to carry out the work safely and has allowed adequately in his/her Tender for the due fulfilment of all the applicable requirements of the Act and the Regulations.

1 I confirm that I am fully conversant with the Regulations and that my company has (or will acquire/procure) the necessary competencies and resources to timeously, safely and successfully comply with all of the requirements of the Regulations. (Tick)

YES	
NO	

2 Proposed approach to achieve compliance with the Regulations (Tick)

Own resources, competent in terms of the Regulations (refer to 3 below)	
Own resources, still to be hired and/or trained (until competency is achieved)	
Specialist subcontract resources (competent) - specify:	

3 Provide details of proposed key persons, competent in terms of the Regulations, who will form part of the Contract team as specified in the Regulations (CVs to be attached):

.....

.....

.....

.....

.....

.....

4 Provide details of proposed training (if any) that will be undergone:

.....

.....

.....

.....

.....

.....

.....

5 Potential key risks identified and measures for addressing risks:

.....

.....

.....

.....

.....

.....

.....

6 I have fully included in my tendered rates and prices (in the appropriate payment items provided in the Schedule of Quantities) for all resources, actions, training and any other costs required for the due fulfilment of the Regulations for the duration of the construction and defects repair period.

(Tick)

YES	
NO	

7 The Tenderer shall attach to this Form evidence that he is registered and in good standing with a compensation insurer who is approved by Department of Labour in terms of section 80 of the Compensation for Injury and Disease Act, 1993 (Act No 130 of 1993)(COID).

The Tenderer is required to disclose, by also attaching documentary evidence to this form, all inspections, investigations and their outcomes conducted by the Department of Labour into the conduct of the Tenderer at any time during the 36 months preceding the date of this Tender.

SIGNATURE OF PERSON(S) AUTHORISED TO SIGN THIS TENDER:

1 ..... ID NO: .....

2 ..... ID NO: .....

3 ..... ID NO: .....

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM B4 RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications issued by 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
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Attach additional pages if more space is required.

Signed: ..... Date: .....

Name: ..... Position: .....

SIGNED ON BEHALF OF TENDERER: .....

FORM B5 LETTER OF INTENT TO PROVIDE A PERFORMANCE GUARANTEE

It is hereby agreed that a Performance Guarantee drafted exactly as set out in the attached examples (See Section C1.3: Form of Guarantee) will be provided by the Surety named below:

Name of Surety (Bank or Insurer) _____

Address: _____

_____

_____

Signed: _____

Name: _____

Capacity: _____

On behalf of Tenderer (name of tenderer) _____

Date: _____

CONFIRMED BY Surety's Authorised representative

Signature(s): _____

Name (print): _____

Capacity _____

On behalf of Surety (Bank or Insurer) _____

Date: _____

FORM C1 DECLARATION THAT INFORMATION ON CENTRAL SUPPLIER DATABASE IS CORRECT AND UP TO DATE

THIS IS TO CERTIFY THAT I (name of bidder / authorized representative)……

……....., WHO REPRESENTS (state name of bidder)……...

…….....

AM AWARE OF THE CONTENTS OF THE CENTRAL SUPPLIER'S DATABASE WITH RESPECT TO THE BIDDER'S DETAILS AND REGISTRATION INFORMATION, AND THAT THE SAID INFORMATION IS CORRECT AND UP TO DATE AS ON THE DATE OF SUBMITTING THIS QUOTATION/BID.

AND I AM AWARE THAT INCORRECT OR OUTDATED INFORMATION MAY BE A CAUSE FOR DISQUALIFICATION OF THIS QUOTATION/BID FROM THE BIDDING PROCESS, AND/OR POSSIBLE CANCELLATION OF THE CONTRACT THAT MAY BE AWARDED ON THE BASIS OF THIS BID.

……..
NAME OF BIDDER

.....
SIGNATURE OF BIDDER OR AUTHORISED REPRESENTATIVE

DATE:.....

FORM C2 COMPULSORY ENTERPRISE QUESTIONNAIRE

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: 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 3 partners.

Section 5: Particulars of companies and close corporations

Company registration number: .....

Close corporation number: .....

Tax reference number: .....

Section 6: Record in the service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently, or has been within the last 12 months, in the service of any of the following:

□ a member of any municipal council □ a member of any provincial legislature □ a member of the National Assembly or the National Council of Province □ a member of the board of directors of any municipal entity □ an official of any municipality or municipal entity	□ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No 1 of 1999) □ a member of an accounting authority of any national or provincial public entity □ an employee of Parliament or a provincial legislature

If any of the above boxes are marked, disclose the following:

*

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*Insert separate page if necessary.

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent or a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently, or has been within the last 12 months, in the service of any of the following:

□	a member of any municipal council		□ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No 1 of 1999)
□	a member of any provincial legislature		□ a member of an accounting authority of any national or provincial public entity
□	a member of the National Assembly or the National Council of Province		□ an employee of Parliament or a provincial legislature
□	a member of the board of directors of any municipal entity		
□	an official of any municipality or municipal entity		

*

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
		Current	Within last 12 months

*Insert separate page if necessary.

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

(i) authorises the Employer to obtain a tax clearance certificate from the South African Revenue Services that my/our tax matters are 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, 2004;

(iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise, 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

(v) 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: .....

FORM C3 TAX CLEARANCE CERTIFICATE REQUIREMENTS AND APPLICATION FORM

MBD 2

TAX CLEARANCE CERTIFICATE REQUIREMENTS AND APPLICATION FORM

It is a condition of bid that the taxes of the successful bidder must be in order, or that satisfactory arrangements have been made with South African Revenue Services (SARS) to meet the bidder's taxobligations.

1. In order to meet this requirement, bidders are required to complete in full the TCC 0001 form, "Application for a Tax Clearance Certificate" and submit it to any SARS branch office nationally or on the website www.sars.gov.za. The Tax Clearance Certificate Requirements are also applicable to foreign bidders / individuals who wish to submit bids.

2. Applications for the Tax Clearance Certificates 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

3. SARS will then furnish the bidder with a Tax Clearance Certificate that will be valid for a period of 1(one) year from the date of approval.

4. In bids where Consortia / Joint Ventures / Sub-Contractors are involved, each party must submit aseparate Tax Clearance Certificate.

5. Tax Compliance Status (TCS) Pin as of 18 April 2016

a. In terms of the new Tax Compliance Status System implemented by SARS on 18 April 2016, taxpayers are now able to issue the municipality with a TCS Pin which can be used to verify abidder's tax status online via SARS E-filing.
b. The taxpayer must issue the municipality with the following:

Bidders who are not in possession of an original Tax Clearance Certificate must provide at least 2 ofthe 3 numbers listed below in order to verify the Tax Clearance Certificate via SARS e-filing.

1. Tax Reference Number	
2. Tax Compliance Status Pin	
3. Tax Clearance Certificate Number:	

c. If a bidder is registered on the MOHOKARE Local Municipality Supplier's Database and the Municipality is already in possession of an original tax clearance certificate which is valid on closing date of bid, it MUST be indicated as such on this page, whereby the attaching of a new tax clearance certificate to this page will not be needed.

6. Should a Tax Clearance Certificate not be verifiable on the SARS e-filing system, the bidder will be afforded an opportunity to submit a valid, verifiable Tax Clearance Certificate. It will result in the invalidation of the bid, should the bidder fail to provide a valid, verifiable Tax Clearance Certificate.

FORM C4 DECLARATION OF INTEREST

MBD 4

DECLARATION OF INTEREST

1.	No bid will be accepted from persons in the service of the state*.	
2.	Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in the service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.	
3.	**In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**	
3.1	Full Name of bidder or his / her representative: ……..	
3.2	Identity number: ……	
3.3	Position occupied in the Company (director, trustee, shareholder[2]): ……..	
3.4	Company Registration Number: …….	
3.5	Tax Reference Number: ……..	
3.6	VAT Registration Number: ……..…….	
3.7	The names of all directors / trustees / shareholders / members, their individual identity numbers and state employee numbers (where applicable) must be indicated in paragraph 4 below.	
3.8	Are you presently in the service of the state?*	**YES / NO**
3.8.1	If yes, furnish the following particulars: Name of person / director / trustee / shareholder member: …….. Name of state institution at which you or the person connected to the bidder is employed: …….. Position occupied in the state institution: …….. Any other particulars: ……. ……..	

3.9 3.9.1	Have you been in the service of the state for the past twelve months? If so, furnish particulars. …….. ……..	**YES / NO**
3.10 3.10.1	Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid? If yes, furnish the following particulars: Name of person: …….. Name of state institution at which you or the person connected to the bidder is employed: …….. Position occupied in the state institution: …….. Any other particulars: …… ……..	**YES / NO**
3.11 3.11.1	Are you aware of any relationship (family, friend, other) between the bidder and any person in the service of the state who may be involved with the evaluation and or adjudication of this bid? If yes, furnish the following particulars: Name of person: …….. Name of state institution at which you or the person connected to the bidder is employed: …….. Position occupied in the state institution: …… Any other particulars: …… ……...	**YES / NO**
3.12 3.12.1	Are any of the company's directors, managers, principal shareholders or stakeholders in the service of the state? If yes, furnish the following particulars: Name of person / director / trustee / shareholder / member: ……	**YES / NO**

	Name of state institution at which you or the person connected to the bidder is employed: …….. Position occupied in the state institution: …… Any other particulars: ……. ……..……	
3.13 3.13.1	Is any spouse, child or parent of the company's directors, trustees, managers, principle shareholders or stakeholders in the service of the state? If yes, furnish the following particulars: Name of person / director / trustee / shareholder / member: …… Name of state institution at which you or the person connected to the bidder is employed: …….. Position occupied in the state institution: …… Any other particulars: ……. …….……..	**YES / NO**
3.14 3.14.1	Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract? If yes, furnish particulars: …….. ……..	**YES / NO**

4. Full details of directors / trustees / members / shareholders:

THE FOLLOWING INFORMATION IS <u>COMPULSORY</u> TO COMPLETE:

Full Name	Identity Number	Individual Tax Number for each Director	State Employee Number (where applicable)

5.	**The contract will be automatically cancelled if there is a conflict of interest which is not disclosed by the bidder.**

…….. ……..
Signature Date

…… ……
Capacity Name of Bidder

[1]MSCM Regulations: "in the service of the state" means to be -

(a) a member of –
  (i) any municipal council;
  (ii) any provincial legislature; or
  (iii) the National Assembly or the National Council of Provinces;
(b) a member of the board of directors of any municipal entity;
(c) an official or any Municipality or municipal entity;
(d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
(e) a member of the accounting authority of any national or provincial entity; or
(f) an employee of Parliament or a provincial legislature.

[2]"Shareholder" means a person who owns shares in the company and is actively involved in the management of the company or business and exercise control over the company.

FORM C5 PREFERENCING SCHEDULES: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

MBD 6.1

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 (BBBEEE Status Level) .

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 (BBBEEE Status Level and Locality)	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**

$$Ps = 80\left(1 - \frac{Pt - P\,min}{P\,min}\right) \quad \text{or} \quad Ps = 90\left(1 - \frac{Pt - P\,min}{P\,min}\right)$$

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**

$$Ps = 80\left(1 + \frac{Pt - P\,max}{P\,max}\right) \quad \text{or} \quad Ps = 90\left(1 + \frac{Pt - P\,max}{Pmax}\right)$$

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 **B-BBEE**	**Number of points claimed (80/20 system)**	**Number of points claimed (80/20 system) (To be completed by the tenderer)**
1	10	
2	8	
3	6	
4	4	
5	2	
6	2	
7	2	
8	2	
Non-Compliant	0	

The specific goals allocated points in terms of this tender LOCALITY	Number of points claimed (locality)	Number of points claimed (80/20 system) (To be completed by the tenderer)
office within Mohokare Local Municipality	10	
office within Xhariep District	6	
office within the Free State	4	
outside the Free State	2	

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**: …… …… …… ……

FORM C6 LOCAL CONTENT IN TERMS OF PPR 2022

MBD 6.2

DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This Municipal Bidding Document (MBD) must form part of all bids invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2011 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

1. General Conditions

1.1. Preferential Procurement Regulations, 2022 (Regulation 9) makes provision for the promotion of local production and content.

1.2. Regulation 9.(1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.

1.3. Where necessary, for bids referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.

1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.

1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1- x / y] *100$$

Where
x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by the South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as required in paragraph 4.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on http://www.thedti.gov.za/industrial development/ip.jsp at no cost.

1.6. A bid may be disqualified if –

(a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and

(b) the bidder fails to declare that the Local Content Declaration Templates (Annex C, D and E) have been audited and certified as correct.

2. Definitions

2.1. **"bid"** includes written price quotations, advertised competitive bids or proposals;

2.2. **"bid price"** price offered by the bidder, excluding value added tax (VAT);

2.3. **"contract"** means the agreement that results from the acceptance of a bid by an organ of state;

2.4. **"designated sector"** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;

2.5. **"duly sign"**means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility(close corporation, partnership or individual).

2.6. **"imported content"** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour and intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;

2.7. **"local content"** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;

2.8. **"stipulated minimum threshold"** means that portion of local production and content as determined by the Department of Trade and Industry; and

2.9. **"sub-contract"** means the primary contractor's assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.

3. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods	Stipulated minimum threshold
_____	_____%
_____	_____%
_____	_____%

4. Does any portion of the services, works or goods offered?
have any imported content?
(***Tick applicable box***)

YES		NO	

4.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by the SARB for the specific currency at 12:00 on the date of advertisement of the bid.

The relevant rates of exchange information is accessible on **www.reservebank.co.za.**

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	**Rates of exchange**
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Bidders must submit proof of the SARB rate (s) of exchange used.

5. Were the Local Content Declaration Templates (Annex C, D and E) audited and certified as correct?
(***Tick applicable box***)

YES		NO	

5.1. If yes, provide the following particulars:
(a) Full name of auditor: ……
(b) Practice number: ……..
(c) Telephone and cell number: ……
(d) Email address: ……..

(Documentary proof regarding the declaration will, when required, be submitted to the satisfaction of the Accounting Officer / Accounting Authority)

6. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the Accounting Officer / Accounting Authority provide directives in this regard.

LOCAL CONTENT DECLARATION
(REFER TO ANNEX B OF SATS 1286:2011)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. .....

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity):
.....

NB

1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.

2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on http://www.thedti.gov.za/industrial development/ip.jsp. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, ……..... (full names),
do hereby declare, in my capacity as …… ……..
of .....(name of bidder entity), the following:

(a) The facts contained herein are within my own personal knowledge.

(b) I have satisfied myself that

(i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
(ii) the declaration templates have been audited and certified to be correct.

(c)The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

(d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

SIGNATURE: _____ **DATE:** _____

WITNESS No. 1 _____ **DATE:** _____

WITNESS No. 2 _____ **DATE:** _____

FORM C7: CONTRACT FORM - PURCHASE OF GOODS/WORKS

MBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS

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

PART 1 (TO BE FILLED IN BY THE BIDDER)

1. I hereby undertake to supply all or any of the goods and/or works described in the attached bidding documents to (name of institution) ……..……. in accordance with the requirements and specifications stipulated in bid number……..…….. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the purchaser during the validity period indicated and calculated from the closing time of bid.

2. The following documents shall be deemed to form and be read and construed as part of this agreement:

   (i) Bidding documents, *viz*
   - Invitation to bid;
   - Tax clearance certificate;
   - Pricing schedule(s);
   - Technical Specification(s);
   - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011;
   - Declaration of interest;
   - Declaration of bidder's past SCM practices;
   - Certificate of Independent Bid Determination;
   - Special Conditions of Contract;

   (ii) General Conditions of Contract; and
   (iii) Other (specify)

3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the goods and/or works specified in the bidding 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.

4. 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 fulfillment of this contract.

5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.

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

NAME (PRINT) ……

CAPACITY ……

SIGNATURE ……

NAME OF FIRM ……

DATE ……

WITNESSES

1 ……

2. ……

DATE: ……

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

MBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS

PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I…… in my capacity as……..….. accept your bid under reference number ……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 authorized to sign this contract.

SIGNED AT ……ON……..

NAME (PRINT) …….

SIGNATURE …….

OFFICIAL STAMP

WITNESSES

1. …….

2. …….

DATE …….

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FORM C8: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

MBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1 This Municipal Bidding Document must form part of all bids invited.

2 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3 The bid of any bidder may be rejected if that bidder, or any of its directors have:

a. abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
b. been convicted for fraud or corruption during the past five years;
c. willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
d. been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2015).

4 **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

Item	Question	Yes	No
4.1	**Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?** **(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the *audi alteram partem* rule was applied).** The Database of Restricted Suppliers now resides on the National Treasury's website(**www.treasury.gov.za**) and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2015)? **The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.**	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		

Item	Question	Yes	No
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☐
4.3.1	If so, furnish particulars:		
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☐
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☐
4.7.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME) .....
CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

..... **.....**
Signature **Date**

..... **.....**
Position **Name of Bidder**

FORM C9: CERTIFICATE OF INDEPENDENT BID DETERMINATION

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

1 This Municipal Bidding Document (MBD) must form part of all bids[1] invited.

2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).[2] Collusive bidding is a pe se prohibition meaning that it cannot be justified under any grounds.

3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:

a. take all reasonable steps to prevent such abuse;

b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and

c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.

4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.

5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

[1] Includes price quotations, advertised competitive bids, limited bids and proposals.

[2] Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

_____

(Bid Number and Description)

in response to the invitation for the bid made by:

Mohokare Local Municipality

(Name of Municipality / Municipal Entity)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of:_____that:

(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word “competitor” shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:

    (a) has been requested to submit a bid in response to this bid invitation;
    (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
    (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder

MBD 9

6. 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 consortium[3] will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
    (a) prices;
    (b) geographical area where product or service will be rendered (market allocation);
    (c) methods, factors or formulas used to calculate prices;
    (d) the intention or decision to submit or not to submit, a bid;
    (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
    (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. 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] 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.

MBD 9

10. 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 2015 or any other applicable legislation.

.....	.....
Signature	Date
.....	.....
Position	Name of Bidder

FORM C10: PROTECTION OF PERSONAL INFORMATION

PROTECTION OF PERSONAL INFORMATION

1. The following terms shall bear the same meaning as contemplated in Section 1 of the Protection of Personal information act, No.4 of 2013. ("POPIA"):
   Consent; data subject; electronic communication; information officer; operator; person; personal information; processing; record; Regulator; responsible party; special information; as well as any terms derived from these terms.

2. Mohokare Local Municipality or its representative will process all information by the Respondent in terms of the requirements contemplated in Section4(1) of the POPIA:
   Accountability; Processing limitation; Purpose specification; Further processing limitation; Information quality;Openness; Security safeguards and Data subject participation.

3. The Parties acknowledge and agree that, in relation to personal information that will be processed pursuant tothis BID, the Responsible party is "Mohokare Local Municipality" and the Data subject is the "Respondent". Mohokare Local Municipality will process personal information only with the knowledge and authorisation of the Respondent and will treat personal information which comes to its knowledge as confidential and will not disclose it, unless so required by law or subject to the exceptions contained in the POPIA.

4. Mohokare Local Municipality reserves all the rights afforded to it by the POPIA in the processing of any of its information as contained in this BID and the Respondent is required to comply with all prescripts as detailed in the POPIA relating to all information concerning Mohokare Local Municipality.

5. In responding to this bid, Mohokare Local Municipality acknowledges that it will obtain and have access to personal information of the Respondent. Mohokare Local Municipality agrees that it shall only process the information disclosed by Respondent in their response to this bid for the purpose of evaluating and subsequent award of business and in accordance with anyapplicable law.

6. Mohokare Local Municipality further agrees that in submitting any information or documentation requested in this BID, the Respondent is consenting to the further processing of their personal information for the purpose of, but not limited to, risk assessment, assurances, contract award, contract management, auditing, legal opinions/litigations, investigations (if applicable), document storage for the legislatively required period, destruction, de-identification and publishing of personal information by Mohokare Local Municipality and/or its authorised appointed third parties.

7. Furthermore, Mohokare Local Municipality will not otherwise modify, amend or alter any personal data submitted by the Respondent or disclose or permit the disclosure of any personal data to any third party without the prior written consent from the Respondent. Similarly, Mohokare Local Municipality requires the Respondent to process any personal informationdisclosed by Mohokare Local Municipality in the bidding process in the same manner.

8. Mohokare Local Municipality shall, at all times, ensure compliance with any applicable laws put in place and maintain sufficient measures, policies and systems to manage and secure against all forms of risks to any information that may beshared or accessed pursuant to this BID (physically, through a computer or any other form of electronic communication).

9. Mohokare Local Municipality shall notify the Respondent in writing of any unauthorised access to information, cybercrimes or suspected cybercrimes, in its knowledge and report such crimes or suspected crimes to the relevant authorities in accordance with applicable laws, after becoming aware of such crimes or suspected crime. The Respondent must take all necessary remedial steps to mitigate the extent of the loss or compromise of personal information and to restore the integrity of the affected personal information as quickly as is possible.

10. The Respondent may, in writing, request Mohokare Local Municipality to confirm and/or make available any personal information in its possession in relation to the Respondent and if such personal information has been accessed by third parties and the identity thereof in terms of the POPIA. The Respondent may further request that Mohokare Local Municipality correct (excluding critical/mandatory or evaluation information), delete, destroy, withdraw consent or object to the processing of any personal information relating to the Respondent in Mohokare Local Municipality's possession in terms of the provision of the POPIA and utilizing Form 2 of the POPIA Regulations.

11. In submitting any information or documentation requested in this BID, the Respondent is hereby consenting to the processing of their personal information for the purpose of this BID and further confirming that they are aware of their rights in terms of Section 5 of POPIA

Respondents are required to provide consent below:

YES		**NO**	

12. Further, the Respondent declares that they have obtained all consents pertaining to other data subject's personal information included in its submission and thereby indemnifying Mohokare Local Municipality against any civil or criminal action, administrative fines or other penalty or loss that may arise as a result of the processing of any personal information that the Respondent submitted.

13. The Respondent declares that the personal information submitted for the purpose of this BID is complete, accurate, not misleading, is up to date and may be updated where applicable.

Signature of Respondent's authorised representative: _____

Should a Respondent have any complaints or objections to processing of its personal information, by Mohokare Local Municipality,the Respondent can submit a complaint to the Information Regulator on https://www.justice.gov.za/inforeg/, click on contact us, click on complaints.IR@justice.gov.za

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

THE CONTRACT

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

PART C1 AGREEMENT AND CONTRACT DATA

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

C1.1 FORM OF OFFER AND ACCEPTANCE (AGREEMENT)

OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a Contract in respect of the following works:

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

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

By the representative of the Tenderer, deemed to be duly authorised, 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

……..

…… rand *[in words]*; R…… *[in figures],*

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 _____ _____

_____
[Name and address of organisation]

Name and signature of witness _____ Date _____

CIDB Registration number _____

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

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	Agreements 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 Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the Tender Data and any Addenda thereto listed in the Tender 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 Agreement. No amendments to or deviations from the said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The Tenderer shall within the time required to submit documentation in accordance with clause 5.3.2 of the Contract Data (C1.2) 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 guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date this Agreement comes into effect. 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 working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding Contract between the parties.

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

_____

[Name and address of organisation]

Name and signature of witness _____ Date _____

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the Tender Documents issued by the Employer prior to 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 acceptance, the outcome of such agreement shall be recorded here.

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 is agreed by the Parties becomes an obligation of the Contract and shall also be recorded here.

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 Subject .....

Details .....

2 Subject .....

Details .....

3 Subject .....

Details .....

4 Subject .....

Details .....

5 Subject .....

Details .....

6 Subject .....

Details .....

By the duly authorised representatives signing this Schedule of Deviations, 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 Tender Schedules, as well as any confirmation, clarification or change 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.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

FOR THE TENDERER:

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

_____
[Name and address of organisation]

Name and signature of witness _____ Date _____

FOR THE EMPLOYER:

Signature(s) _____ _____

Name(s) _____ _____

Capacity _____ _____

_____
[Name and address of organisation]

Name and signature of witness _____ Date _____

CONFIRMATION OF RECEIPT

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]*

20.....*[year]*

at ..... *[place]*

For the Contractor: .....
Signature

.....
Name

.....
Capacity

Signature and name of witness: .....
Signature

.....
Name

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

C1.2 CONTRACT DATA

PART 1: DATA PROVIDED BY THE EMPLOYER

CONDITIONS OF CONTRACT

The *General Conditions of Contract for Construction Works,* Third Edition, 2015, published by the South African Institution of Civil Engineering, is applicable to this Contract and is obtainable from www.saice.org.za.

Copies of these Conditions of Contract may be obtained from the South African Institution of Civil Engineering, Tel 011 805 5947.

CONTRACT SPECIFIC DATA

The following contract specific data are applicable to this Contract:

Clause

1.1.1.13 The Defects Liability Period is 365 days.

1.1.1.14 The time for achieving Practical Completion is **.....** Days.

1.1.1.15 The name of the Employer is **Mohokare Local Municipality.**

1.2.1.2 The Employer's address for receipt of communications is:

Postal Address	Physical Address
Mohokare Local Municipality	Mohokare Local Municipality
1 Hoofd Street	1 Hoofd Street
Zastron	Zastron
9950	9950

Telephone: 051 673 9600

website: www.mohokare.gov.za

1.1.1.16 The Engineer is **Engineering Aces (Pty) Ltd** represented by an Employee duly authorised thereto in writing.

1.2.1.2 The Engineer's address for receipt of communications is:

Physical address:	Postal address:
58 Victoria Road	58 Victoria Road
Willows, Bloemfontein	Willows, Bloemfontein
9301	9301

Telephone: 051 430 0994

Email: admin@engineeringaces.com

Clause

1.1.1.26 The Pricing Strategy is: Re-measurement Contract.

3.2.3 The Engineer shall obtain the specific approval of the Employer before executing any of his functions or duties according to the following Clauses of the General Conditions of Contract:

1 Clause 6.3: Variations

2 Clause 5.11.1: Suspension of the Works

3 Clause 5.12: Extension of Time for Practical Completion

5.3.1 The documentation required before commencement with Works execution are:

Health and Safety Plan (Refer to Clause 4.3)
Initial programme (Refer to Clause 5.6)
Security (Refer to Clause 6.2)
Insurance (Refer to Clause 8.6)
Cash flow projection.
Quality assurance plan
Concrete mix design

5.3.2 The time to submit the documentation required before commencement with Works execution is fourteen (14) days.

5.8.1 The non-working days are Sundays.

The special non-working days are:

1 Usually public holidays and (add voting days if applicable)

2 The year end break commencing and ending on dates as specified by SAFCEC.

5.13.1 The penalty for failing to complete the Works is R 2 300 per day.

5.16.3 The latent defect period is ten (10) years for civil engineering works.

6.2.1 The Type of Security provided by the Contractor shall be a Performance Guarantee of 10% of the Contract Sum.

6.8.2 Contract Price Adjustment: Is not applicable

6.10.1.5 The percentage advance on materials not yet built into the Permanent Works is 80%.

6.10.3 Percentage retention is 10%.
The retention money amount is limited to 10% of the Contract value.

8.6.1.1.2 The value of Plant and materials supplied by the Employer to be included in the insurance sum is NIL

8.6.1.1.3 The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is R 250 000

8.6.1.3 The limit of indemnity for liability insurance is R5 000 000 for any single claim, the number of claims to be unlimited during construction and Defects Liability Period.

Clause

8.6.1.5 In addition to the insurance required in terms of General Conditions of Contract Clause 8.6.11 to 8.6.1.3 the following insurance is also required:

Insurance cover against any damages or loss against production due to political unrest. The client shall not be held responsible for such damages or losses.

Existing buildings and infrastructure in the vicinity of the works likely to suffer damage as a result of the Contractor`s negligence to the value of R5 000 000.00

10.7.1 The determination of disputes shall be by arbitration.

PART 2: DATA PROVIDED BY THE CONTRACTOR

1.1.1.9 The Contractor is ……

1.2.1.2 The Contractor's address for receipt of communications is:

Physical address:	Postal address:
.....	.....
.....	.....
.....	.....
.....	.....

Telephone: .....

Fax: .....

Email: .....

6.2.1 The security to be provided by the Contractor shall be a Performance Guarantee of 10% of the Contract sum (inclusive of 15% VAT) plus retention as stated in 6.10.3 of part 1

VARIATIONS TO THE CONDITIONS OF CONTRACT ARE:

Clause

4.4.2 Liability for subcontractors

Add the following to Clause 4.4.2 after the last sentence:

"The Contractor shall not subcontract any part of the Contract without the prior written consent of the Engineer, which consent shall not be unreasonably withheld."

5.3.3 Time to instruct commencement of the Works

Add the following to Clause 5.3.3 after the last sentence:

"The Contractor shall not commence working until they have an approved project specific health and safety plan in terms of the Occupational Health and Safety Act, 1993: Construction Regulations, 2014 and complied with the initial requirements thereof."

5.14.2 Issue of Certificate of Practical Completion

Replace "the Employer's Agent" *in the second line with the following:*

", the Contractor shall notify the Engineer, who shall inspect the Works and the Engineer"

5.14.4 Certificate of Completion

Replace " the Employer's Agent " *in the third line of the first paragraph with:*

", the Contractor shall notify the Engineer, who shall inspect the works and the Engineer"

6.2.2 *Delete Clause 6.2.2 in its entirety.*

6.10.4 Delivery, dissatisfaction with and payment of payment certificate

Replace "28 days" *in the seventh line with* "30 days".

6.11 Variations exceeding 15 per cent

Replace "15 per cent" *in the heading, the marginal heading and the fourteenth line with* "20 per cent".

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FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

C1.3 PERFORMANCE GUARANTEE (PRO FORMA)

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means: .....

Physical address: .....

"Employer" means: .....

"Contractor" means: .....

"Engineer" means: .....

"Works" means: .....

"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 R .....

Amount in words: .....

"Guaranteed Sum" means: The maximum aggregate amount of R.....

Amount in words: .....

"Expire Date" means: .....

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificate 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 acknowledge 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 this 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 payment 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 Performance 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 within 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 al 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 Courts Act No 32 of 1944, as amended, to the 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) .....

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FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

C1.4 AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

THIS AGREEMENT made at .....

on this the ..... day of ..... in the year ……

between …… *[hereinafter called "the Employer"]* of the one

part, herein represented by .....

in his capacity as .....

and .....

[hereinafter called "the Mandatary"] of the other part, herein represented by .....

.....

in his capacity as .....

WHEREAS the Employer is desirous that certain works be constructed, viz *CONTRACT TITLE* .....

.....
and has accepted a Tender by the Mandatary for the construction, completion and maintenance of such Works and whereas the Employer and the Mandatary have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatary with the provisions of the Occupational Health and Safety Act, 1993 (Act 85 of 1993);

NOW THEREFORE THIS AGREEMENT WITNESSETH AS FOLLOWS:

1 The Mandatary shall execute the work in accordance with the Contract Documents pertaining to this Contract.

2 This Agreement shall hold good from its Commencement Date, which shall be the date of a written notice from the Employer or Engineer requiring him to commence the execution of the Works, to either

(a) the date of the Final Approval Certificate issued in terms of Clause 5.16.1 (GCC 2015) of the General Conditions of Contract *[hereinafter referred to as "the GCC"],* or

(b) the date of termination of the Contract in terms of Clauses 9.1, 9.2 or 9.3 (GCC 2015) of the GCC.

3 The Mandatary declares himself to be conversant with the following:

(a) All the requirements, regulations and standards of the Occupational Health and Safety Act, 1993 (Act No 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following sections of The Act:

(i) Section 8 : General duties of employers to their employees;

(ii) Section 9 : General duties of employers and self-employed persons to persons other than employees;

(iii) Section 37 : Acts or omissions by employees or mandataries, and

(iv) Subsection 37(2) relating to the purpose and meaning of this Agreement.

(b) The procedures and safety rules of the Employer as pertaining to the Mandatary and to all his subcontractors.

4 In addition to the requirements of Clause 8.4 (GCC 2015) of the GCC and all relevant requirements of the Contract, the Mandatary agrees to execute all the Works forming part of this Contract and to operate and utilise all machinery, plant and equipment in accordance with the Act.

5 The Mandatary is responsible for the compliance with the Act by all his subcontractors, whether or not selected and/or approved by the Employer.

6 The Mandatary warrants that all his and his subcontractors' workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 which cover shall remain in force whilst any such workmen are present on site. A letter of good standing from the Compensation Commissioner to this effect must be produced to the Employer upon signature of the agreement.

7 The Mandatary undertakes to ensure that he and/or subcontractors and/or their respective employers will at all times comply with the following conditions:

(a) The Mandatary shall assume the responsibility in terms of Section 16.1 of the Occupational Health and Safety Act. The Mandatary shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Mandatary obtains such approval and delegates any duty in terms of Section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.

(b) All incidents referred to in the Occupational Health and Safety Act shall be reported by the Mandatary to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.

(c) The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of Section 32 of the Occupational Health and Safety Act into any incident involving the Mandatary and/or his employees and/or his subcontractors.

In witness thereof the parties hereto have set their signatures hereon in the presence of the subscribing witnesses:

SIGNED FOR AND ON BEHALF OF THE EMPLOYER: .....

WITNESS 1 ..... 2 .....

NAME 1..... 2 .....
(IN CAPITALS)

SIGNED FOR AND ON BEHALF OF THE MANDATARY: .....

WITNESS 1 ..... 2 .....

NAME 1..... 2 .....
(IN CAPITALS)

CERTIFICATE OF AUTHORITY FOR SIGNATORY TO AGREEMENT IN TERMS OF OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)

The signatory for the company that is the Contractor in terms of the above-mentioned Contract and the Mandatary in terms of the above-mentioned Act shall confirm his or her authority thereto by attaching to this page a duly signed and dated copy of the relevant resolution of the Board of Directors.

An example is given below:

"By resolution of the Board of Directors passed at a meeting held on ..... 20 ..... ,

Mr/Ms ..... whose signature

appears below, has been duly authorised to sign the AGREEMENT in terms of THE OCCUPATIONAL

HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993) on behalf of .....

.....

SIGNED ON BEHALF OF THE COMPANY : .....

IN HIS/HER CAPACITY AS : .....

DATE : .....

SIGNATURE OF SIGNATORY : .....

WITNESS 1 ..... 2 .....

NAME 1..... 2 .....
(IN CAPITALS)

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FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

PART C2 PRICING DATA

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

C2.1 PRICING INSTRUCTIONS

1 The General Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the drawings shall be read in conjunction with the Bill of Quantities.

2 The Bill comprises items covering the Contractor's profit and costs of general liabilities and of the construction of Temporary and Permanent Works.

Although the Tenderer is at liberty to insert a rate of his own choosing for each item in the Bill, he should note the fact that the Contractor is entitled, under various circumstances, to payment for additional work carried out and that the Engineer is obliged to base his assessment of the rates to be paid for such additional work on the rates the Contractor inserted in the Bill.

Clause 8 of each Standardized Specification, and the measurement and payment clause of each Particular Specification, read together with the relevant clauses of the Project Specifications, all set out which ancillary or associated activities are included in the rates for the specified operations.

3 Descriptions in the Bill of Quantities are abbreviated and may differ from those in the Standardized and Scope of Work. No consideration will be given to any claim by the Contractor submitted on such a basis. The Bill has been drawn up generally in accordance with the latest issue of Civil Engineering Quantities[1]. Should any requirement of the measurement and payment clause of the appropriate Standardised or Project Specification(s) be contrary to the terms of the Bill or, when relevant, to the Civil Engineering Quantities, the requirement of the appropriate Standardised, Project, or Particular Specification as the case may be, shall prevail.

4 Unless stated to the contrary, items are measured net in accordance with the drawings without any allowance having been made for waste.

5 The amounts and rates to be inserted in the Bill of Quantities shall be the full inclusive amounts to the Employer for the work described under the several items. Such amounts shall cover all the costs and expenses that may be required in and for the construction of the work described, and shall cover the costs of all general risks, profits, taxes (but excluding value-added tax), liabilities and obligations set forth or implied in the documents on which the Tender is based.

6 An amount or rate shall be entered against each item in the Bill of Quantities, whether or not quantities are stated. An item against which no amount or rate is entered will be considered to be covered by the other amounts or rates in the Bill.

The Tenderer shall also fill in a rate against the items where the words "rate only" appear in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the tendered rates shall apply should work under these items actually be required.

1 South African Institution of Civil Engineers, *The Standard System of Measurement of Civil Engineering Quantities*

Should the Tenderer group a number of items together and tender one sum for such group of items, the single tendered sum shall apply to that group of items and not to each individual item, or should he indicate against any item that full compensation for such item has been included in another item, the rate for the item included in another item shall be deemed to be nil.

The tendered rates, prices and sums shall, subject only to the provisions of the Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.

7 The quantities of work as measured and accepted and certified for payment in accordance with the Conditions of Contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences between the quantities in the Bill of Quantities and the quantities certified for payment.

Ordering of materials are not to be based on the Bill of Quantities, but only on information issued for construction purposes.

8 For the purposes of this Bill of Quantities, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the Standardized, Project or Particular Specifications
Quantity	:	The number of units of work for each item
Rate	:	The payment per unit of work at which the Tenderer tenders to do the work
Amount	:	The quantity of an item multiplied by the tendered rate of the (same) item
Sum	:	An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units

9 The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill of Quantities:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m^2	=	square metre
m^2-pass	=	square metre-pass
ha	=	hectare
m^3	=	cubic metre
m^3-km	=	cubic metre-kilometre
kW	=	kilowatt
kN	=	kilonewton
kg	=	kilogram
t	=	ton (1 000 kg)
%	=	per cent
MN	=	meganewton
MN-m	=	meganewton-metre
PC Sum	=	prime cost sum
Prov Sum	=	provisional sum

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FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

C2.2 BILL OF QUANTITIES

CLIENT: MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

CONTRACT TITLE: RE-ADVERT: APPOINTMENT OF A CONTRACTOR:CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

BILL OF QUANTITIES
NB TENDERERS MUST COMPLETE THE SCHEDULE OF QUANTITIES IN BLACK INK

SECTION 1200 A

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
SANS 1200 A	**110.00**	**GENERAL**				
8.3	**110.01**	SCHEDULED FIXED-CHARGE AND VALUE-RELATED ITEMS				
PSA 8.3.1		.01 Fixed preliminary and general charges	Sum	1	Sum	
PSA 8.3.2		.02 Value related preliminary and general charges	Sum	1	Sum	
	110.02	**Scheduled time-related items:**				
PSA 8.4.1		.01 Time-related preliminary and general charges	-	-	Sum	
	110.03	**Sums stated provisionally by Engineer:**				
PSA 8.5.1		.01 Works executed by the Contractor:				
		.01 General refurbishment work	-	Prov	Sum	R10 000.00
		.02 Overheads, charges and profit on subitem 110.03.01.01 above	%	R10 000.00		
		.03 Works executed by Sub-Contractors:				
		.01 Drilling, Testing and Equipping of borehole (including all relevant pipe fittings, casing, etc.)	-	Prov	Sum	R150 000.00
		.02 Overheads, charges and profit on subitem 110.03.03.01	%	R150 000.00		
1200 A	Carried forward					

SECTION 1200 A

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
		Brought forward				
		.04 Maintenance of kikuyu grass during the construction period	-	Prov	Sum	R30 000.00
		.01 Overheads, charges and profit on subitem 110.03.04.01 above	%	R30 000.00	5%	R1 500.00
PSA 8.6	**110.04**	**Prime Cost Sums:**				
		.01 Additional tests required by the Engineer	-	-	PC Sum	R2 500.00
		.02 Charge required by Contractor on subitem 110.04.01 above	%	R2 500.00		
		.03 Housing for Engineer's representative	-	-	PC Sum	R15 000.00
		.04 Charge required by Contractor on subitem 110.04.03 above	%	R15 000.00		
		.05 Transportation for the Engineer	-	-	PC Sum	R10 000.00
		.06 Charge required by Contractor on subitem 110.04.05 above	%	R10 000.00		
		.07 Telephone costs for the Engineer	-	-	PC Sum	R5 000.00
		.08 Charge required by Contractor on subitem 110.04.05 above	%	R5 000.00		
PSA 8.7	**110.05**	**Daywork (Provisional)**				
		.01 **Labour**				
		.01 Skilled labour	h	8		
		.02 Semi-skilled labour	h	8		
		.03 Unskilled labour	h	8		
		.02 **Materials**				
		.01 Allow for all-inclusive materials actually used	-	-	PC Sum	R2 500.00
		.02 Charge required by Contractor on subitem 110.05.02.01 above	%	R2 500.00		
1200 A	Carried forward					

SECTION 1200 A

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
		Brought forward				
PSA 8.7		.03 **Contractor's own Plant**				
		.01 Allow for all-inclusive cost of using Contractor's own plant on Site	-	-	PC Sum	R5 000.00
		.02 Charge required by Contractor on subitem 110.05.03.01 above	%	R5 000.00		
		.04 **Plant hired by the Contractor**				
		.01 Allow for net cost of hired plant	-	-	PC Sum	R5 000.00
		.02 Charge required by Contractor on subitem 110.05.04.01 above	%	R5 000.00		
PSA 8.9	**110.06**	**Compliance with OHS Act and Construction Regulations:**	-	-	sum	
SDA 8.9	**110.08**	**Local Subcontrators Compliance with OHS Act and Construction Regulations:**	-	-	sum	
	110.07	**Community Liaison Officer**				
		.01 Community Liaison Officer Cost	months		6 000.00	
		.02 Project Steering Committee costs (R350 per member per sitting)	PC Sum	1	5 250.00	R5 250.00
		.03 Overheads, charges and profit on subitem 110.09.01 above	%			
SDAB 8.2.6	**110.08**	**Name Board**				
		.01 Supply and install project nameboard as per specifications and at location specified by Employer	-	Prov	Sum	R15 000.00
SDA 8.11	**110.09**	**Training**				
		.01 Allow for cost of training	-	-	PC Sum	R25 000.00
		.02 Percentage adjustment on Item 110.12.01 for Contractor's overheads and profit	%	R25 000.00		
1200 A	**TOTAL OF SECTION 1200 A CARRIED TO SUMMARY**					

SECTION 1200 C

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
SABS 1200 C	**130.00**	**SITE CLEARANCE**				
PSC 8.2.1	**130.01**	**Clear and grub:**				
		.01 Areas	m²	17 000		
	TOTAL SECTION 1200 C CARRIED TO SUMMARY					

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
SABS 1200 D	**140.00**	**EARTHWORKS**				
PSD 8.3.2	**140.01**	**Bulk excavation:**				
		.01 Excavate in all materials and use for embankment or backfill as ordered from:				
		.01 Necessary excavations	m³	200		
		.02 Cut to fill compacted to 93% of modified AASHTO maximum density	m³	400		
		.02 Excavate in all materials and dispose	m³	50		
		.03 Extra over items 140.01.01, 140.01.01.01 and 140.01.02 above for:				
		.01 Intermediate excavation	m³	45		
		.02 Hard rock excavation	m³	15		
8.3.4	**140.03**	**Importing of materials:**				
		.01 Extra over items 140.01 for importation of G6 material from commercial sources	m³	50		
PSD 8.3.8	**140.07**	**Existing services:**				
		.01 Hand excavation for locating and exposing existing services:				
		.01 In all other areas	m³	10		
SDD 8.3.9	**140.14**	**Extra over items 140.01.01 for Backfill or for fill materials against structures**				
		.01 Construct in 150mm layers G6 material from commercial sources as per drawings				
		.01 G6 Material	m³	50		
SDDM 8.3.3	**140.10**	**Treatment of insitu material:**				
		.03 Rip and re-compact insitu material compacted to 93% MOD AASHTO				
		.01 Soccer Pitch	m²	8 900		
1200 D	Carried forward					

SECTION 1200 D

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
		Brought forward				
SDME 8.3.3	**140.11**	**Construct the subbase course with material from commercial sources**				
		.01 100 mm Thick Fertilised, weed free Topsoil Material for Grassing	m³	890		
		.02 15mm Thick Fertilised, weed free Sieved Topsoil Material for Grassing	m³	120		
8.3.9	**140.12**	Extra-over for backfill or fill material against structure	m³	50		
SDD 8.3.16	**140.13**	**Supply, deliver and Install Instant Lawn (Kikuyu) estabishment (per drawing no:** (Drawing No: 1109-CIV-DRG-400)	m²	8900		
SDDM 8.3.17	**140.14**	**Field markings** (refer to drawwing 1109-CIV-DRG-400)	sum	1		
	TOTAL SECTION 1200 D CARRIED TO SUMMARY					

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
SABS 1200 DB	**142.00**	**EARTHWORKS (PIPE TRENCHES)**				
		TRENCHES FOR WATER PIPES				
PSDB 8.3.2	**142.01**	**Excavate in all materials for trenches, backfill, compact and dispose of surplus material:**				
		.01 Pipes up to 150 mm dia for depths:				
		.01 Up to 1,0 m	m	400		
		.02 Over 1,2 to 2,0 m	m	100		
PSDB 8.3.2	**142.02**	**Extra over item 142.01 above for:**				
		.01 Intermediate excavation	m³	20		
		.02 Hard rock excavation	m³	10		
		.03 Backfill stabilized with 5% cement where directed by the Engineer	m³	5		
PSDB 8.3.2	**142.07**	**Excavate for stormwater inlet and outlet structures and for manholes, catchpits and the like in all materials, irrespective of depth and backfill** around structures	m³	5		
PSDB 8.3.7	**142.08**	**Accommodation of traffic**				
		.01 Adjacent Street	sum	1		
	TOTAL SECTION 1200 DB CARRIED TO SUMMARY					

SECTION 1200 G

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
SABS 1200 G	**170.00**	**CONCRETE (STRUCTURAL)**				
		SCHEDULED FORMWORK ITEMS				
8.2.5	**170.02**	**Smooth:**				
		.01 Vertical formwork to:				
		.01 Narrow sections 200 mm to 400 mm deep	m	20		
8.2.5		SCHEDULED REINFORCEMENT ITEMS				
8.3.2	**170.07**	**High-tensile welded mesh in the following:**				
		.01 Mesh Ref No.193 in surface bed	m²	20		
8.3.1		SCHEDULED CONCRETE ITEMS				
8.4.2	**170.06**	**.02 Concrete Grade 25 MPa/20 mm to:**				
		.01 Slabs	m³	5		
	170.07	**Unformed surface finishes:**				
		.01 Steel-floated finishes to:				
		.01 Top of slabs	m²	20		
SDG 8.5	**170.11**	**Joints:**				
		.01 Saw Cut Joint	m	10		
	1200 G	**TOTAL OF SECTION 1200 G CARRIED TO SUMMARY**				

SECTION 1200 H

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
SABS 1200 H	**180.00**	**STRUCTURAL STEELWORK**				
SD8.3.17	**180.17**	**Structural steel posts** (Drawing No: 1109-CIV-DRG-401)				
		.01 Complete prefabricated soccer and rugby posts	No.	2.0		
	TOTAL SECTION 1200 H CARRIED TO SUMMARY					

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
SABS 1200 L	**210.00**	**MEDIUM-PRESSURE PIPELINES**				
8.2.1	**210.01**	**Supply, lay and bed on flexible bedding, complete with couplings:**				
		.01 PVC-u class 9 pipes:				
		.01 75mm diameter	m	150		
		.02 HDPE class 6 pipes: complete with fiitings as per drawing: (1109-CIV-DRG-200)				
		.01 50mm diameter	m	410		
	210.02	**Supply, lay and bed on flexible bedding, complete with couplings: Steel Pipe:**				
		(at road crossings)				
		.01 75mm diameter (Grade x42 steel) - 5.0mm wall thickness	m	20		
8.2.2	**210.03**	**Extra over items 210.01 for supplying, laying and bedding of PVC-u and HDPE specials complete with couplings:**				
		.01 90° elbows:				
		.01 DN50 mm	No.	2		
		.02 DN75 mm	No.	2		
		.02 Tees:				
		.01 75 mm x 75 mm dia	No,	1		
		.03 Reducing tees:				
		.02 DN90 mm x DN90 mm x DN75 mm	No.	1		
		.04 End caps				
		.01 DN 75 mm	No.	1		
		.05 PVC-u flanged adaptor Couplings				
		.01 DN 50mm	No.	2		
		.02 DN 75mm	No.	1		
1200 L	Carried forward					

SECTION 1200 L

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
		Brought forward				
		.06 Reducer				
		.01 DN 75 x 50mm PVC-u Reducer	No.	2		
PSL 8.2.11	**210.04**	**Anchor/thrust blocks and pedestals:**				
		.01 Concrete:				
		.01 Class 20 MPa/19 mm	m³	1		
SDL 8.2.12	**210.06**	**Irrigation Connection Point** (Drawing No. 1109-CIV-DRG-200)	No.	4		
SDL 8.2.13	**210.07**	**Movable Impact Sprinkler** (Drawing No. 1109-CIV-DRG-200)	No.	2		
PSL 8.2.14	**210.1**	**Irrigation Pumps**				
		.01 2.5kw Booster Irrigation pump	Sum	1		
		.02 2.2kw borehole suction pump	Sum	1		
		.03 Charge required by Contractor on subitem 210.68.01&02 above	%	5%		
PSL 8.2.13	**210.05**	**Valve and Hydrant Chamber**				
		.01 Fire Hydrant and Stand post as per drawing (Drawing No.1109-CIV-DRG-201	No.	1		
		.02 Water Meter Chamber as per drawing (Drawing No.1109-CIV-DRG-201)	No.	1		
	210.70	**2 x 10000l JoJo tanks complete with fittings, valves and pipe work**				
		.01 Prime Cost Sums:	-	-	PC Sum	25 000.00
		.02 Charge required by Contractor on subitem 210.68.01 above	%	R20 000.00		
	TOTAL SECTION 1200 L CARRIED TO SUMMARY					

SECTION 1200 LB

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
SABS 1200 LB	**211.00**	**<u>BEDDING (PIPES)</u>**				
8.2.1	**211.01**	**Provision of bedding from trench excavations:**				
		.01 Selected granular material	m³	70		
		.02 Selected fill material	m³	100		
PSLB 8.2.2	**211.02**	**Supply only of bedding by importation:**				
		.03 From commercial sources:				
		.01 Selected granular material	m³	10		
		.02 Selected fill material	m³	10		
8.2.4	**211.03**	**Encasing of pipes in concrete:**				
		.01 Class 25 MPa/19 mm	m³	1		
	TOTAL SECTION 1200 LB CARRIED TO SUMMARY					

SECTION 1200 LK

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
(SPEC LK)	**220.00**	**VALVE INSTALLATIONS**				
PSLK 8.2.1	**220.01**	**Supply and deliver valve:**				
		.01 Gate Valve				
		flanged/threaded valves with non-rising spindles,complete with handwheel, complete with coupling				
		.01 DN 50mm PN 10	No	1		
		.02 DN 75mm PN 10	No	3		
		Magflow watermeter				
		.02 Mechanical Watermeter				
		.01 DN 75mm PN 10nElster Kent "Helix 4000" watermeter	No.	1		
		.03 Strainer				
		.01 DN 75 mm PN 10 Elster Kent Helix 4000	No.	1		
SDLK 8.2.2	**520.02**	**Install, bed and field-test small valve (nominal bore up to 300mm)**				
		.01 GateValves				
		.01 DN 50mm PN 10	No	1		
		.02 DN 75mm PN 10	No	1		
		.02 Mechanical Water Meter				
		.01 DN 75mm PN 10	No.	1		
		.03 Strainer				
		.01 DN 75 mm PN 10	No.	1		
	TOTAL SECTION 1200 LK CARRIED TO SUMMARY					

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
SABS 1200 MK	**228.00**	**KERBING AND CHANNELLING**				
PSMK 8.2.1	**228.01**	**Pre-cast Figure 12 kerbing:**				
		.01 Grade 20 concrete:				
		.03 Radius over straight sections	m	450		
	TOTAL SECTION 1200 MK CARRIED TO SUMMARY					

PARTICULAR SPECIFICATION PA

PAYMENT REFERS TO	ITEM NO	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
PA 12		**FENCING**				
	PA.01	**Supply and erection of new 2.4 m high Clear -vu fencing**				
		.01 Complete Clearvu fence with posts, clamps, bolts and concrete footings Refer No.1109-CIV-DRG-502	m	550		
	PA.02	**New gates:**				
		.01 1.2m pedestrian Clear Vu gate complete with posts, hinges and locking mechanisim Refer to drawing No.1109-CIV-DRG-501	No.	1		
		.02 Complete Clearvu single leaf Sliding gate Refer to drawing Refer No.1109-CIV-DRG-502	No.	2		
	TOTAL PARTICULAR SPECIFICATION PA CARRIED TO SUMMARY					

EMPLOYER MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO SCM/MOH/13/2024

CONTRACT TITLE RE-ADVERT: APPOINTMENT OF A CONTRACTOR:CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

SUMMARY OF SCHEDULE OF QUANTITIES

		Tendered Amount
SECTION 1200 A	R	
SECTION 1200 D	R	
SECTION 1200 C	R	
SECTION 1200 D	R	
SECTION 1200 DB	R	
SECTION 1200 G	R	
SECTION 1200 H	R	
SECTION 1200 L	R	
SECTION 1200 LB	R	
SECTION 1200 LK	R	
SECTION 1200 MK	R	
PARTICULAR SPECIFICATION PA	R	
SUB TOTAL	R	
CONTINGENCIES (5%) The Sum provided here is under the sole control of the Engineer and may be deducted in whole or in part	R	
SUB TOTAL (Excl.Vat)	R	
VALUE ADDED TAX (VAT) The tenderer shall add 15% of the subtotal for value-added tax	R	
TENDER SUM CARRIED TO FORM OF OFFER AND ACCEPTANCE	R	

SIGNED ON BEHALF OF TENDERER: . . . . . .

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

PART C3 SCOPE OF WORK

CONTENTS

STATUS

In the event of any discrepancy between the Scope of Works and a part or parts of SANS 1200 Standardized Specifications, the Bill of Quantities or the Drawings, the Project Specifications shall take precedence and prevail in the Contract

The Project Specifications form an integral part of the Contract Documents and supplement the Standard Specifications.

In the event of any discrepancy with a part or parts of the Standard Specifications, the Schedule of Quantities or the drawings, the Particular or Project Specifications shall take precedence.

C3.1 DESCRIPTION OF THE WORKS

C3.1.1 Employer's objectives

The objective of the Employer is to upgrade the Roleleathunya community stadium in Rouxville town in the Free State Province.

The appointment might be in part or as a whole and shall be a function of the funding made available by the Employer.

C3.1.2 Overview of the Works

The work to be carried out includes;

a) Construction of a Grassed Soccer Pitch (Kikuyu)
b) Construction Clear-Vu perimeter fencing
c) Drilling and equipping of borehole
d) Installation of irrigation system

The Works shall be completed in accordance with the terms as specified in this Contract Document.

C3.1.3 Extent of the Works

The contractor should make themselves familiar with the extent of work already completed. This description of the Works is not necessarily complete and shall not limit the work to be carried out by the Contractor under this Contract.

a. Establishment on site;
b. Clear and Grubbing of the site;
c. Mass Earthworks;
d. Construction of pitch platform
e. Installation of kikuyu grass and treatment of weed killer
f. Surface markings, for the soccer/Rugby pitch
g. Installation of kerbs
h. Investigation, drilling and equipping of borehole
i. Installation of irrigation system
j. The installation of water including excavation of pipe trenches, bedding, pipe laying, backfilling and site testing;
k. The supply, delivery, laying and bedding of valves, fittings and specials;
l. Dealing with existing services (Locating and protecting);
m. Supply, delivery and installation of 2.4 m high Clear-Vu Perimeter Fence;
n. Cleaning up the Site and reinstating all access roads to at least their original condition;
o. De-establishment of site on completion of the works.

C3.1.4 Location of the Works site

The location of the site is in Roleleathunya, Rouxville. The coordinates of the site are as follows:
26°49'45.71"E 30°24'34.46"S

C3.1.5 Access to Works site

No restriction on access to the Site of Works will be placed on persons or vehicles involved with the execution of the Works but personnel must comply with the security and safety requirements of the Mohokare Local Municipality. The Contractor must keep the Employer informed of staff changes. The making good of any damage caused by non-observance of such restrictions will be for the Contractor's account.

Any vehicle used to transport and/or equipment on Site, shall not exceed the maximum permissible axles loading as allowed under the Provincial regulations.

C3.1.6 Services known to be in the vicinity of the site

Existing services on site include overhead electrical cables, water pipelines.

C3.1.7 Changes to scope of work

It is a condition of this contract that the employer reserves the right to limit the total expenditure on the Works due to possible budget constraints. Should the tender sum exceed the budgeted amount, the scope of the works may be reduced at any time before or during the contract period to ensure that the final contract amount does not exceed the budgeted amount.

C3.2 ENGINEERING

C3.2.1 Design services and activity matrix

The following responsibilities for design and related documentation are applicable to this Contract:

Design Stage	Works designed by
Concept, feasibility and overall process	Engineer
Basic engineering and detail layouts at tender stage	Engineer
Final design for construction stage	Engineer
Temporary works	Contractor
Preparation of as built drawings	Contractor

C3.2.2 Employer's design

The Employer's design required to be priced can comprise a combination of communications referred to as addendums issued prior to tenders closing, drawings for tender purposes, and the tender document containing the general and specifications, relevant to the Works. Once the Contract is awarded the Employer's design may be amended and such amendments shall be managed via the Specific Contract Provisions.

C3.2.3 Contractor's design

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

C3.2.4 Drawings

The drawings form part of the tender document and are issued for tender purposes only.

The appointed Contractor will be supplied with one A1 paper print and a pdf copy on CD of each of the drawings. This print and pdf copy are issued free of charge and the Contractor will need to make or obtain any additional prints he may require at his own cost.

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless required by the Engineer. The Engineer will, on the request of the Contractor in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the Contract. The position of pipe bends, junction boxes, duct ends and all other underground infrastructure shall be given by either co-ordinates, or stake value and offset. Where necessary, levels shall also be given. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be *supplied* to the Engineer's Representative on a regular basis.

All information in possession of the Contractor, required by the Engineer and/or the Engineer's Representative to complete the as-built/record drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

The Drawings prepared by the Employer for the permanent Works are listed and bound in a separate volume. The Employer reserves the right to issue amended and/or additional drawings during the Contract.

C3.3 PROCUREMENT

C3.3.1 Preferential procurement procedures

C3.3.1.1 Requirements

The Employer intends through this Contract to provide work opportunities for the local residents.

This Contractor shall therefore employ local labour where possible.

C3.3.2 Employment targets

C3.3.2.1 Employment of local community labour

The maximum possible number of workers must be employed from the ranks of the currently unemployed persons in the local community.

To this end the Contractor is required to give preference to the use of local community labour and limit the use of non-local labour to key personnel only.

Local community labour is defined as people who reside in **Roleleathunya** and whose name appears on the local unemployed labour list.

Key personnel are defined as supervisors, team leaders and skilled labourers without whom a specific task cannot be completed.

The target for local labour is 80% of non-key personnel.

C3.3.2.2 Employment of women

The target for employment of women is 30% of the total workforce.

C3.3.2.3 Employment of youth

The target for employment of youth (18-35 years of age) is 30% of the total workforce.

C3.3.2.4 Employment of disabled people

A minimum of one (1) disabled person must be employed on this contract.

C3.3.2.5 Remuneration of local labourers

The minimum wages shall be those prescribed by SAFCEC for the area in which the works fall.

C3.3.3 Contractor's Staff

It is required that the Site Agent for this project to have a NQF level 5 qualification. If the contractor fails to produce such person a suitable Site Agent will be appointed by the Client and paid in full by the Contractor.

C3.4 MANAGEMENT

C3.4.1 Management of the Works

Though not bound in or issued with this tender document, the following SANS 1921 Construction and Management Requirements for Works Contracts as approved by the Council of the South African Bureau of Standards shall apply to this Contract. The Contractor shall be in possession of these Standards and shall keep a copy of the said document on site for reference by him and the Employer's Agent for the duration of the Contract.

SANS 1921 Part 1	General Engineering and Construction Works
SANS 1921 Part 5	Earthworks Activities which are to be performed by hand
SANS 1921 Part 6	HIV/AIDS Awareness

These Specifications are not issued with this volume but are available at the Contractor's expense from: Standards South Africa. Details are given in Section C3.5.1 above.

C3.4.1.1 Planning and programming

In addition to Clause 5.6 of the GCC 2015, the work must be programmed such that the work be completed no later than the month of June 2018. The total duration of the Contract must be indicated by the Contractor. The Contractor will supply the Employer's Agent with the programme with his/her tender called the tender programme. Within 3 weeks of being awarded the WORKS, the Contractor shall provide the Employer's Agent with a revised tender programme to be called the Contract Programme to be approved by the Employer's Agent and used for progress monitoring of the Contractor's construction activities.

Interim progress payment shall not be certified by the Employer's Agent based on the Contract Programme Progress. Payment shall be certified based on actual work done.

The Contractor shall submit within the period stated in the Contract Data the said Contract Programme

C3.4.1.1.1 Submitted programme

The Contractor's programme, required in terms of Clause 5.6.1 of GCC 2015, shall be in a bar chart form. In addition to the requirements of Clause 5.6.1 of GCC 2015, the Contractor's programme shall show:

a) The various activities, related to a time scale, for each element of the Works, including those of Nominated and/or Subcontractors, in sufficient detail to be able to assess construction progress,
b) Critical path activities and their dependencies,
c) Key dates in respect of work to be carried out by others,
d) Key dates in respect of information to be provided by the Engineer and/or others,

If any change to the critical path occurs, the Contractor shall as soon as practicable notify the Engineer in writing.

The Contractor's programme and method statement will not be accepted as the basis for claims for additional compensation without due reference to all relevant associated factors.

C3.4.1.1.2 General Allowances

When drawing up his programme, the Contractor shall, take into consideration and make allowance for, inter alia:

a) Expected weather conditions and their effects,
b) Known physical conditions or artificial obstructions,
c) Searching for, dealing with and carrying out alterations to the existing services,
d) The accommodation of public access and traffic,

e) The provision and implementation of the health and safety plan in terms of the Construction Regulations, 2014 of the Occupational Health and Safety Act, and
f) The design, testing and approval of the concrete mixes.

C3.4.1.2 Review of progress

The Contractor shall review his progress each month and should progress lag behind the latest accepted programme, by more than 2 weeks, he shall submit a revised programme and method statement of how he proposes to make up the lost time. If, in the opinion of the Engineer, such revised programme will not make up the lost time, the Engineer shall have the right to request the Contractor to reorganize his work in a manner which will ensure an acceptable programme. Claims for additional payment to meet any costs incurred due to such reorganisation will not be accepted.

C3.4.1.3 Methods and procedures

C3.4.1.3.1 Method statements

When requested by the Engineer, the Contractor shall submit, within 2 weeks (14 days) of date of such written request, a method statement detailing the Contractor's proposed construction procedure of certain elements of the Works.

No work shall commence before the method statement has been submitted and approved. The approval shall not relieve the Contractor from his responsibilities in terms of the General Conditions of Contract.

C3.4.1.3.1 Neatness of the site

The general neatness and tidiness of the vicinity of **Roleleathunya** are of particular concern. The Works will be visible to the public. The Contractor shall, therefore, on a day-to-day basis, keep the area of the Works in a condition acceptable to the Engineer.

C3.4.1.4 Weather conditions

C3.4.1.4.1 Extension of time for completion resulting from abnormal rainfall

Extension of time for completion will not be considered for normal rainfall but only for abnormal rainfall or saturated conditions and will be calculated in accordance with the following method:

a) The Contractor shall, in his programme, allow for the anticipated number of working days on which work could be delayed - as given in the Schedule below.

b) Extension of time will be calculated for each calendar month or part thereof over the full period for the completion of the Work, plus any approved extension thereof, as follows:
   i) A delay caused by abnormal rainfall will only be accepted for extension of time if, in the opinion of the Engineer, it delays an item or items which lie on the critical path determined by the Contractor's programme. Only delays on working days will be considered.
   ii) Abnormal rainfall will be considered to be days, as approved, on which rain delayed operations, less the anticipated number of days given in` the Schedule below.
   iii) The net extension of time determined for each month, which may be negative, shall accumulate algebraically to determine the net number days for extension of time due to abnormal rainfall, but a negative total at the end of the construction period will not be taken into account.
   iv) Where a portion of a month is involved, a pro rata number of days shall be calculated.

SCHEDULE

Anticipated number of working days on which work could be delayed as a result of rainfall and saturated conditions.

Month	Nn (days)	Rn (mm)
January	11	113
February	10	108,3
March	8	77,5
April	6	75,9
May	3	28,7
June	2	25,1
July	2	19,3
August	2	12,1
September	3	17,9
October	5	48,9
November	6	73,5
December	10	116,4
Total	**68**	**716,6**

https://www.worldweatheronline.com/

X = 20 and Y = 10

The additional clauses to the General Conditions of Contract are:

Extensions of time in respect of clause 42 in respect of abnormal rainfall shall be calculated using the following formula for each calendar month or part thereof:

$$V = (Nw - Nn) + \frac{(Rw - Rn)}{X}$$

Where:

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

Nw = Actual number of days during the calendar month on which a rainfall of 10 mm or more has been recorded.

Nn = Average number of days in the relevant calendar month, (as derived from existing rainfall records provided in the table above), on which a rainfall of Y mm or more per day has been recorded for the calendar month.

Rw = Actual average rainfall in mm recorded for the calendar month under consideration.

Rn = Average rainfall in mm for the calendar month as derived from existing rainfall records as provided in the table above.

For purposes of the Contract Nn, Rn, X and Y shall have those values assigned to them in the South African Weather Service's rainfall records of the nearest station to the site.

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

The total extension of time shall be the algebraic sum of all monthly totals for the period under consideration, but if the total is negative the time for completion shall not be reduced due to subnormal rainfall. Extensions of time for part of a month shall be calculated using pro rata values of Nn and Rn.

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

The factor (Nw – Nn) shall be considered to represent a fair allowance for variations from the average in the number of days during which rainfall exceeds 10 mm. The factor (Rw-Rn) shall be considered to represent a fair allowance for variations from the average in the number of days during which the rainfall did not exceed 10 mm but wet conditions prevented or disrupted work.

For the purpose of applying the formula, accurate rain gauging shall be taken at a suitable point on the Site and the Contractor shall at his own expense, take all necessary precautions to ensure that rain gauges cannot be interfered with by unauthorized persons.

C3.4.1.4.2 Recording of weather

The Contractor shall provide a rain gauge as directed by the Engineer and precautions shall be taken to restrict access to the rain gauge by unauthorised persons.

C3.4.1.5 Quality plans and control

The Contractor shall prepare a quality management plan to be followed during the course of the Contract.

The quality management plan shall

i. clearly indicate the methods, programmes, procedures and other methods that the Contractor intends using as process control to ensure compliance of materials and workmanship with the requirements of the Contract (process control testing)

ii. Include the proof of status of calibration of all measuring devices that are to be used during the course of the Contract.

C3.4.1.6 Environment

C3.4.1.6.1 Protection of the environment

C3.4.1.6.1.1 Environment management plan

The Contractor shall comply with the provisions of the environmental management specification.

C3.4.1.6.1.2 Fires and burning of vegetation

No fires may be lit except at places approved by the relevant authority. The Contractor shall ensure that the fire hazard on and near the Site is reduced to a minimum and shall take immediate and effective steps to extinguish any fire that may break out.

Burning of vegetation and trees cleared from the Site and/or any other material may only be done on site if permitted in writing by the relevant authority, and shall then be strictly controlled by a competent supervisor, shall be carried out strictly in accordance with any directions given and shall be carried out solely at the risk of the Contractor.

C3.4.1.6.1.3 Preservation of flora and fauna and soil conservation

The Contractor shall:

a) take all precautions to prevent:
   i) the erosion of soils and/or
   ii) loss of or injury to domestic and other animals from any lands used or occupied by the Contractor;
b) refrain from destroying, removing or clearing trees, timber and scrub to any extent greater than is necessary for the execution of the Contract,
c) take care to cause the minimum of disturbance to the fauna and flora.

d) erect temporary fences on the servitude lines during the construction period to prevent loss of fauna. The fences shall be removed as soon as construction and testing are complete.
e) take precautions to keep the risk of fire to a minimum,
f) arrange that timber for firewood be obtained only from such places as may be approved by the Engineer;
g) take such measures as to ensure that his employees are aware of all laws and restrictions governing the hunting, disturbing, capturing or destroying of animals and birds in the vicinity of the camp or the Works or the taking of fish from any water ; and
h) prohibit all firearms from the site and temporary camps.

C3.4.1.7 Format of communications

Communications and instructions shall be given in writing and sent either by post, or facsimile. Site instructions shall be given in the Site Communication Book, which shall be a triplicate book provided by the Contractor.

C3.4.1.8 Management meetings

The Contractor will be required to attend the following site meetings during the term of the contract:

a) An inaugural site meeting to be held within three weeks after the Commencement Date.

b) Monthly site meetings from the order to commence the Works until the Completion of the Works.

c) Monthly Health and Safety meetings.

C3.4.1.9 Daily records

Daily records of all site activities and progress of work shall be kept by the Contractor. Any possible causes for delay to the Contract or which may result in additional costs to the Employer shall be recorded as clearly as possible. The records shall also include the plant on Site and personnel employed. The records shall be kept at all times in the Engineer's Site Office.

C3.4.1.9.1 Monthly labour returns

The Contractor shall submit with each statement for payment a labour return showing the Number Person Days and Labour Days recorded for the Contract. The returns shall be similar to the format approved by the Engineer.

C3.4.1.10 Lighting

Should the Contractor wish to undertake work when natural lighting is inadequate for the type of work to be performed, he shall, at his own expense, provide and maintain in good and safe condition adequate high-powered flood lighting for all the work areas where he is operating.

C3.4.1.11 Payment certificates

The statement to be submitted by the Contractor in terms of Clause 6.10 of the General Conditions of Contract shall be prepared in accordance with the standard payment certificate prescribed by the Engineer and shall be provided electronically in Microsoft Excel format.

All costs incurred by the Contractor resulting from the preparation and submission of the statements shall be borne by the Contractor.

C3.4.2 Site establishment

C3.4.2.1 Services and facilities existing and/or provided by the Employer

C3.4.2.1.1 Water and power supply and other services

The Contractor shall make his own arrangements and pay all installation and consumption charges for the supply of water, electrical power and other services required.

C3.4.2.1.2 Camps and depot

The Contractor may erect his site offices and storage depot within the boundaries of the area indicated by the Engineer.

No housing is available and the Contractor shall make his own arrangements to house his employees and transport them to and from the Site. All arrangements for housing workmen shall be made in accordance with and subject to applicable regulations and requirements.

C3.4.2.2 Facilities provided by the Contractor

C3.4.2.2.1 Facilities for the Engineer

The Contractor shall provide for the use of the Engineer, maintain and service, as applicable, the following facilities as specified in SANS 1200 AB and SDAB:

a) one nameboard,
b) one furnished office,
c) conference room (furnished),
d) latrine and ablution facilities,
e) carport for 2 vehicles,
f) 1 x Smart Phone
g) photo-copying machine,
h) I7, 12GB Ram notebook computer and A3 printer / scanner,
j) survey equipment,
k) two survey assistants,
m) a site instruction book,
n) protective clothing,
o) safety equipment,
p) medical facilities,
q) nine 150 mm concrete cube moulds and a temperature-controlled cube-curing water bath,

Unless specified otherwise, on completion of the Works some of these facilities shall revert to the Contractor who shall remove them from the site excluding items f and h.

The term "use of the Engineer" will be deemed to include, as appropriate, use by the Engineer's staff and the Engineer's Representative and his staff.

C3.4.3 Existing services

C3.4.3.1 Treatment of existing services

C3.4.3.1.1 Continuance of operation of existing services

All existing services shall be maintained in operation, unless prior arrangements have been made with the relevant authority and written permission for an interruption of the service has been granted and adequate notice has been given to the affected residents.

C3.4.3.1.2 Continuous operation of existing works

The construction works take place around existing services. Existing works must remain in operation at all times. The Contractor shall ensure that, wherever possible, the Employer's personnel have unhindered access to, and use of, all parts of the existing works at all times, as necessary.

The Contractor's operations shall also be carried out in such a way as to minimize the formation of dust and the fouling of water in the existing works.

The Contractor shall provide sufficient notice to the Engineer when he intends to interrupt the operations of the existing works in order to effect connections with the new works. Approval for such work will be given only when the timing of the work is suitable to the Employer.

C3.4.3.1.3 Connection to existing services

All connections to the existing systems shall be undertaken in a manner and at times to be approved by the Engineer. It is anticipated that this work may have to be done at night in order to minimise inconvenience to users. No claims for additional payment will be considered in this regard**.**

C3.4.4 Health and safety

C3.4.4.1 Health and safety requirements and procedures

C3.4.4.1.1 General

In addition to Subclause 5.7 of SANS 1200 A (5.4 of SANS 1200 AA; 5.8 of SANS 1200 AD; 5.3 of SANS 1200 AH) and the Occupational Health and Safety Specification provide, the Contractor shall comply with the Occupational Health and Safety Act (Act No. 85 of 1993) (OHS Act) and in particular its Construction Regulations, 2014.

C3.4.4.1.2 Health and Safety Plan

Without limiting his obligations and liabilities in terms of the Construction Regulations, 2014 of the OHS Act, the Contractor, in his Health and Safety Plan to be submitted in terms of Clause 5.3.1 of the Project Data, shall inter alia deal with the safety provisions he will set up in respect of the aspects specified in the Specification Data and the Standard Specification.

The Health and Safety Plan shall be neatly set out in a lever-arch type file, with labelled dividers for each section

A copy of the approved Health and Safety Plan shall be kept on Site and made available upon request.

C3.4.4.1.3 Safety of general public

Open excavations and other hazardous conditions on site shall be barricaded and precautions shall be taken to protect the public from the same in terms of the OHS Act (Clause 4.3.10.2).

As the Works are on an operating water treatment works site, the Contractor shall take special precautions to prevent access to any danger areas on the Works, e.g. by temporary barricades, notices and/or fencing.

The Contractor shall direct, control, facilitate and safeguard all pedestrian traffic during construction of the Works, provide all notices, and arrange for watching and lighting in accordance with the requirements of the relevant authorities

C3.4.4.1.4 Sanitary conditions

Unhygienic habits and other behaviour that may cause contamination of any part of the Works or the surrounding areas are strictly prohibited. The Contractor shall ensure that sanitary conditions prevail throughout the Site and that all his workmen are aware of, and comply with, this rule.

C3.4.4.1.5 Protection of the public

Open excavations and other hazardous conditions on site shall be barricaded and precautions shall be taken to protect the public from the same in terms of the OHS Act.

As the Works are on an operating reservoir site, the Contractor shall take special precautions to prevent access to any danger areas on the Works, e.g. by temporary barricades, notices and/or fencing.

The Contractor shall direct, control, facilitate and safeguard all pedestrian traffic during construction of the Works, provide all notices, and arrange for watching and lighting in accordance with the requirements of the relevant authorities.

C3.4.4.1.6 Excavations

Without limiting his responsibility for the safety of his workers in any excavation, the Contractor shall ensure the safety of his workers in trenches and excavations deeper than 1,0 m. in terms of the provisions of the OHS Act. The Contractor may choose to batter excavations to a safe slope if sufficient space is available, or adequately shore the excavations.

C3.4.4.1.7 Health and safety specialist

The Contractor shall employ a health and safety specialist, with suitable and proven qualifications, either on full-time or part-time basis, for the duration of the Contract.

This specialist shall assist with the preparation of the health and safety plan required in terms of the Specification Data, shall provide on-going training for all construction staff (at least 1 hour per week whilst work on site is in progress, in the form of weekly tool-box talks), and shall assist with the upkeep of the Health and Safety Plan and associated regular inspections etc.

C3.4.6.1.8 Monthly health and safety reports

The health and safety specialist required in terms of the Specification Data, shall submit a report to the Engineer at the monthly site meetings, detailing the state of health and safety on the sites over the last month, new risk assessments added, potential new risks, new precautions taken, and summarising the results of various inspections required in terms of the health and safety plan, etc.

If this report is not submitted at each monthly site meeting, the Engineer shall impose a fine of R 1 000.00 on the Contractor, in each instance.

C3.5 HEALTH AND SAFETY

C3.5.1 HEALTH AND SAFETY REQUIREMENTS AND PROCEDURES

(a) Construction Regulations, 2014

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

The Contractor shall in terms of regulation 5(1) provide a comprehensive health and safety plan detailing his proposed compliance with the regulations, for approval by the Employer.

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

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

C3.5.2 PROTECTION OF THE PUBLIC

Refer to the Occupational Health and Safety Act, 1993 and the Construction Regulations, 2014.

C3.5.3 BARRICADES AND LIGHTING

Refer to the Occupational Health and Safety Act, 1993 and the Construction Regulations, 2014.

C3.5.4 TRAFFIC CONTROL ON ROADS

Refer to the Occupational Health and Safety Act, 1993 and the Construction Regulations, 2014.

C3.5.5 MEASURES AGAINST DISEASE AND EPIDEMICS

Refer to the Occupational Health and Safety Act, 1993 and the Construction Regulations, 2014.

C3.5.6 AIDS AWARENESS

Refer to the Occupational Health and Safety Act, 1993 and the Construction Regulations, 2014.

C3.6 CONSTRUCTION

C3.6.1 Existing services

C3.6.1.1 Damage to services

The Contractor is required to carry out all of his construction activities with due caution in order to prevent damage to existing services and infrastructure. The Contractor shall repair or arrange to repair any damage to known existing services at his own cost.

The Contractor shall repair or arrange to repair any damage to known existing services at his own cost.

C3.6.1.2 Reinstatement of services and structures damaged during construction

The Contractor shall immediately inform the Engineer of any damage to existing services or structures. The Contractor shall take immediate steps to reinstate any damaged services.

C3.6.2 Disposal sites

The Contractor shall locate suitable sites, off site for the disposal of cleared vegetation, rubble, unsuitable material, excavation or surplus material. The Contractor shall obtain the Engineer's approval for the site he proposes to use.

Surplus excavation, other than described above, will be spread on site at locations indicated by the Engineer.

C3.6.3 Alterations, additions, extensions and modifications to existing works

The Contractor shall satisfy himself that the dimensional accuracy, alignment, levels and setting out of existing structures or components thereof are compatible with the proposed works (including modifications). If the Contractor finds any discrepancy, he shall immediately notify the Engineer in writing of the discrepancy before proceeding with any construction which may be affected by the discrepancy.

Should the Contractor detect any defect(s) in existing structures or works which are likely to affect the integrity or quality of work executed by himself, he shall immediately notify the Engineer in writing. The Engineer will inspect the defect(s) and, if necessary, issue an instruction regarding how the defect(s) are to be repaired. The Contractor shall then execute those repairs to existing structures or works which are prescribed by the Engineer.

C3.6.4 FEATURES REQUIRING SPECIAL ATTENTION

C3.6.4.1 Aids awareness

The Contractor is to have sufficient signage regarding HIV/AIDS, notifying the workers of the dangers, and where to obtain the counselling etc.

C3.6.4.2 Site maintenance

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

C3.6.4.3 Testing and quality control

C3.6.4.3.1 Contractor to engage services of an independent laboratory

Notwithstanding the requirements of the Specifications pertaining to testing and quality control, the Contractor shall engage the services of an approved independent laboratory to undertake all testing of materials, the results of which are specified in, or may reasonably be inferred from, the Contract. These results will be taken into consideration by the Engineer in deciding whether the quality of materials utilised and workmanship achieved by the Contractor comply with the requirements of the Specifications. The aforegoing shall apply irrespective of whether the specifications indicate that the said testing is to be carried out by the Engineer or by the Contractor.

The Contractor shall be responsible for arranging with the independent testing laboratory for the timeous carrying out of all such testing specified in the Contract, at not less than the frequencies and in the manner specified. The Contractor shall promptly provide the Engineer with copies of the results of all such testing carried out by the independent laboratory.

For the purposes of this clause, an "independent laboratory" shall mean a laboratory certified by the South African National Accreditation Systems (SANAS) or approved by the engineer in writing which is not under the management or control of the Contractor and in which the Contractor has no financial interest, nor which has any control or financial interest in the Contractor.

C3.6.4.3.2 Additional testing required by the Engineer

In addition to the provisions of subclause C3.6.4.3.1: Contractor to engage services of an independent laboratory, the Engineer shall be entitled at times during the Contract to require that the Contractor arrange with the independent laboratory to carry out any such tests, additional to those described in subclause C3.6.4.3.1, at such times and at such locations in the Works as the Engineer shall prescribe. The Contractor shall promptly and without delay arrange with the independent laboratory for carrying out all such additional testing as required by the Engineer, and copies of the test results shall be promptly submitted to the Engineer.

C3.6.4.3.3 Costs of testing

(a) Tests in terms of subclause C3.6.4.3.1
The costs of all testing carried out by the independent laboratory in accordance with the requirements of subclause C3.6.3.1 above shall be borne by the Contractor and shall be deemed to be included in the tendered rates and prices for the respective items of work as listed in the Bill of Quantities and which require testing in terms of the Specifications. No separate payments will be made by the Employer to the Contractor in respect of any testing carried out in terms of subclause C3.6.4.3.1

Where, as a result of the consistency of the materials varying or as a result of failure to meet the required specifications for the work, it becomes necessary to carry out additional tests (e.g. re-tests on rectified work and/or replacement materials), the costs of such additional testing shall be for the Contractor’s account.

(b) Additional tests required by the Engineer
The costs of any additional tests required by the Engineer in terms of subclause C3.6.4.3.1: Additional testing required by the Engineer, shall be reimbursed to the Contractor against substitution of the Provisional Sum allowed therefore in the Bill of Quantities; provided always that the costs of any such additional tests ordered by the Engineer, the results of which indicate that the quality of the materials utilised and/or the standard of workmanship achieved are/is not in accordance with the specifications, shall not be reimbursable to the Contractor.

C3.6.4.4 Contractor supplied equipment

The Contractor shall when required to supply any testing, measuring and/or survey equipment for the Engineer's use provide calibration certificates or verification certificates (as appropriate) for all equipment.

This shall apply for both shared equipment as well as for equipment specified to be provided for the Engineer's use on site.

Calibration or verification, by certified authorities shall be subject to the Engineer's approval:
• prior to the delivery of any equipment to the Engineer and
• thereafter at intervals as prescribed for the relevant equipment but not less than every twelve (12) months

The calibration/verification certificate for each item of equipment shall be submitted to the Engineer for approval prior to its use or within seven (7) days of subsequent re-calibration/verification.
Unless otherwise provided for in the bill of quantities the cost of providing the above specified equipment.

Failure to submit certificates shall result in payment for the equipment being withheld.

C3.6.4.5 Subcontractors

All matters pertaining to subcontractors (including Nominated Subcontractors) and the work executed by them shall be dealt with directly between the Engineer and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible.

The Engineer will not liaise directly with any subcontractors nor will he issue instructions concerning the subcontract works directly to any subcontractor.

All matters arising from the subcontract agreements shall be dealt with directly between the Contractor and the subcontractors and the Engineer will not become involved.

C3.6.4.6 Opening up and closing down of designated borrow pits

Measurement and payment for opening up and closing down designated borrow pits, including removing and stockpiling overburden and restoring the Site, shall be made under item 8.3.4 of SANS 1200 D. This item applies to all borrow material required under this Contract.

The requirements of subclause 5.2.2.2 of SANS 1200 D regarding the opening up, maintenance and closing down of borrow pits shall be adhered to.

C3.6.4.7 Monthly statements and payment certificates

The statement to be submitted by the Contractor in terms of Clause 6.10 of the Conditions of Contract shall be prepared by the Contractor at his own cost, strictly in accordance with the standard payment certificate prescribed by the Engineer, in digital electronic computer format. The Contractor shall, together with a copy of the digital electronic computer file of the statement, submit two (2) A4 size paper copies of the statement.

For the purposes of the Engineer’s payment certificate, the Contractor shall subsequently be responsible, at his own cost, for making such adjustments to his statement as may be required by the Engineer for the purposes of accurately reflecting the actual quantities and amounts which the Engineer deems to be due and payable to the Contractor in the payment certificate.

The Contractor shall, at his own cost, make the said adjustments to the statement and return it to the Engineer within three (3) normal workings days from the date on which the Engineer communicated to the Contractor the adjustments required. The Contractor shall submit to the Engineer five (5) sets of A4 size paper copies of such adjusted statement, together with a copy of the electronic digital computer file thereof.

Any delay by the Contractor in making the said adjustments and submitting to the Engineer the requisite copies of the adjusted statement for the purposes of the Engineer’s payment certificate will be added to the times allowed to the Engineer in terms of Clause 6.10.4 of the Conditions of Contract to submit the signed payment certificate to the Employer and the Contractor. Any such delay will also be added to the period in which the Employer is required to make payment to the Contractor.

C3.6.4.8 Workmanship and quality control

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

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

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

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

C3.6.5 VARIATIONS AND ADDITIONS TO SANS 1200 STANDARDIZED SPECIFICATIONS AND PARTICULAR SPECIFICATIONS

The Specification Data gives amendments and additions to the specifications that are listed in the List of Applicable Specifications. Clause headings are prefixed by the letters "SD" followed by alphabetic and numeric characters which identify the specification and main clause of the applicable specification. Sub-clauses are numbered sequentially. The clause reference to which a sub-clause refers, either to amend or to add to, is given after the sub-clause heading. Where the Specification Data sub-clause is an addition and there is no appropriate clause in the applicable specification to which to link it, no clause reference is given in the heading.

Should any requirement of the Specification Data conflict with any requirement of the specifications listed, the requirement of the Specification Data shall prevail.

1. Management

1.1 Although not bound in or issued with this document, the following Standardised Specifications for Civil Engineering Construction, as amended in the Project Specifications, form part of this document. (Notwithstanding Subclause 2.2 of SANS 1200A*, the edition specified below shall apply).

SANS 1200 A - : Preliminary and general

1.2 The following Standard and Particular Specifications, as bound in this document, and as amended in the Project Specifications, shall apply:

Project Specific Health and Safety Specification
Environmental Best Practice Specifications: Construction

2. Construction

2.1 Although not bound in and/or issued with the Tender Document, the following listed Standardized SANS 1200 Specification for Civil Engineering Construction, as approved by the Council of the South African Bureau of Standards, shall apply to the Project.

The Contractor shall be in possession of these Standardized Specifications and the related SANS 0120 Code of Practice which apply equally and shall keep a copy of each on site for reference by him and the Employer's Agent for the duration of the Contract.

SANS 1200 C - : Site Clearance

SANS 1200 D	-	: Earthworks
SANS 1200 DB	-	: Earthworks (pipe trenches)
SANS 1200 H	-	: Structural Steel Work
SANS 1200 L	-	: Medium Pressure Pipelines
SANS 1200 LB	-	: Bedding (pipes)
SANS 1200 LK	-	: Valve Installation
SANS 1200 MK	-	: kerbing and Channelling

Particular Specification and Electrical Works

The Following particular generic specifications forming part of the contract have been written to cover phases or items of work involving a specialist type of operations or material to be encountered on this contract and that are not adequately covered by the sans 1200 or general specifications.

PART PA	-	: Fencing

Note 1 The Standard Specifications are not bound into the tender and contract documents, but are available at the Tenderer's/Contractor's expense from the South African Bureau of Standards in Pretoria, Private Bag X191, PRETORIA, 0001.

Note 2 Each of the Standard Specifications contains an appendix, which in turn lists further specifications, which are not bound into the tender and contract documents.

Note 3 Both of the Standard Specifications, as well as those specifications that are listed in the appendix to the Standard Specifications, shall apply to the Contract to the same extent as if each of these specifications had been bound into the tender/contract documents.

SDA GENERAL

SDA 1 SCOPE

REPLACE THE CONTENTS OF SUBCLAUSE 1.1, INCLUDING THE NOTES, WITH THE FOLLOWING:

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

SDA 2 INTERPRETATIONS

PSA2.1 APPLICATION

Save by arrangement with the Employer's Agent, the Contractor will not be restricted in the use of resources and in particular in the use of mechanical plant.

SDA 2.3 DEFINITIONS

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

(a) General

ADD THE FOLLOWING DEFINITIONS:

" 'General Conditions' and 'Conditions of Contract': The General Conditions of Contract specified for use with this Contract, together with the Contract Data (GCC 2015) as applicable.

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

The terms "ESCOM", "ESC" and "Electricity Supply Commission" shall mean "
"Eskom".

The terms "GPO", "P&T", "Department of Posts and Telecommunications" and "Telkom" shall mean "Telkom SA Limited".

Except for references to the Bureau itself, and to the (official) SANS mark, the term "SANS" shall mean "SANS".

The term "Schedule of Quantities" and "Bill of Quantities" shall mean the same.

The term "Project Specification" shall mean that portion of the Scope of the Works that completes and/or amends the standardised and standard specifications.

(c) Measurement and payment

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

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

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

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

SDA 2.4 ABBREVIATIONS

(a) Abbreviations relating to standard documents

ADD THE FOLLOWING ABBREVIATION:

"CKS: SABS Co-ordinating Specification."

SDA2-8 Items in Bill of Quantities - Principle (Subclause 2.8.1)

In the fourth line of Subclause 2.8.1, after the word "specification", add: "or in the measurement and payment clause of the standard specification, particular specification or Specification Data".

Add the following paragraphs:

"The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself before submitting his tender as to

(a) the form and nature of the Site and its surroundings, including subsurface conditions,

(b) the hydrological and climatic conditions,

(c) the extent and nature of work and materials necessary for the execution and completion of the Works,

(d) the means of access to the Site and the accommodation he may require

and, in general, shall be deemed to have obtained all information as to risks, contingencies and all other circumstances which may influence or affect his tender.

The Contractor shall be deemed to have based his tender on the technical data given in the Documents and, if in the performance of the Contract any circumstances shall differ from the said technical data, which difference causes delay or additional Cost, the Contractor shall be entitled to make a claim in accordance with Clause 10.1.1.

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the Works and of the rates and prices stated in the priced Bill of Quantities and the Schedule of Rates and Prices (if any) or in the specification, which rates and prices shall (except in so far as otherwise provided in the Contract) collectively cover full payment for the discharge of all his obligations under the Contract and all matters and things necessary for the proper completion of the Works."

SDA 3 MATERIALS

SDA 3.1 QUALITY

ADD THE FOLLOWING AT THE END OF SUBCLAUSE 3.1:

"All manufactured materials supplied shall be new materials unless the contrary is specified. All materials specified to be in accordance with SABS Specifications shall bear the SABS mark, where such a mark is available for the type of product."

SDA 4 PLANT

SDA 4.1 SILENCING OF PLANT

REPLACE THE CONTENTS OF SUBCLAUSE 4.1 WITH THE FOLLOWING:

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

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

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

SDA4-2 CONTRACTOR'S OFFICES STORES AND SERVICES

ADD THE FOLLOWING ATE THE END OF SUBCLAUSE 4.2:

The latrine services required by the General Conditions of Contract and Clause 28 of the Construction Regulations, shall be of the chemical type and shall be readily accessible to workers at all areas of the site.

The Contractor shall make all the necessary arrangements with the relevant local authority for the disposal of the contents of the toilets on a regular basis.

The suitable first aid services required in terms of Subclause 4.2 of SANS 1200 A shall include, inter alia, a First Aid cabinet fully equipped and maintained with at least the minimum contents as listed in the Annexure (Regulation 3) to the General Safety Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), to deal with accidents and ailments which are likely to occur during the construction period.

The Contractor shall provide personal safety equipment and facilities as required by Regulation 2 of the General Safety Regulations of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).

SDA 5 CONSTRUCTION

SDA5-1 Survey

SDA5-1.1 Setting out of the Works. (Subclause 5.1.1)

Before commencing any construction, the Contractor shall check the relative positions and levels of all reference pegs and bench marks and inform the Engineer of any discrepancy.

Add to Subclause 5.1.1

"The Contractor shall be responsible for the true and proper setting out of the Works and for the correctness of the position, levels, dimensions and alignment of all parts of the Works and for the provisions of all necessary instruments, appliances and labour in connection therewith.

The Contractor shall carefully protect and preserve all benchmarks, sight-rails, pegs and other things used in setting out the Works.

The checking of any setting-out or of any line or level by the Engineer shall not relieve the Contractor of his responsibility for the correctness thereof.

If at any time during the progress of the Works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required to do so by the

Engineer, shall at his own expense rectify such error to the satisfaction of the Engineer, but if such error is based on incorrect data supplied in writing by the Engineer or if there is any delay in providing the particulars required, the Contractor shall, in respect of that delay and the Cost of such project, be entitled to make a claim in accordance with Clause 10.1.1."

The Contractor shall advise the Engineer of any conflict between the position of any part of the Works and an existing feature.

SDA 5.2 WATCHING, BARRICADING, LIGHTING AND TRAFFIC CROSSINGS.

ADD THE FOLLOWING AFTER THE SECOND SENTENCE OF SUBCLAUSE 5.2:

" The Contractor shall, in connection with the Works, provide and maintain all signs, signboards, lights, barriers, barricades, fencing and watching when and where:

a) specified in or reasonably to be inferred from the Contract, or

b) required by any competent statutory or other authority, or

c) required by the Engineer for the protection of the Works or for the safety or convenience of the public or others;

provided that, if the Engineer shall instruct the Contractor to provide any sign, signboard, light, barrier, barricade, fencing or watching not included in paragraphs (a), (b) or (c), such requirement shall constitute a variation by the Engineer in terms of Clause 6.4 of the General Conditions of Contract".

All temporary signs shall be of the type and size required for rural roads, as applicable, as specified in the "Southern African Development Community Road Traffic Signs Manual" and Chapter 13, [Roadworks Signing] of the South African Road Traffic Signs Manual".

Unless the closing of streets, accesses and thoroughfares has been properly arranged, the Contractor shall accommodate and provide for through traffic, traffic at crossings and vehicular access to houses and buildings at all times. If necessary, safe ramps to mount road kerbs shall be provided where traffic is to be diverted.

SDA 5.3 PROTECTION OF EXISTING STRUCTURES

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

SDA 5.4 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES

REPLACE THE HEADING AND THE CONTENTS OF SUBCLAUSE 5.4 WITH THE FOLLOWING:

"SDA 5.4 LOCATION AND PROTECTION OF EXISTING SERVICES

SDA 5.4.1 Location of existing services

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

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

Thereafter, the Contractor shall, by the use of appropriate methodologies, carefully expose the services at such positions as are agreed to by the Engineer, for the purposes of verifying the exact location and position of the

services. Where the exposure of existing services involves excavation to expose underground services, the further requirements of subclauses 4.4 and 5.1.2.2 of SABS 1200 D (as amended) shall apply.

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

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

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

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

(a) known services, anywhere along the entire lengths of their routes, as may reasonably be deduced from the actual locations at which their positions were verified as aforesaid, due cognizance being taken of such deviations in line and level which may reasonably be anticipated, and

(b) any other service which ought reasonably to have been a known service in accordance with the provisions of this clause.

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

No separate payment will be made to the Contractor in respect of his costs of providing, holding available on the Site and utilising the said detecting and testing equipment, nor for any costs incurred in preparing and submitting to the Engineer the Drawings as aforesaid. These costs shall be deemed included in the Contractor's other tendered rates and prices included in the Contract.

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

SDA 5.4.2 Protection during construction

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

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

Unless otherwise instructed by the Engineer, no services shall be left exposed after its exact position has been determined and all excavations carried out for the purpose of exposing underground services shall be promptly backfilled and compacted. In roadways, the requirements of subclause 5.9 of SABS 1200 DB should be observed. In other areas compaction is to be to 90% modified AASHTO density.

SDA 5.4.3 Alterations and repairs to existing services

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

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

Before the commencement of any excavation the Contractor shall confirm the name and telephone number of the relevant officials directly concerned with the known or suspected services, shall acquaint himself with the position of the control points of the services and shall have readily available the equipment necessary to shut-off and isolate any such service. The Contractor shall liaise with the relevant authorities or controlling bodies for the necessary temporary closure of any services during construction.

PSA5.5 DEALING WITH WATER ON THE WORKS

The Contractor's attention is drawn to the fact that, apart from normal dealing with stormwater and seepage water which may influence the construction of the permanent Works, special arrangements and de-watering measures will have to be made to control and/or remove water for the protection of excavations.

PSA5.8 GROUND AND ACCESS TO THE WORKS

Refer also ***Clause C3.1.4***

The Contractor shall provide temporary access to the Works and to the dumping areas/ spoil site, as may be required by him and to the approval of the Employer's Agent.

PSA5.9 WORKMAN'S COMPENSATION ACT

All labour employed on the Site shall be covered by the Workmen's Compensation Act. The Contractor shall pay in full, such amounts, as are due in terms of the Act, including the payment of the necessary levies.

The manner in which Workman's Compensation will be handled, shall be resolved by the Contractor with all the relevant parties at the commencement of the Contract.

SDA 5.7 SAFETY

REPLACE THE CONTENTS OF SUBCLAUSE 5.7 WITH THE FOLLOWING:

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

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

(b) Provide, install and maintain all barricades, safety signage and other measures to ensure the safety of workmen and all persons in, on and around the site, as well as the general public;

(c) Implement on the site of the works, such procedures and systems and keep all records as may be required to ensure compliance with the requirements of the Act at all times;

(d) Implement all necessary measures so as to ensure compliance with the Act by all subcontractors engaged by the Contractor and their employees engaged on the works;

(e) Full compliance with all other requirements pertaining to safety as may be specified in the Contract.

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

Where any such investigations reveal, or where it comes to the Engineer's attention that the Contractor is in any way in breach of the requirements of the Act or is failing to comply with the provisions of this clause, the Engineer shall, in accordance with the provisions of Clause 5.11.2 (GCC 2015) of the Conditions of Contract,

be entitled to suspend progress on the works or any part thereof until such time as the Contractor has demonstrated to the satisfaction of the Engineer, that such breach has been rectified.

The Contractor shall have no grounds for a claim against the Employer for extension of time and/or additional costs if the progress on the works or any part thereof is suspended by the Engineer in terms of this clause, and the Contractor shall remain fully liable in respect of the payment of penalties for late completion in accordance with the provisions of Clause 5.13.1 (GCC 2015) of the Conditions of Contract should the Contractor fail to complete the Works on or before the specified due completion date in consequence of the suspension.

Persistent and repeated breach by the Contractor of the requirements of the Act and/or this clause shall constitute grounds for the Engineer to act in terms of Clause 9.2.1.1 (GCC 2015) of the Conditions of Contract and for the Employer to cancel the Contract in accordance with the further provisions of the said Clause 9.2.1 (GCC 2015)."

ADD THE FOLLOWING SUBCLAUSES TO CLAUSE 5:

SDA 5.9 SITE MEETINGS

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

SDA 6 TOLERANCES

ADD THE FOLLOWING SUBCLAUSE TO CLAUSE 6:

"SDA 6.4 USE OF TOLERANCES

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

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

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

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

SDA 7 TESTING

SDA 7.1 PRINCIPLES

SDA 7.2 APPROVED LABORATORIES

REPLACE THE CONTENTS OF SUBCLAUSE 7.2 WITH THE FOLLOWING:

"Unless otherwise specified in the relevant specification or elsewhere in the Project Specification, the following shall be deemed to be approved laboratories in which design work, or testing required in terms of a specification

for the purposes of acceptance by the Engineer of the quality of materials used and/or workmanship achieved, may be carried out:

(a) Any testing laboratory certified by the South African National Accreditation Systems (SANAS) in respect of the nature and type of testing to be undertaken for the purposes of the Contract;

(b) Any testing laboratory owned, managed or operated by the Employer or the Engineer;

(a) Any testing laboratory established and operated on the Site by or on behalf of the Employer or the Engineer.

(d) Any other laboratory that the Engineer approves in his absolute discretion."

SDA 8 MEASUREMENT AND PAYMENT

SDA 8.1 MEASUREMENT

SDA 8.1.1 Method of measurement, all sections of the Schedule

IN THE SECOND LINE OF SUBCLAUSE 8.1.1, AFTER THE WORDS" standardized specification or in" *ADD "BETWEEN THE WORDS* "specification" *AND* "the following", *INSERT THE WORDS"* the measurement and payment clause of the standard specification, particular specification or".

DELETE THE WORDS "and South West Africa".

SDA 8.1.2 Preliminary and General item or section

SDA 8.1.2.1 Contents

REPLACE THE LAST SENTENCE OF SUBCLAUSE 8.1.2.1(b) WITH THE FOLLOWING:

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

SDA 8.1.2.2 Tendered sums

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

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

- Risks, costs and obligations in terms of the Conditions of Contract and of this standardized specification;
- Head-office and site overheads and supervision;
- Profit and financing costs;
- Expenses of a general nature not specifically related to any item or items of the permanent or temporary work;
- providing such facilities on site as may be required by the Contractor for the proper performance of the Contract and for its personnel, including, but without limitation, providing offices, storage facilities, workshops, ablutions, services such as water, electricity, sewage and rubbish disposal, access roads and all other facilities required, as well as for the maintenance and removal on completion of the works of these facilities and cleaning-up of the site of the Contractor's establishment and reinstatement to not less than its original condition;
- Providing the facilities for the Engineer and his staff as specified in the Contract and their removal from the site on completion of the Contract;
- Erection, maintenance and removal of temporary fencing and barricades;
- Dealing with water (Subclause 5.5);
- Access to works (Subclause 5.8); and
- Providing and maintaining the fire-fighting equipment, as well as training the work teams in their use."

SDA 8.2 PAYMENT

SDA 8.2.1 Fixed-charge and value-related items

REPLACE THE CONTENTS OF SUBCLAUSE 8.2.1 WITH THE FOLLOWING:

SDA 8.2.1.1 Fixed-charge items

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

(a) EIGHTY PER CENT (80%) of the sum tendered will be paid when the facilities have been provided and approved;

(b) The remaining TWENTY PER CENT (20%) will be paid when the works have been completed, the facilities have been removed and the site of the Contractor's establishment has been cleared and cleaned to the satisfaction of the Engineer.

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

SDA 8.2.1.2 Value-related items

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

(a) The first instalment, which is 40% of the sum, will be paid when the Contractor has fulfilled all his obligations to date under this specification, the General Conditions of Contract and the Contract Data (GCC 2015), and when the value of work certified for payment, excluding materials on site and payments for preliminary and general items, is equal to not less than 5% of the total value of the work listed in the Schedule of Quantities.

(b) The second instalment, which is 40% of the sum, will be made when the amount certified for payment, including retention moneys but excluding this second instalment, exceeds 50% of the tender sum.

(c) The final payment, which is 20% of the sum, will be made when the works have been certified as completed and the Contractor has fulfilled all his obligations to date under this Specification, the General Conditions of Contract and the Contract Data (GCC 2015).

Should the value of the measured work finally completed be more or less than the tender sum, the sum tendered under item 8.3.2 will be adjusted up or down in accordance with the provisions of Clause 6.11.1 (GCC 2015) of the Conditions of Contract amended to clause 6.11 of the variation of the conditions of contract, and this adjustment will be applied to the third instalment."

SDA 8.2.2 Time-related items

REPLACE THE CONTENTS OF SUBCLAUSE 8.2.2 WITH THE FOLLOWING:

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

Notwithstanding the stipulation of Subclause 8.2.2, an approved extension of time will only entitle the Contractor to payment in terms of clause 5.12.3 of GCC 2015.

SDA 8.3 SCHEDULED FIXED-CHARGE AND VALUE-RELATED ITEMS

REPLACE THE CONTENTS OF SUBCLAUSE 8.3.1 WITH THE FOLLOWING:

"SDA 8.3.1 Fixed preliminary and general charges Unit: sum

The sums tendered shall include full compensation for all fixed-charge preliminary and general charges as described in subclause SDA 8.1.2.2. Payment will be made as described in subclause SDA 8.2.1.1.

Payment for “operation and maintenance of facilities for the Engineer”, in accordance with Subclause 8.4.2.1 will not be authorized by the Engineer until the name board has been erected and approved.

SDA 8.3.2 Value-related preliminary and general charges Unit: sum

The sums tendered shall include full compensation for all value-related preliminary and general charges as described in subclause SDA 8.1.2.2. Payment will be made as described in subclause SDA 8.2.1.2."

SDA 8.4 SCHEDULED TIME-RELATED ITEMS

REPLACE THE CONTENTS OF SUBCLAUSE 8.4 WITH THE FOLLOWING:

"SDA 8.4.1 Time-related preliminary and general charges Unit: sum

The sum tendered shall include full compensation for all time-related preliminary and general charges as described in subclause SDA 8.1.2.2. Payment will be made as described in subclause SDA 8.2.2."

SDA 8.5 SUMS STATED PROVISIONALLY BY THE ENGINEER

REPLACE THE CONTENTS OF SUBCLAUSE 8.5 WITH THE FOLLOWING:

"SDA 8.5.1 Works executed by the subcontractor

(a) Description of item to which Prime Cost Sum applies Unit: Prov Sum

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

Subitems (a) and (b) will be provided in the Schedule of Quantities for each different Subcontract included in the Contract.

The Contractor shall be reimbursed under subitem (a), in substitution of the respective Provisional Sums (if any) allowed in the Schedule of Quantities, the amounts actually paid or payable by the Contractor to the respective Nominated Subcontractors, in accordance with the provisions of Clause 6.6 of the Conditions of Contract.

The Contractor shall be paid under subitem (b), either:

(a) where the unit of measurement for subitem (b) was specified as being a percentage, the respective percentage, as stated by the Contractor in is tender, of the amount certified by the Engineer for payment under the related subitem (a), all in accordance with the provisions of Clause 6.6.1.2.1 of the Conditions of Contract, or

(b) where the unit of measurement for subitem (b) was specified as being a lump sum, an amount which is in the same proportion to the amount certified for payment under subitem (a) and the tendered lump sum is to the amount of the Provisional Sum stated under subitem (a) in accordance with the provisions of Clause 6.6.1.2.2.

The percentage or sum (as applicable) paid under subitem (b) as aforesaid, shall be deemed to include for full and final compensation to the Contractor for all costs as may be incurred and all charges and profits associated with the engagement, supervision, administration and management of the Nominated Subcontractor required of him in fulfilling its obligations under the Contract as the Principal Contractor."

SDA 8.5.2 <u>Works executed by Nominated Subcontractors</u>

(a) <u>Work to be executed by a Nominated Subcontractor</u> Unit: Prov Sum

(b) <u>Overheads, charges and profit on item (a) above</u> Unit: % or sum

Subitems (a) and (b) will be provided in the Schedule of Quantities for each different Nominated Subcontract included in the Contract.

The Contractor shall be reimbursed under subitem (a), in substitution of the respective Provisional Sums (if any) allowed in the Schedule of Quantities, the amounts actually paid or payable by the Contractor to the respective Nominated Subcontractors, in accordance with the provisions of Clause 45 of the Conditions of Contract.

The Contractor shall be paid under subitem (b), either:

(a) where the unit of measurement for subitem (b) was specified as being a percentage, the respective percentage, as stated by the Contractor in is tender, of the amount certified by the Engineer for payment under the related subitem (a), all in accordance with the provisions of Clause 45.1.2.1.1 of the Conditions of Contract, or

(b) where the unit of measurement for subitem (b) was specified as being a lump sum, an amount which is in the same proportion to the amount certified for payment under subitem (a) and the tendered lump sum is to the amount of the Provisional Sum stated under subitem (a) in accordance with the provisions of Clause 45.1.2.1.2.

The percentage or sum (as applicable) paid under subitem (b) as aforesaid, shall be deemed to include for full and final compensation to the Contractor for all costs as may be incurred and all charges and profits associated with the engagement, supervision, administration and management of the Nominated Subcontractor required of him in fulfilling its obligations under the Contract as the Principal Contractor."

SDA 8.6 PRIME COST ITEMS

REPLACE SUBCLAUSE 8.6 WITH THE FOLLOWING:

"SDA 8.6 PRIME COST SUMS

(a) Description of item to which Prime Cost Sum applies Unit: PC Sum

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

Subitems (a) and (b) will be provided in the Schedule of Quantities for each different item to which a Prime Cost Sum applies.

The Contractor shall be reimbursed under subitem(s) (a) in substitution of the respective Prime Cost Sums included in the Contract, the actual price(s) paid or payable by him in respect of the goods, materials or services supplied, but excluding any charges for the Contractor's labour, profit, carriage, establishment or other charges related to such goods, services or materials.

The Contractor shall be paid under subitem (b), the respective percentage, as stated by the Contractor in his tender, of the amount certified by the Engineer for payment under the related subitem (a). The percentages tendered by the Contractor for each respective subitem (b) included in the Schedule of Quantities shall be deemed to be in full and final compensation to the Contractor in respect of any charge by the Contractor for labour, carriage profit, establishment and for any other charges related to the goods, services or materials supplied under the related subitem (a).

If the Contractor shall have omitted within his tender to insert a tendered percentage under subitem (b), or tendered a zero percentage, the Contractor's tendered rate for subitem (b) shall be deemed to be zero and the Contractor shall not be entitled to any payment under subitem (b).

Note in connection with additional tests required by the Engineer:

When a PC sum is included in the Schedule of Quantities for additional tests required by the Engineer, the Contractor shall be responsible for both the cost of normal testing as described in subclause SDA 8.1.2.2 of the Project Specifications and for the cost of any additional test that indicates that the specifications have not been complied with."

SDA 8.7 DAYWORK

REPLACE THE CONTENTS OF SUBCLAUSE 8.7 WITH THE FOLLOWING:

"Measurement and payment shall be in accordance with the provisions of Clause 6.5.1.1 (GCC 2015) of the Conditions of Contract."

ADD THE FOLLOWING ITEMS:

"SDA 8.9 COMPLIANCE WITH OHS ACT AND REGULATIONS (INCLUDING THE CONSTRUCTION REGULATIONS 2014) Unit: sum

The tendered sum shall include full compensation to the Contractor for compliance with all the requirements of the OHS Act and Regulations (including the Construction Regulations 2014) at all times for the full duration of the Contract, as described in C3.6.1 (for CIDB document format). The successful tenderer shall provide the Engineer with a complete breakdown of this tendered sum.

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

2) COMPLIANCE WITH ENVIRONMENTAL MANAGEMENT PLAN AND REGULATIONS PRODUCED BY EMPLOYER ……Unit: sum

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

"SDA 8.10 COMMUNITY LIASON AND COMMUNITY RELATIONS Unit: month

a) A total amount of R 6000.00 is to be paid to the community liaison officer for the duration of the construction of this project.

Add this new clause:

"4.23 Community participation"

Community participation consists of engagement of Project Steering Committees (PSC).

A PSC will be established for the project, by the Ward Councillor.

The functions of the PSC will be to:

- Assist in monitoring the project.
- Ensure that the community provide assistance to the contractor to ensure that he can execute the contract in accordance with the specifications and within time.
- Encourage the community to participate in the Labour-Intensive construction.
- Identify skills, skilled personnel and suppliers in the towns.

The PSC will not have the power to:

- Give any instructions to the contractor, except through the engineer.
- Become involved in the daily operations of the contractor or interfere with the contract works.

b) A monthly meeting will be held with the PSC to discuss relevant matters. The site agent and resident engineer will attend the meetings. The contractor will have to report on progress, deviations from the programme, financial matters community related aspects, general problems and co-operation at the meeting. The PSC members will not receive any remuneration for attending, and they must provide their own transport."

c) Payment will be R250.00 per sitting.

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

"SDA 8.11 Training of Targeted Labour

a) 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.

b) The cost of the formal training of targeted labour will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The contractor, must access this training by informing the relevant provincial 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 must be furnished with a copy of this request.

c) The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he she is employed for 4 months or more.

d) The contractors shall do nothing to dissuade targeted labour from participating in the above mentioned training programmes.

e) 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 d) above.

f) Proof of compliance with the requirements of a) to f) above must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

(i)	Technical Training	Prov. Sum
(ii)	HIV/AIDS	Prov. Sum
(iii)	Handling cost and profit in respect subitem B12.04(i) and (ii)	

SDAB EMPLOYER'S AGENT'S OFFICE (SANS 1200 AB)

SDAB3 MATERIALS

SDAB3.1 NAMEBOARDS

Notwithstanding the provision of Sub-clause 3.1, one name board shall be erected and the board shall comply with the format and size to be provided by the Employer's Agent.

This name board shall be erected and maintained at the main service road and entrance to the Site at the main road.

The Contractor shall not erect any signs, notices or advertisements on or adjacent to the Site of Works other than the project nameboard specified herein without the written approval of the Employer's Agent. The Contractor may, when applicable, permit each of his/her Sub-contractors to display one signboard of less than 2 m^2 in size at the Contractor's camp or Site office.

All nameboards and signboards shall be removed by the end of the Defects Liability Period.

SDAB3.2 OFFICE BUILDING

One office complete with furnishings as specified, must be provided by the Contractor for the Employer's Agent.

Although ski-cabins or similar structures will be acceptable as offices even if they might not comply with the requirements specified for floor area and ceiling height, the use of such structures will be subject to the approval of the Employer's Agent.

The Contractor shall be required to consult with the Employer's Agent prior to the supply and erection of the office.

SDAB3.3 CARPORTS

A carport to provide for two motor vehicles shall be erected adjacent to the Employer's Agent's office for exclusive use. The carport shall have side cladding and shall be constructed in such a way as to shelter the parked vehicles from the prevailing winds, sun and driven rain.

SDAB3.4 ABLUTION AND LATRINE FACILITIES

The Contractor shall, in addition to catering for his/her own staff, provide ablution and latrine facilities adjacent to the Employer's Agent's office for the exclusive use of the Employer's Agent and his/her staff. The facilities shall consist of a shower, hand washbasin and a water born latrine.

The facility shall be clean and maintained in a hygienic condition for the duration of the Contract.

SDAB3.5 HEATING AND COOLING FACILITIES (Sub-clause 3.2(j))

The Contractor shall supply and install in the offices specified under SDAB3.2 an air-conditioning unit with cooling and heating capacity of at least 2 500 k/cal.

SDAB3.6 REFRESHMENTS FOR THE EMPLOYER'S AGENT AND HIS/HER STAFF

Tea and/or coffee shall be provided by the Contractor for Employer's Agent, and the Employer's Agent's staff, at reasonable intervals throughout any working day for the duration of the Construction period.

SDAB4 PLANT

SDAB4.1 TELEPHONE AND FAX (Sub-clauses 4.1 and 5.4)

In terms of Sub-clause 4.1, the Employer's Agent allowed a PC sum of R 1,900 per month for the duration of the Contract to defray costs associated with cellular telephone expenses.

The Contractor shall arrange the provision of the Employer's Agent's on site communication system. All costs and accounts shall be payable by the Contractor for the duration of the construction period.

A WIFI facility with 10 GB per month data shall be provided in the Employer's Agent's Office and the cost of this shall be payable by the Contractor. The Contractor shall be required to bear the cost of transmissions and consumables such as paper, maintenance etc.

Upon completion of the Works the ownership of the WIFI facility shall revert to the Employer.

SDAB4.2 SURVEY EQUIPMENT

The Contractor shall provide the following survey equipment on the Site from the commencement to the completion of the Works:

(a) 1 No. Tachometer capable of reading to 20 seconds of arc with tripod; 1 No. Employer's Agent's automatic level with tripod and staff;

(b) 2 x Tachometer staffs with staff bubble;

(c) 2 x levelling staffs graduated in 5 mm intervals with staff bubble;

(d) 6 No. Ranging rods;

(e) 1 No. 3 m pocket tape

(f) 1 No. 30 m Fibreglass measuring tape;

(g) 1 No. 100 mm steel measuring tape; and

(h) All steel pegs, shovels, picks, etc. which the Employer's Agent's Representative may require for the duration of the Contract.

The instruments may, by arrangement, be shared between the Contractor and the Employer's Agent's Representative.

The Contractor shall maintain the equipment in good working order and keep it clean throughout the contract period. The Contractor shall keep the equipment continuously insured against any loss, damage, or breakage and the Contractor shall indemnify the Employer's Agent and the Employer against any claims in this regard. Upon completion of the Works, the ownership of the equipment shall revert to the Contractor.

SDAB4.3 FIRST-AID KIT AND PROTECTIVE CLOTHING

The Contractor shall provide and maintain, in compliance with the OHS Act and regulations (including the construction regulations 2003), on the Site of Works two first-aid kits to deal with unforeseen accidents and snakebite which may occur during the normal on Site operations.

The Contractor shall provide two sets of safety helmets, safety footwear and rubber boots for the exclusive use of the Employer's Agent and his/her staff.

SDAB5 CONSTRUCTION

SDAB5.1 NAMEBOARDS

Delete the words "on completion of the contract," and substitute it with:

"....by the end of the defects liability period, or at such other earlier time as the Employer's Agent may instruct or approve."

SDAB5.2 SERVICES FOR OFFICE AND ABLUTIONS

The Contractor shall provide, at his/her own cost, a constant supply of potable water and electric power to the Employer's Agent's office and ablutions facility.

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Two survey assistants shall be allocated to the Employer's Agent by the Contractor. The assistants shall be able to read and write either Afrikaans or English and shall be available to the Employer's Agents as assistant's at all reasonable times during the construction period.

SDAB8 MEASUREMENT AND PAYMENT

SDAB8.2.2 Employer's Agent's Office..... Unit : Sum
(Fixed Charge and Time Related Item)

The tendered sum for an office shall include all costs for the installation and maintenance and removal of carports (SDAB3.3), ablutions and latrine (SDAB3.4), heating and cooling facilities (SDAB3.5), refreshments (SDAB3.6), the installation and maintenance of computer facilities (SDAB 4.4), the provision of a first-aid kit and protective clothing (SDAB4.3), and services (SDAB5.2).

SDAB8.2.3 Employer's Agent's WIFI ..... Unit : Sum
(Fixed Charge and Time Related Item)

The tendered sum for Employer's Agent's wifi shall include all costs for the installation and maintenance (SDAB 4.1) for the duration of the Contract. The Contractor will be required to bear all costs relating to telephone calls, data use and printing.

SDAB8.2.4 Survey Equipment and Assistants ..... Unit : Sum
(Fixed Charge and Time related item)

The tendered sum shall include all costs for the supply and maintenance of the survey equipment (SDAB4.2) and the employment of assistants for the Employer's Agent (SDAB5.5).

SDAB8.2.5 Digital Camera ..... Unit : Sum
(Prime Cost Item)

The tender sum shall include all costs for the supply, service and maintenance of the camera as specified in SDAB4.5.

SDAB8.2.6 Name Board.....Unit : ProvSum
(Fixed Charge and Time related item)

The actual cost to the Tenderer shall include all costs for the supply, maintenance and removal of two nameboards (SDAB3.1) from the provisional sum allowed by the Employer's Agent.

SDC SITE CLEARANCE

SDC 3 MATERIALS

SDC 3.1 DISPOSAL OF MATERIAL

ADD THE FOLLOWING:

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

No overhaul will be paid for any spoil material and the Contractor shall allow for all haulage costs in his tendered rates.

SDC 5 CONSTRUCTION

SDC 5.1 AREAS TO BE CLEARED AND GRUBBED

ADD THE FOLLOWING:

"Pipeline routes shall be cleared to a distance of 1,5 m on both sides of the pipeline centre line. Route pegs or markers shall not be destroyed or damaged during clearing operations."

SDC 5.2 CUTTING OF TREES

SDC 5.2.3 Preservation of trees

SDC 5.2.3.2 Individual trees

REPLACE THE LAST SENTENCE WITH THE FOLLOWING:

"An amount of R1 500, 00 will be deducted from moneys due to the Contractor as a penalty for every tree that is damaged or removed unnecessarily."

SDC 5.3 CLEARING

Clearing shall include the loading, removal and disposal of garbage as directed by the Employer's Agent.

SDC 5.5 RECLEARING OF VEGETATION

ADD THE FOLLOWING:

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

SDC 5.10 DEMOLITION OF CONCRETE

The Contractor is to ensure that forces caused by the demolition process do not induce stress on the remaining parts of the structures or on other existing structures that may cause cracking. Use is to be made of suitable energy absorbing materials during the demolition process. The structures/sections of structures to be demolished are indicated on the drawings. The strength of the existing reinforced concrete is to be expected to be in excess of 30 MPa.

The Contractor may only proceed to cut reinforcing upon written instruction of the Employer's Agent.

The Contractor is to submit a proposed work method and planning schedule for each type of demolition to the Employer's Agent for approval before work commences.

The following types of structures are to be demolished:

- Mass concrete
- Rectangular openings of various sizes in reinforced concrete walls with varying depths – typically the existing sand filter floors.
- Bulk reinforced concrete demolition such as a plinths, sections of structures or complete structures
- The breaking of concrete shall be to lines as indicated on the drawings.

The following methods of demolition will **not** be permitted:

- The use of thermal lancing
- The use of any explosion method
- The use of poisonous chemicals

The following methods of demolition shall be considered **as acceptable**:

- Diamond impregnated wire or blade sawing
- Jack hammers
- Wood peckers or nibblers
- Hydro cutting
- Air cutting
- Any other method as indicated by the Employer's Agent

SDC 5.11 DEMOLITION OF BUILDING WORK

The Contractor is to ensure that the demolition process does not induce stresses on the existing structure that may cause cracking of the concrete. Use is to be made of energy absorbing materials under the demolition area to protect existing concrete surfaces. The building work to be demolished is indicated on the drawings. All material to be stored in a designated store and no materials shall be taken off site without consent from the Employer's Agent or Employer.

SDC 8 MEASUREMENT AND PAYMENT

SDC 8.2 PAYMENT

SDC 8.2.1 Clear and grub

REPLACE THE FIRST LINE WITH THE FOLLOWING:

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

ADD THE FOLLOWING:

"The rate tendered for clearing and grubbing shall cover the cost of disposal and the total haulage cost of the material off the site as directed in SDC 3.1 and the protection of erf pegs"

ADD THE FOLLOWING ITEMS IN SUBCLAUSE 8.2:

"SDC 8.2.11 Take down and re-erect existing fences Unit: m

The rate shall cover the cost of taking down the fences, coiling wire, sorting, stacking and guarding all materials, the cost of loading, transporting and off-loading such materials, the cost of re-erecting the fence in its original position using the dismantled material, the cost of temporary bracing of the fencing sections not taken down and the cost of appurtenant materials that may be required to restore the fence to its original condition before dismantling.

SDD EARTHWORKS

SDD 2 INTERPRETATIONS

SDD 2.1 SUPPORTING SPECIFICATIONS

REPLACE SUBCLAUSE 2.1.2 *WITH THE FOLLOWING:*

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

SDD 2.3 DEFINITIONS

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

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

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

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

REPLACE THE DEFINITION FOR "Stockpile" *WITH THE FOLLOWING:*

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

ADD THE FOLLOWING DEFINITIONS:

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

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

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

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

Bulk Excavation: “Excavation to the underside of the lowest construction layer in roadways will be considered as bulk excavation”

SDD 3 MATERIALS

SDD 3.1 CLASSIFICATION FOR EXCAVATION PURPOSES

SDD 3.1.1 Method of classifying

ADD THE FOLLOWING:

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

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

“For trench excavation that is required to be carried out using labour intensive methods, the excavation of material will, for the purpose of measurement and payment, be classified as described above.”

SDD 3.2.3 Material suitable for backfill or fill against structures

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

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

(a) The material shall not contain an excessive number of stones retained on a 50 mm sieve;

(b) The material shall not contain large clay lumps that do not break up under the action of the compaction equipment; and

(c) The liquid limit of the material shall not exceed 40, neither shall the PI exceed 18."

SDD 3.3 SELECTION

ADD THE FOLLOWING SUBCLAUSE:

"SDD 3.3.3 Selection in borrow pits and excavations

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

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

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

SDD 4 PLANT

SDD 4.4 DETECTORS

REPLACE THE CONTENTS OF SUBCLAUSE 4.4 WITH THE FOLLOWING:

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

SDD 5 CONSTRUCTION

SDD 5.1 PRECAUTIONS

SDD 5.1.1 Safety

SDD 5.1.1.1 Barricading and lighting

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

SDD 5.1.1.2 Safeguarding of excavations

REPLACE "Machinery and Occupational Safety Act" *WITH* "Occupational Health and Safety Act, 1993 (Act

85 of 1993)".

SDD 5.1.1.3 Explosives

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"The use of explosives is prohibited on this project."

SDD 5.1.2 Existing services

SDD 5.1.2.2 Detection, location and exposure

REPLACE THE CONTENTS OF SUBCLAUSE 5.1.2.2 WITH THE FOLLOWING:

"The exposure by the Contractor of underground services, as required in terms of subclause 5.4 of SABS 1200 A (as amended) shall be carried out by careful hand excavation at such positions and to such dimensions as are agreed to by the Engineer.

Unless otherwise instructed or agreed by the Engineer, no service shall be left exposed after its exact position has been determined and all excavations carried out for the purposes of exposing underground services shall be promptly backfilled and compacted to the following densities:

(a) In roadways: 93% Mod AASHTO density; and

(b) In all other areas: 90% Mod AASHTO density.

Where hand excavations to expose underground services have to be carried out in roadways, the Contractor shall reinstate the road layer works in accordance with the provisions of subclause 5.9 of SABS 1200 DB.

Payment in respect of exposing the services by means of hand excavation as described above will be made in accordance with subclause SDD 8.3.8.1.

SDD 5.1.2.2 Protection of cables

REPLACE SUBCLAUSE 5.1.2.3 WITH THE FOLLOWING:

"5.1.2.3 Protection during construction

Further to the requirements of subclause 5.4.2 of SABS 1200 A (as amended), major excavating equipment and other plant shall not be operated dangerously close to known services. Where necessary, excavation in close proximity to known services shall be carefully carried out with suitable hand tools, excluding picks wherever their use could damage the services. No additional payment will apply to such more difficult work.

Should any service not being a known service be discovered or encountered during the course of the Contract, the Contractor shall, in addition to complying with the requirements of subclause 5.4.2 of SABS 1200 A (as amended), immediately notify the Engineer thereof and implement such measures as will prevent damage of such service or, if it was damaged in the course of discovery, will prevent and minimise the occurrence of any further damage occurring."

SDD 5.1.2.4 Negligence

DELETE SUBCLAUSE 5.1.2.4.

SDD 5.1.3 Stormwater and groundwater

ADD THE FOLLOWING:

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

SDD 5.1.5 Reinstatement and maintenance of roads

ADD THE FOLLOWING:
"Where crossings have been made, the roads shall be reinstated in accordance with the details specified in subclause 5.9 of SABS 1200 DB."

SDD 5.1.6 Road traffic control

DELETE THE SECOND SENTENCE OF SUBCLAUSE 5.1.6.

SDD 5.2 METHODS AND PROCEDURES

SDD 5.2.2 Excavation

SDD 5.2.2.1 Excavation for general earthworks and for structures

ADD THE FOLLOWING TO PARAGRAPH (b):

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

REPLACE THE FIRST SENTENCE OF PARAGRAPH (e) WITH THE FOLLOWING:

"Where excavations have been carried below the authorised levels, the Contractor shall backfill such excavations to the correct level with approved gravel compacted to 90% of modified AASHTO density or to the density of the surrounding material, whichever is the higher density.

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

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

SDD 5.2.2.3 Disposal

REPLACE THE SECOND SENTENCE WITH THE FOLLOWING:

"The Contractor shall provide all necessary spoil sites for the spoiling of all surplus and unsuitable materials and shall make the necessary arrangements with the owner of the site where the material is disposed of, and pay all charges and levies as may be applicable for the use of such spoil sites.

Every spoil site provided by the Contractor shall be approved by the local authority in whose area it is located, and the spoiling shall comply with the applicable statutory and municipal regulations as well as the requirements of the owner of the spoil site.

Payment to the Contractor in respect of locating and making arrangements for suitable spoil sites and spoiling material at the such sites will be made in accordance with the provisions of subclause SDD 8.3.15."

ADD THE FOLLOWING SUBCLAUSE IN SUBCLAUSE 5.2.2:

SDD 5.2.2.4 Selection and stockpiling

Approval or designation of the material in a particular borrow pit or excavation for a particular purpose does not imply that all the material in the borrow pit or excavation is suitable for the particular purpose to which the said approval or designation relates, nor that all material in the borrow pit or source should be used for the particular purpose. The Contractor shall select suitable material from that borrow pit or source, discard unsuitable material and reserve material for other purposes as necessary.

The Contractor shall organise and carry out his operations in such a manner as will prevent the contamination of suitable embankment and backfill material with unsuitable materials. Any excavated material which becomes, in the Engineer's opinion, unsuitable for use in embankments or backfill as a result of contamination, shall be disposed of in a manner acceptable to the Engineer and shall be replaced by the Contractor with materials acceptable to the Engineer, all at the Contractor's cost.

When required, or when ordered by the Engineer, material shall be stockpiled for later use. The additional costs for stockpiling material shall be paid to the Contractor in accordance with the provisions of subclause SDD 8.3.14."

SDD 5.2.5 Transport for earthworks

ADD THE FOLLOWING NEW SUBCLAUSE TO CLAUSE 5.2.5:

SDD 5.2.5.3 Special cases relating to overhaul

When material is excavated and stockpiled on the Engineer's instructions before being reloaded and transported to its point of final use, free-haul shall apply twice, firstly from the point of excavation to stockpile and secondly from stockpile to the point of final use.

SDD 7 TESTING

SDD 7.2 TAKING AND TESTING OF SAMPLES

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"The Contractor shall arrange with the approved independent laboratory engaged by the Contractor in terms of C3.4.2.5 (b) subclause SD 8.2.1 of the Project Specifications to carry out sufficient tests on a regular basis as agreed between him and the Engineer to determine whether the degree of compaction, and, where applicable, the quality of materials used, comply with the Specifications and shall submit the results of these tests to the Engineer in a form approved by him.

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

SDD 8 MEASUREMENT AND PAYMENT

SDD 8.3 SCHEDULED ITEMS

SDD 8.3.1 Site preparation

REPLACE SUBCLAUSES 8.3.1.1 AND 8.3.1.2 WITH THE FOLLOWING:

"Where site preparation such as clearing, grubbing, the removal of large trees or the removal and stockpiling of topsoil is required, the provisions and scheduled items of SABS 1200 C shall apply."

SDD 8.3.2 Bulk excavation

REPLACE THE CONTENTS OF ITEM WITH THE FOLLOWING:

"(a) Excavate in all materials and use for embankment or backfill as ordered, from:

(1)	Necessary excavations	Unit: m³
(2)	Designated borrow pits	Unit: m³
(3)	Commercial sources	Unit: m³

The unit of measurement shall be the cubic metre measured in place in accordance with subclause 8.2 of SABS 1200 D.

Separate items will be scheduled for embankments and backfills for different parts of the works.

The tendered rates shall cover the cost of complying with all the precautions required in terms of subclause 5.1 of SABS 1200 D (as amended), in addition to the cost of excavating in all materials, basic selecting, loading, transporting within the applicable free-haul distance, off-loading, spreading or backfilling, watering, compacting, final grading, complying with the requirements for tolerances, providing for testing, finishing and tidying, all in accordance with the specifications.

In addition to the aforegoing, the tendered rate for subitem (b) shall further include for the costs of royalties (if applicable), whilst the tendered rate for subitem (c) shall also include for the costs of finding a source of suitable material, for making arrangements with the owner of the source, for procuring the material, for the payment of all requisite royalties, charges or damages, and for transporting the material to the site regardless of the distance involved. No payment will be made for the removal of overburden or stockpiling at the commercial source and no extra over payment shall apply for excavating in intermediate, hard or boulder material."

(b) Excavate in all materials and dispose Unit: m³

The unit of measurement shall be the cubic metre of material excavated, measured in place in accordance with subclause 8.2 of SABS 1200 D.

The tendered rates shall cover the cost of complying with all the precautions required in terms of subclause 5.1 of SABS 1200 D (as amended), in addition to the cost of excavating, basic selecting, loading, transporting within the applicable free-haul distance, off-loading at the spoil site, maintaining and finishing the spoil site, all in accordance with the specifications.

Extra over subitems SDD 8.3.2(a)(1), SDD 8.3.2(a)(2) and SDD 8.3.2(b) for:

(1)	Intermediate excavation	Unit: m³
(2)	Hard rock excavation	Unit: m³
(3)	Boulder excavation, Class A	Unit: m³
(4)	Boulder excavation, Class B	Unit: m³

The rate shall cover the additional cost of the operations enumerated in subclauses 8.3.2.(a) and 8.3.2.(b) above for any portion of the excavation that is classified as intermediate, hard rock, boulder excavation class A or boulder excavation class B as applicable."

SDD 8.3.4 Importing of materials

DELETE SUBITEM (a) OF 8.3.4.

SDD 8.3.6 Overhaul

ADD THE FOLLOWING:

"No overhaul shall apply to material from commercial sources or to material disposed of on sites provided by the Contractor or disposed of by other means employed by the Contractor."

SDD 8.3.8 Existing services

SDD 8.3.6 Location

REPLACE ITEM 8.3.8.1 WITH THE FOLLOWING:

"8.3.8.1 Hand excavation for locating and exposing existing services:

(a)	In roadways	Unit: m³
(b)	In all other areas	Unit: m³

The unit of measurement shall be the cubic metre of material excavated, measured in place according to the authorised or actual dimensions of the excavation, whichever is the lesser.

The tendered rates shall cover the cost of excavating in all materials by means of hand tools within authorised dimensions and at locations approved by the Engineer in accordance with the requirements of subclause SDA 5.4.1 for all precautionary measures necessary to protect the services from damage during excavation and backfilling, and for subsequent backfilling and compacting. Compaction of material in all areas except in roadways shall be to 90% of the modified AASHTO density.

The tendered rate for hand excavation in roadways shall include compensation for compacting excavated or selected backfill material to 93% of modified AASHTO density. Reinstating layer works and surfacing shall be measured and paid for in terms of SABS 1200 DB.

The tendered rates shall also include for keeping excavations safe, for dealing with surface and subsurface water, for removing surplus excavated material from the site, for transporting all material within the free-haul distance, and for supplying adequate supervision during both excavation and backfilling operations. Overhaul, if applicable, will be measured and paid for in terms of SABS 1200 DB."

SDD 8.3.10 Topsoiling

CHANGE THE UNIT TO "m³" *AND REPLACE THE CONTENTS OF THIS ITEM WITH THE FOLLOWING:*

"The unit of measurement shall be the cubic metre and the quantity shall be calculated from the authorised dimensions.

The tendered rate shall include loading of the topsoil from stockpiles, transporting it for the free-haul distance, and off-loading, spreading, shaping and lightly compacting the topsoil."

SDD 8.3.12 Road traffic signs and markings

REPLACE THE WORD "Separate" IN THE FIRST SENTENCE OF ITEM 8.3.12 WITH THE FOLLOWING:

"Where the Engineer requires the provision of road traffic signs and/or road markings and/or any other measures additional to those to be provided by the Contractor in accordance with subclause 5.1.6, separate …".

ADD THE FOLLOWING ITEMS IN SUBCLAUSE 8.3:

"**SDD 8.3.14 Extra over items PSD 8.3.2.(a)(1) and PSD 8.3.3 for temporary stockpiling** ..... Unit: m³

The unit of measurement shall be the cubic metre of material from necessary excavations, temporarily stockpiled by the Contractor on the instructions of the Engineer, before being used in embankments or backfill. Measurements shall be taken in place in compacted embankment or backfill as the case may be.

The tendered rate shall include for the costs, additional to those provided for in PSD 8.3.2(a)(1) and PSD 8.3.3, of off-loading, forming and maintaining the stockpile for as long as is required, reloading and transporting within the applicable free-haul distance from the stockpile.

Payments to the Contractor under this item will only be made in respect of that material stockpiled on the instructions of the Engineer (which instruction shall state specifically that payments for such stockpiling will be paid for under this item) and no payments will be made to the Contractor under this item in respect of materials stockpiled by the Contractor on his own volition, nor for materials necessarily stockpiled by the Contractor in consequence of the sequence of operations adopted by him in the course of executing the works, whether such stockpiling was avoidable or otherwise.

SDD 8.3.15 **Extra over items PSD 8.3.2(b) and PSD 8.3.3 for disposing of spoil material on a site provided by the Contractor** ..... Unit: m^3

The unit of measurement shall be the cubic metre measured in accordance with subclause 8.2 of SANS 1200 D of surplus and/or unsuitable material disposed of, on the instruction of the Engineer, at a spoil site or spoil sites provided by the Contractor.

The tendered rate shall include full compensation for the additional cost of providing a spoil site or other means of disposing of surplus spoil material, for transporting the material regardless of the distance involved, for acceptance charges for such material and for all other incidental costs to dispose of the spoil material.

SDD 8.3.16 **Retaining Wall Rock Face blocks** ..... Unit: m^2

The unit of measurement is the square meter of exposed face of Retaining Wall Rock Face blocks, placed in position as shown on the drawings. The height will be measured vertically and not on the slope of the blocks. With the following dimensions
W=350mm x L=400mm x H=225mm

The tendered rate shall include full compensation for procuring, furnishing, transporting, handling and placing all materials, including the granular material between the concrete blocks, and incidentals required to place the blocks in position."

SDDB EARTHWORKS (PIPE TRENCHES)

SDDB 3 MATERIALS

SDDB 3.5 BACKFILL MATERIALS

ADD THE FOLLOWING PARAGRAPHS TO SUBCLAUSE 3.5:

"(c) Cement-stabilized backfilling

Backfilling shall, where directed by the Engineer, be stabilized with 5% cement. The aggregate shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed with 5% cement and shall be compacted in layers of 100 mm thick to 90% of modified AASHTO density.

(d) Soilcrete backfilling

The aggregate for soilcrete shall be mixed with 5% cement and shall consist of approved soil or gravel containing stones not bigger than 38 mm and with a plasticity index not exceeding 10.

The soil or gravel shall be mixed in a concrete mixer with the cement and enough water to acquire a consistency that allows the mixture to be placed with vibrators to fill all voids between the pipe and the sides of the trench. Shuttering shall be used where necessary."

SDDB 3.7 SELECTION

REPLACE THE SECOND AND THIRD SENTENCES OF SUBCLAUSE 3.7 WITH THE FOLLOWING:

“The Contractor is required to use selective methods of excavation. The Contractor shall selectively remove and keep separate the sandy materials from unsuitable material and place it adjacent to the trench for reuse as backfill, selected fill, selected granular material or for other use as ordered by the Engineer.”

ADD THE FOLLOWING AT THE END OF SUBCLAUSE 3.7:

“Material which, in terms of Subclause 6.2 of SANS 1200 D or Subclause 6.1 of SANS 1200 LB, is too wet for immediate use in the trench (but which is otherwise suitable) will not be regarded as “unsuitable” material and, if so ordered by the Engineer, the Contractor shall spread such material in a suitable area until it has dried sufficient for later use. Should the material which is replaced in the trench become too wet again, due to the fact that the Contractor made insufficient provision for the handling and removal of groundwater in accordance with Subclause 5.5 of SANS 1200 A, the Contractor shall replace the material at his own cost with material which is, in the opinion of the Engineer, suitable.

When preparing his programme and construction methods, the Contractor shall make allowance for selective excavation and the handling and drying out of materials which is too wet for immediate use.”

SDDB 5 CONSTRUCTION

SDDB 5.1 PRECAUTIONS

SDDB 5.1.3 Accommodation of traffic and access to properties

*REPLACE THE SEMICOLON AND THE WORD "*and" *AT THE END OF SUBCLAUSE 5.1.3(a) WITH A FULL STOP AND REPLACE ITEM (b) WITH THE FOLLOWING:*

"(b) Where necessary to achieve compliance by the Contractor with his obligations to provide and maintain pedestrian and vehicular access to properties affected by the works, the Contractor shall construct and maintain

to the satisfaction of the Engineer, such temporary access roads around, and/or steel or timber bridges over excavations in roads, pavements, entrances or accesses to properties.
Temporary pedestrian access bridges shall be at least 1,2 m wide and temporary access bridges for vehicles shall be at least 3,6 m wide. All temporary access bridges shall be fitted with handrails as well as protective mesh fencing on both sides.

On completion of the work, the Contractor shall dismantle and remove all such temporary constructions and reinstate these areas to their former condition.

Except only where the Engineer has included in the Schedule of Quantities, particular payment items specifically therefor, the Contractor will not be paid directly for the construction and maintenance of temporary access roads and/or the provision and maintenance of bridges as aforementioned, and the costs thereof shall be deemed included in the Contractor's tendered rates for excavation."

SDDB 5.1.5 Removal of existing pipelines

Where existing pipes have to be removed, they shall be carefully opened up by machine excavation to 300 mm above the pipes after which the whole pipe shall be fully exposed by means of hand excavation. The excavation width shall comply with subclause 8.2.3.

The pipes shall be removed from the trench in a manner approved by the Engineer, and brought to the surface for inspection by the Engineer.

Pipes that are declared suitable for reuse and pipes declared unfit for reuse shall be dealt with in an applicable manner described in the specifications, or on the Drawings or on the Engineer's instructions, as relevant."

SDDB 5.4 EXCAVATION

ADD THE FOLLOWING:

"Except where otherwise specified, trenches shall be of such a depth that the minimum cover over the pipes shall be 700 mm except at road-crossings where the minimum cover shall be 1 000 mm."

Should the Contractor detect areas where the cover is doubtful, he shall report this immediately in writing to the Engineer, before any pipes are laid, so that remedial steps can be taken.

The Contractor shall exert maximum caution in excavating alongside or near existing services, pipelines, buildings or structures. The Contractor shall use non-explosive methods for the excavation of hard rock in these cases and where instructed by the Engineer (see SDD 5.2.2.5)."

SDDB 5.6 BACKFILL

SDDB 5.6.3 Disposal of soft excavation material

REPLACE THE WORDS "unless otherwise required in the project specification." *AT THE END OF SUBCLAUSE 5.6.3 WITH:*

"… or to spoil in accordance with the requirements of subclause SDD 5.2.2.3, as instructed by the Engineer."

ADD THE FOLLOWING NEW SUBCLAUSES IN CLAUSE 5:

"SDDB 5.11 UNSTABLE TRENCH BOTTOM

The Engineer may, upon consideration of the condition of the trench bottom, particularly with regard to the properties of the soil materials, order the use of a crushed stone layer in order to provide a stable platform for placing of the pipe bedding and laying the pipe in certain sections of the trenches. The stone layer shall consist of 19 mm single-sized crushed stone, and shall have a specified thickness of 150 mm over the specified minimum base width.

Should the material in the trench bottom or the bedding material be of such a nature that it can penetrate the stone layer, the Engineer may instruct the Contractor to enclose the stone layer completely within a geotextile filter blanket (Kaymat U14 or equal approved), which shall have overlaps of at least 200 mm.

SDDB 5.12 DEPOSITING MATERIAL EXCAVATED FROM TRENCH

Unless otherwise ordered by the Engineer, all excavated material shall be kept within 5 m of the pipeline centreline. The toe of the bank of excavated material shall be trimmed well back from the edge of the trench so as to leave a minimum 0,6 m clearance between the toe of the bank and the edge of the trench. The Contractor shall keep this strip clear of excavated material at all times.

The Contractor shall take steps to avoid burying or contaminating topsoil which shall be set aside for replacing, as far as practical, on the surface from which it was excavated.

SDDB 5.13 CLEANING UP AS WORK PROCEEDS

The Contractor shall complete all backfilling, trimming, levelling and cleaning up of the Site as work proceeds. This work shall not lag by more than 1 km behind the pipelaying team."

SDDB 8 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING TO SUBCLAUSE 8.1 AND AMMEND AS STATED:

"**SDDB8.1 Basic principles**

In Subclause 8.1.2(c), amend the last sentence to read:

The ground surface will be that existing after any bulk excavation has been carried out and before any embankment has been constructed, unless a portion of the embankment has to be constructed in order to achieve an acceptable cover over a pipe that is to be installed, in which case, measurement will be made from the level of embankment that produces an acceptable minimum cover over the pipe."

SDDB 8.3 SCHEDULED ITEMS

SDDB 8.3.2 Excavation

(a) Excavate in all materials, for trenches, backfill compact and dispose of surplus material

*REPLACE "*of 1,0 m" *IN THE FIRST SENTENCE OF 8.3.2(a) WITH:*

"as specified in the Schedule of Quantities."

(b) Extra over item (a) above for:

ADD THE FOLLOWING AT THE END OF THE EXISTING SUBITEM 2:

"No payments will be made under subitems (1) and (2) in respect of any materials measured and paid for under subitem 3 below."

AND ADD THE FOLLOWING NEW SUBITEMS TO SUBCLAUSE 8.3.2(b), AFTER NEW SUBITEM 2:

"(3) Hand excavation where ordered by the Engineer in:

(a) Soft material Unit: m³

(b) Intermediate material Unit: m³

(c) Hard material Unit: m³

The unit of measurement shall be the cubic metre of material, measured in place according to the authorised dimensions, which was excavated by hand on the specific prior written instructions of the Engineer; provided always that the Engineer's said instruction shall have stated that measurement and payment for such hand excavation will be in accordance with this item.

The tendered rate shall include full compensation for the additional cost, effort and time resulting from excavating in the respective materials using hand methods only.

The Engineer shall not be obliged to authorise payment under this item in respect of any hand excavation carried out (whether ordered in writing or otherwise), which hand excavation was in any case necessary to achieve compliance by the Contractor with his obligations under the Contract to

(i) utilise construction appropriate to the nature of the specific parts of the works; and/or

(ii) protect existing structures and/or services; and/or

(iii) comply with all prevailing legislation and regulations.

(4) Backfill stabilized with 5% cement where directed by the Engineer Unit: m³

The unit of measurement shall be the cubic metre of backfill material, measured in place after compaction according to the authorised dimensions, which was stabilized on the Engineer's instructions in accordance with subclause SDDB 3.5(c).

The tendered rate shall include full compensation for supplying the cement and for selecting, mixing, backfilling and compacting the stabilized material.

In the case of Road Construction, the material should be stabilised to 90% of modified AASHTO density.

(5) Soilcrete backfill where directed by the Engineer Unit: m³

The unit of measurement shall be the cubic metre of soilcrete placed on the Engineer's instructions in accordance with subclause SDDB 3.5(d), measured in place according to the authorised dimensions.

The tendered rate shall include full compensation for supplying the cement and for selecting, mixing and placing the soilcrete as well as for the cost of shuttering if required."

ADD THE FOLLOWING SUBITEMS IN 8.3.2 AFTER SUBITEM 8.3.2(c):

"(d) Excavate in all materials for stormwater inlet and outlet structures and for manholes, catchpits, valve chambers and the like, irrespective of depth, and backfill around structures: Unit: m³

The unit of measurement shall be the cubic metre of material excavated, measured in place according to the authorised dimensions, and excluding the volume of material excavated and paid for under subitem (a).

The tendered rate shall include for the costs of excavating in all materials, backfilling, compacting, trimming and tidying the final surface around the structure, disposing of surplus and unsuitable materials within the free-haul distance and, where applicable, selecting and keeping separate, excavated material suitable for use as backfill.

(e) Excavate open drains in all materials Unit: m³

The tendered rates shall include full compensation for excavating in all materials within the dimensions specified or authorised by the Engineer and to the specified lines and profiles, for the disposal of surplus and unsuitable excavated material where applicable, and in the case of item (d), for backfilling with suitable approved material compacted to 90% of modified AASHTO density around the structures.

(f) Extra over subitems (d) and (e) for excavating in:

(1) Intermediate material Unit: m³

(2) Hard rock material Unit: m³

Measurement and payment shall be in accordance with the provisions of 8.3.2(b) of SABS 1200 D (as amended)."

ADD THE FOLLOWING SUBCLAUSE AFTER SUBCLAUSE 8.3.2(c):

SDDB 8.3.3 Excavation ancillaries

SDDB 8.3.3.3 Compaction in road reserves

REPLACE THE HEADING OF THIS SUBITEM WITH THE FOLLOWING:

"SDDB 8.3.3.3 Compaction in road crossings"

REPLACE THE SENTENCE, "The volume will be measured as specified in 8.2.2, 8.2.3 and 8.3.3.1", *WITH THE FOLLOWING:*

"To determine the volume in the case of gravel roads, the depth will be measured from the underside of the gravel wearing course to the top of the fill blanket, and in the case of bitumen roads, from the underside of the subbase to the top of the fill blanket.

The rest of the trench shall be backfilled as specified in clauses 5.9.3, 5.9.4 and 5.9.5, as applicable, and payment will be made under item 8.3.6.1."

SDDB 8.3.3.4 Overhaul

REPLACE THE CONTENTS OF THIS ITEM WITH THE FOLLOWING:

"Measurement and payment shall be in accordance with subclause SDD 5.2.5."

SDDB 8.3.7 Accommodation of traffic

REPLACE THE HEADING AND CONTENTS OF ITEM 8.3.7 WITH THE FOLLOWING:

“8.3.7 Accommodation of traffic Unit: sum

The tendered sum shall, (except where particular items are scheduled to cover particular costs) include full compensation for compliance with the requirements of 5.1.3 of SANS 1200 DB (as amended), including the construction and maintenance of bypasses and the use of existing roads as bypasses during the construction period.

It shall also include full compensation for: the provision, maintenance and removal of all traffic control measures, including temporary traffic signs, road markings, lighting, barricading, flagmen and, where necessary, communications equipment to regulate traffic; for the construction of temporary drainage works; for the maintenance of drainage works; and for arrangements for moving and subsequently reinstating services for the purposes of accommodating traffic, attending to traffic problems and complying with the requirements of the Road Traffic Ordinance and the relevant local authorities.

The tendered lump sum shall not be adjusted in the event of any extension of time for completion being granted by the Engineer in accordance with Clause 5.12.1 (GCC 2015).

Payment shall be made in equal monthly instalments over the entire period allowed for completion, provided that where any extension of time for completion is granted, the amount which shall be payable under this item in any subsequent monthly payment certificate shall be the outstanding unpaid amount of the lump sum, divided by the number of months remaining until the due completion date of the Contract, as revised in accordance with the Conditions of Contract."

“SDDB 8.3.8 Crushed stone bedding layer and geotextile blanket

Where the use of a layer of crushed stone in the trench bottom has been authorized by the Engineer, it will be measured by volume calculated according to the length multiplied by the specified thickness and specified minimum base width.

The rate shall cover the cost of all additional excavation and preparation of the trench bottom to accommodate the layer of stone, the removal of unsuitable material, the supply and placing of a layer of stone at least the specified thickness over at least the specified width and all related activities in order to produce a stable platform.

Where the Engineer has authorized the use of geotextile filter blanket, this will be measured by area as:

Area = 2 x (specified thickness + minimum base width) x net length.

The rate shall include the cost of supply, placing and losses as a result of overlaps and over-excavated trench widths.”

SDDK GABIONS AND PITCHING

SDDK 3 MATERIALS

SDDK 3.2.1 Stone

REPLACE THE CONTENTS OF TABLE 2 WITH THE FOLLOWING:

"TABLE 2 SIZE AND MASS OF INDIVIDUAL STONES FOR PITCHING

1	2	3	4
Size/mass of pitching	Thickness of pitching mm, min	Least dimension mm, min	Mass kg, min
Extra heavy	600	300	180
Heavy	400	190	50
Medium	300	150	27
Light	200	110	11

"

SDDK 5 CONSTRUCTION

SDDK 5.3 PITCHING

SDDK 5.3.3 Grouted pitching

REPLACE THE WORDS "(table 4)" *IN THE SECOND LINE OF THE FIRST PARAGRAPH WITH* "(table 2)".

SDDK 5.4 <u>GEOSYNTHETIC CLAY LINER (GCL)</u>

The finished surfaces of all works that will be in contact with the Geosynthetic Clay Liner (GCL) shall be free of all protrusions, stones, vegetation, roots, rubble, refuse and particles that could damage either type of liner. The surface shall be approved by the Engineer prior to any liner placement.

The GCL shall be a manufactured product consisting of a sodium montmorillonite clay (bentonite) layer evenly distributed between two geotextiles meeting with the specifications in the table below. The GCL should conform to the property requirements listed in Table 1 and shall be free of tears, holes, or other defects, which may affect its serviceability. Encapsulating geotextiles shall be mechanically bonded together using a needle punch process. Needle punched GCL’s shall be continuously inspected for broken needles using an in-line metal detector and broken needles shall be removed.

Table 1: GCL Nominal Specifications

MATERIAL & PROPERTY			
Geotextile cover layer mass (cap)		200g/m² min.	
Geotextile carrier layer mass		110g/m² min. woven	
Minimum mass of sodium bentonite		**3 700g/m²**	
Bentonite	Montmorillonite content (*Methylene blue test*)	75% min.	
	Swell Index (*ASTM D 5890 : 2g/100ml/24h*)	24ml/g min.	
	Water Absorption (*Enslin Neff/24h*)	600% min.	
	Fluid Loss (*ASTM D 5891*)	18ml max.	
Thickness dry (*DIN 53855*)		4.5 mm min.	
Permittivity		5 x 10^{-9} l/s max.	
k - value (*DIN 18130*)		2x 10^{-11} ms^{-1} (*d = 1cm*) max.	
Index flux (*ASTM D 5887*)		6 x 10^{-9} $m^3/m^2/s$ max.	
Needle - punched connection:			
Peel strength (*ASTM-D-413*) or ASTM D 4632		**>360 N/m**	
Grab Strength Machine Direction (*ASTM D4632*)		600N min.	
Grab Strength Transverse Direction (*ASTM D4632*)		600N min.	
CBR Burst Strength (*AS 3706.4*)		1400N min.	
CBR Burst Elongation (*AS 3706.4*)		15% min.	
Hydrated Internal Shear Strength (*ASTM D 6243*)		35kPa min.	
Minimum Roll Length		30m	

The GCL on which the tenderer bases his rates, should have a well-established and successful performance record for the containment of Municipal Solid Waste. The results of successful test programmes to establish the durability of the liner material should be available. Details showing that the particular material has a proven successful capability to be used as a liner to contain Municipal Solid Waste and is resistant to the leachate generated by such waste should be provided.

The Tenderer shall submit at least the above data, as determined by an independent laboratory, and the relevant test method in a specification sheet, as well as all other pertinent details, to enable the Engineer to evaluate the material from a technical aspect. The provision of the details below shall not necessarily be sufficient for the material to be evaluated and other testing and test results may be requested by the Engineer, at his discretion, before the material proposed by any Tenderer can be considered for this project.

GCL rolls should be packaged in an opaque, waterproof, protective covering and wrapped around a central core. Tears in the packaging shall be repaired to restore a waterproof protective barrier around the GCL. Unloading of rolls from the delivery vehicles shall be done in such a way as to prevent damage to the GCL and its packaging.

Storage

The GCL rolls shall be stored as specified by the manufacturer.

Field storage shall be in flat dry areas where water cannot accumulate and the GCL rolls can be protected from damage. Storage of the rolls on blocks or pallets will not be allowed unless the GCL rolls are fully supported as approved by the Engineer. Stacks of GCL rolls shall be no greater than three high, or as recommended by the manufacturer. Rolls shall be covered with a water proof tarpaulin or plastic sheet if stored outdoors or there is a risk of water ingress.

Handling

The GCL rolls shall be handled as specified by the manufacturer.

Generally, the rolls shall not be dragged, lifted by one end, or dropped to the ground from the delivery vehicle. A pipe or solid bar of sufficient strength to support the full weight of the roll without significant bending shall be used for all unloading and handling activities. The diameter of the pipe shall be small enough to be easily inserted through the core of the GCL roll. Chains shall be used to link the ends of the core pipe to the ends of a spreader bar. The spreader bar shall be wide enough to prevent the chains from rubbing against the ends of the GCL roll. Alternatively, a stinger bar protruding from the end of a forklift or other equipment may be used. The stinger bar shall be at least three-fourths the length of the core and also must be capable of supporting the full weight of the GCL without significant bending. If recommended by the manufacturer, a sling handling method utilizing appropriate loading straps may be used.

Placement

The GCL shall be installed as soon as practical after completion and approval of the base layer.

The Contractor shall plan the placement of the GCL rolls prior to deployment and such plans shall be subject to approval by the Engineer. The position of each roll shall be set in accordance with the plan prior to placement.

Rolls shall be delivered to the work area in their original packaging. Immediately prior to placement, the packaging shall be carefully removed without damaging the GCL. The GCL shall be anchored at the top and carefully deployed down the slope to eliminate wrinkles. Dragging of GCL panels over the ground surface shall be minimized and panels which are, in the opinion of the Engineer, dragged and moved excessively, shall be rejected. Deployed GCL panels shall lie flat on the subgrade surface, with no wrinkles or folds.

The GCL shall be placed in accordance with the manufacturer's specifications and generally with minimum transverse (between the long sides of each of the sheets) laps of 200mm (unless otherwise approved) and sheets shall be joined together in accordance with the manufacturer's specifications. No metal staples or wire will be allowed for stitching or joining. All material used shall be at least as resistant to degradation as the GCL materials themselves.

The GCL rolls shall not be allowed to roll down the slopes in an uncontrolled way.

All alternative aspects of the placement methods used shall meet with the approval of the Engineer.

Seams

The GCL shall be placed with seams oriented parallel to the line of maximum slope and shall be free of tension or stress upon completion of the installation. Panels shall be positioned with the overlap recommended by the manufacturer, but not less than 200 mm after shrinkage for panel sides or 600 mm after shrinkage for panel ends. Dirt or other foreign matter shall be removed from the overlap area immediately prior to seaming. If recommended by the manufacturer, bentonite of the same type as the bentonite used for the GCL shall be placed along the entire overlap width at a minimum rate of 0.37kg/linear metre or as recommended by the

manufacturer. Overlaps which occur on slopes shall be constructed with the up slope GCL shingled over the down slope GCL. The transverse overlap shall not be within 2m of any low point in the lining system. The end laps of alternate sheets shall be more than 2m apart.

Alternative seaming methods may be approved if recommended by the manufacturer and approved by the Engineer.

Protection

Only those GCL panels, which can be anchored and covered in the same day, shall be unpackaged and installed. If exposed GCL cannot be permanently covered before the end of a working day, it shall be temporarily covered with plastic or other waterproof material to prevent hydration.

The GCL rolls shall be protected as specified by the manufacturer.

Repairs

Holes or tears in GCL shall be repaired by placing a patch of GCL extending a minimum of 300mm beyond the edges of the hole or tear on all sides. If recommended by the manufacturer, granular bentonite or bentonite mastic shall be applied in the overlap area.

SDDK 5.5 1.5 mm and 2mm GEOMEMBRANE LINER

The finished surfaces of all works that will be in contact with the Geomembrane liner shall be free of all protrusions, stones, vegetation, roots, rubble, refuse and particles that could damage either type of liner. The surface shall be approved by the Engineer prior to any liner placement.

The geomembrane liner shall be a manufactured product consisting of High-Density Polyethylene (HDPE) meeting with the specifications in the table below as well as those published in the GRI Test Method GM13 (“Test Methods, Test Properties and Testing Frequency for High Density Polyethylene (HDPE) Smooth and Textured Geomembranes”). The geomembrane should conform to the property requirements listed in Table 2 and shall be free of tears, holes, or other defects, which may affect its serviceability.

Table 2: HDPE Geomembrane Nominal Specifications (extracted from GRI Test Method GM13 standard specifications)

	Values		
Tested Properties	**Unit**	**1.5mm**	**2.00mm**
Thickness	mm	1.5	2
Density	g/cm³	min 0.94	min 0.94
Tensile properties			
Yield stress	N/mm	min 22	min 29
Break stress	N/mm	40	53
Yield elongation	%	12	12
Break elongation	%	700	700
Tear resistance	N	187	249
Puncture resistance	N	480	640
Carbon black content	%	2-3	2-3
Oxidative induction time (OIT)	min	min 100	min 100
Stress crack resistance	hr	min 300	min 300

SDDK 5.5.1 General

The Main Contractor shall be responsible for all aspects of the geomembrane installation notwithstanding his employment of a specialist lining subcontractor.

SDDK 5.5.2 Anchor Trench

The anchor trenches shall be excavated to lines and widths shown on the design drawings prior to geomembrane placement.

Corners in the anchor trench shall be rounded with a minimum radius of 300mm (or as approved by the Engineer) where the geomembrane adjoins the trench to minimize sharp bends in the liner material.

SDDK 5.5.3 Preparation for Flexible Membrane Liner Deployment

Panel Layout

Prior to commencement of a liner deployment, layout drawings shall be produced to indicate the panel configuration and general location of field seams for the project.

Identification

Each panel used for the installation will be given a number which will be correlated with a batch or roll number. This panel identification number shall be related on the panel placement form, which will be used when required.

SDDK 5.5.4 Field Panel Placement

Weather Conditions

Geomembrane deployment will generally not be done during any precipitation, in the presence of excessive moisture, in an area of standing water, or during high winds.

Location

The Contractor will attempt to install field panels as indicated on the layout drawing. If the panels are deployed in a location other than that indicated on the layout drawings, the revised location will be noted in the field.

These notations will be maintained and submitted by the Contractor as determined on a site-specific basis.

Documentation of Panel Placement

Information relating to geomembrane panel placement including date, time, panel number, and panel dimensions may be maintained on a site-specific basis on the panel placement

If a portion of a roll is set aside to be used at another time, the roll number will be written on the remainder of the roll in several places.

Method of Deployment

The method and equipment used to deploy the panels must not damage the geomembrane or the supporting base material.

No personnel working on the geomembrane will wear shoes that can damage the liner or engage in actions which could result in damage to the geomembrane.

Adequate temporary loading and/or anchoring (ie sand bags, tyres) which will not damage the geomembrane, should be placed by the Contractor to prevent uplift of the liner by wind.

The geomembrane will be deployed with slack to allow for typical thermal expansion.

Any area of a panel seriously damaged (torn, twisted or crimped) will be marked and repaired in accordance with

SDDK 5.5.5 Geomembrane Field Seaming

General Requirements

Layout

In general, seams shall be oriented parallel to the slope, ie oriented along, not across the slope. Whenever possible, horizontal seams should be located on the base of the cell, not less than two metres from the toe of the slope. Each seam made in the field shall be numbered. Seaming information to include seam number, welder ID, machine number, temperature setting and weather conditions may be maintained on the Panel Seaming Form as presented in **Annexure E.**

Personnel

All personnel performing seaming operations shall be trained in the operation of the specific seaming equipment being used and will qualify by successfully welding a test seam as described in the Specifications.

Equipment

Fusion Welding

Fusion welding consists of placing a heated wedge, mounted on a self-propelled vehicular unit, between two (2) overlapped sheets such that the surface of both sheets are heated above the geomembrane material's melting point. After being heated by the wedge, the overlapped panels pass through a set of preset pressure wheels which compress the two (2) panels together to form the weld. The fusion welder is equipped with a device which continuously monitors the temperature of the wedge.

Extrusion Fillet Welding

Extrusion fillet welding consists of introducing a ribbon of molten resin along the edge of the overlap of the two (2) geomembrane sheets to be welded. A hot air pre-heat and the addition of molten polymer causes some of the material of each sheet to be liquefied resulting in a homogeneous bond between the molten weld bead and the surfaces of the overlapped sheets. The extrusion welder is equipped with gauges giving the temperature in the apparatus and a numerical setting for the pre-heating unit.

Weather Conditions

Factors such as the geomembrane temperature, humidity, wind, precipitation, etc, can affect the integrity of field seams and must be taken into account when deciding whether or not seaming should proceed. Test seams, are required prior to daily production seaming to determine if the weather conditions will affect the Contractor's ability to produce quality seams. Additional non-destructive and destructive testing of production seams should be done to substantiate the decision made by the Contractor to seam on any given day.

Seam Preparation

Fusion Welding

The panels of the geomembrane should be overlapped by approximately 100mm to 150mm prior to welding.

The seam area should be cleaned prior to seaming to ensure the area is clean and free of moisture, dust, dirt, or debris of any kind.

The panels should be adjusted so that seams are aligned with the fewest possible number of wrinkles and "fishmouths".

A movable protective layer may be used, at the discretion of the Contractor, directly below the overlap of geomembrane that is to be seamed to prevent build-up of dirt or moisture between the panels.

Extrusion Fillet Welding

Whenever possible, the sheet should be bevelled prior to heat tacking into place.

The panels of geomembrane should be overlapped a minimum of 75mm.

Using a hot air device, the panels of geomembrane to be welded should be temporarily tacked taking care not to damage the liner.

The seam area should be cleaned prior to seaming to assure the area is clean and free of moisture, dust, dirt, and debris of any kind.

The seam overlap should be ground prior to welding within one (1) hour of the welding operation in a manner that does not damage the geomembrane. Grind marks should be covered with extrudate whenever possible.

In all cases grinding should not extend more than 5mm past the edge of the area covered by the extrudate during welding.

The extruder should be purged prior to beginning the seam to remove all heat degraded extrudate from the barrel.

The welding rod should be kept clean and dry.

Trial Welds

Trial welds shall be conducted by welding technicians prior to each seaming period, every five (5) hours, as weather conditions dictate, or as requested by personnel if welding problems are suspected, or if requested by the engineer or his representative. All trial welds will be conducted under the same conditions as will be encountered during actual seaming. Once qualified by a passing trial weld, welding technicians will not change parameters without performing another trial weld.

Trial Weld Lengths

The trial weld shall be made by joining two (2) pieces of geomembrane, each piece at least 150mm in width. Trial welds for fusion welds will be approximately 5m long and extrusion trial welds will be a minimum of 1.5m long.

Sample Procedure

The seam should be visually inspected for squeeze out, footprint, pressure and general appearance.

Three (3) 25mm wide specimens should be cut, one (1) from the middle of the seam and one each 300mm from each end of the test seam using a 25mm die cutter. The specimens shall then be tested in peel using a field tensiometer.

In order for a trial weld to be considered acceptable, all three specimens must meet the following criteria :

Exhibit Film Tearing Bond (FTB)

If any specimen is non-conforming the entire procedure shall be repeated. In the case of double track fusion welded seams, both welds must pass in order to be considered acceptable.

If repeat tests utilising reasonable sets of welding parameters also fail, the seaming apparatus shall not be accepted and shall not be used for seaming until the deficiencies are corrected and a passing test seam is achieved.

Trial Weld Documentation

The CQC co-ordinator and the Engineer or his representative will be present during peel testing and will record date, time, operator, machine number, ambient and operating temperatures, speed setting, peel values, and pass/ fail designation.

All trial weld records shall be maintained on the Trial Weld Form as exhibited in Annexure E.

The CQC co-ordinator will give final approval to proceed with welding once the Engineer or his representative has verified that he too is satisfied that all procedures have been correctly completed.

General Seaming Procedures

Seaming shall extend into the anchor trench.

While welding a seam the proper overlap should be monitored and maintained.

The seam area should be inspected to ensure that it is clean and free of moisture, dust, dirt or debris of any kind.

Welding technicians should periodically check machine operating temperatures and speed, and mark this information on the geomembrane.

Wrinkles at the seam overlap should be aligned to allow welding through the wrinkle.

"Fishmouths" or wrinkles at seam overlaps that cannot be welded through should be cut along the ridge in order to achieve a flat overlap. The cut "fishmouth" or wrinkle should be heat tacked flat and extruded or patched with an oval or round patch of the same geomembrane extending a minimum 75mm beyond the cut in all directions.

All cross/butt seams between two (2) rows of seamed panels should be welded during the coolest time of the day when practical, to allow for typical thermal expansion of the geomembrane.

Prior to welding cross/butt seams, the top and bottom overlap of intersecting fusion welded seams should be trimmed to 150mm. Intersecting extrusion fillet welded seams should be ground to flatten the extrusion bead prior to welding butt seams.

All "T" joints produced as a result of cross/butt seams should be extrusion fillet welded. Overlap on each "leg" of the "T" joint should be trimmed back 150mm. Then a distance of 75mm minimum on each of the three (3) legs of the "T" should be ground and all of the area prepared by grinding should be extrusion welded.

Whenever possible welding technicians should cut a 25mm peel specimen at the end of every seam. Prior to welding the next seam, the specimen will be tested for peel.

In the event non-complying seam test strips are encountered the welding machine will be taken out of service until a passing trial weld is obtained, and additional peel specimens will be taken to localise the flaw.

The Engineer or his representative may order the CQC co-ordinator to take destructive samples from any seam, if defects are suspected.

Seaming Documentation

Welding technicians should mark on the liner with permanent markers at the start of all seams information regarding date, time, welding technician ID, machine number and set temperature. The CQC co-ordinator should record date, time, seam number, welding technician ID, machine ID, set temperature, speed and weather conditions on the Panel Seaming Form (**Appendix F)**.

Welding technicians should periodically check operating temperature and speed and mark the information along the seam.

The CQC Co-ordinator should make periodic checks on welding operations to verify overlap, cleanliness etc.

SDDK 5.5.6 Testing : Seam Testing

General

Air Pressure Testing

Equipment for Air Testing

An air pump (manual or motor driven) capable of generating and sustaining a pressure between 138 kPa to 414 kPa.

A rubber hose with fittings and connections.

A sharp hollow needle, or other approved pressure feed device with a pressure gauge capable of reading and sustaining a pressure between 0 kPa to 414 kPa.

Procedure for Air Testing

Both ends of the seam to be tested should be sealed.

A needle or other approved pressure feed device should be inserted into the sealed channel created by the fusion weld.

The test channel should be inflated to a pressure of approximately 207 kPa and the pressure maintained within the range listed in the initial pressure schedule. With the valve closed the initial pressure should be observed and recorded.

Initial Pressure Schedule *

Material (mm)	Minimum kPa	Maximum kPa
1.0	166	207
1.5	186	241
2.0	207	241
2.5	207	241

*Initial pressure settings should be recorded after an optional two (2) minute stabilization period. The purpose of this "relaxing period" is to permit the air temperature and pressure to stabilize. The initial pressure reading may be recorded once stabilization has taken place.

The air pressure should be observed and recorded five (5) minutes after the initial pressure setting is recorded. If loss of pressure exceeds the following or if the pressure does not stabilize, the suspect area should be located and repaired in accordance with Clause AA.PS.1.7.5.

Maximum Permissible Pressure Differential After 5 minutes - HDPE/VLDPE

Material (mm)	Pressure Differential
1.0	28 kPa
1.5	21 kPa
2.0	14 kPa
2.5	14 kPa

At the conclusion of all pressure tests, the end of the air channel opposite the pressure gauge should be cut. A decrease in gauge pressure must be observed or the air channel will be considered "blocked" and the test will have to be repeated from the point of blockage. If the point of blockage cannot be found the air channel in the middle of the seam should be cut and each half treated as a separate test.

The pressure feed needle should be removed and the resulting hole sealed by extrusion welding.

Contractor	Witness 1	Witness 2	Employer	Witness 1	Witness 2

Procedure for Non-Complying Air Pressure Test

In the event of a non-complying air pressure test the following procedure should be followed:

The seam end seals should be checked and seams re-tested.

If a seam will not maintain the specified pressure the seam should be visually inspected to localize the flaw.

If the seam passes the visual inspection the overlap left by the wedge welder should be removed and the entire length of seam should be vacuum tested in accordance with this Clause.

-If a leak is located by the vacuum test, it should be repaired by extrusion fillet welding. The repair should be tested by vacuum testing.

-If no leak is discovered by vacuum testing, the seam will be considered to have passed non-destructive testing.

If one or more peel specimens are in non-compliance, additional samples should be taken as described below.

-When two (2) passing samples are located, the length of seam bounded by the two (2) passing test locations will be considered non-complying. The overlap left by the wedge welder should be heat tacked in place along the entire length of seam and the non-complying portion of seam should be extrusion fillet welded.

-The entire length of the repaired seam should be tested by vacuum testing.

General Air Testing Procedures

The opposite end of the air channel should in all cases be pierced to ensure that no blockages of the air channel have occurred.

Whenever possible, seams should be air tested prior to completing butt seams to avoid having to cut into the liner.

All cuts through the liner, as a result of testing, should be repaired by extrusion welding.

All needle holes in air channels, within the boundaries of the active cell should be repaired with an extrusion bead.

Air Pressure Testing Documentation

All information regarding air pressure testing (date, initial time and pressure, final time and pressure, pass/fail designation, and technician's number) should be written on one end of the seam, or portion of seam tested. All of the above information will also be logged on a Non-destructive Testing Form.

SDDK 5.5.7 Vacuum Testing

This test is to be used on extrusion welds, or when the geometry of a fusion weld makes air pressure testing impossible or impractical, or when attempting to locate the precise location of a defect believed to exist after air pressure testing.

Equipment for Vacuum Testing

Vacuum box assembly consisting of a rigid housing with a soft neoprene gasket attached to the open bottom, a transparent viewing window, port hole or valve assembly, and a vacuum gauge.

Vacuum pump or Venturi assembly equipped with a pressure controller and pipe connection.

A rubber pressure/vacuum hose with fittings and connections.

A bucket and means to apply a soapy solution.

A soapy solution.

Procedure for Vacuum Testing

Any excess overlap should be trimmed from the seam.

The vacuum pump/compressor should be turned on to reduce the vacuum box to approximately 34 kPa gauge pressure.

A generous amount of a strong solution of liquid detergent and water should be applied to the area to be tested.

The vacuum box should be placed over the area to be tested and sufficient downward pressure applied to "seat" the seal strip against the liner.

The bleed valve should be closed and the vacuum valve opened.

A minimum of 34 kPa vacuum should be applied to the area as indicated by the gauge on the vacuum box. It should be ensured that a leak tight seal is created.

For a period of approximately 10 seconds the geomembrane should be examined through the viewing window for the presence of soap bubbles.

After this period the vacuum valve should be closed and the bleed valve opened, and the box should be moved over the adjoining next area with a minimum 75mm overlap and the process repeated.

Procedure for Non-Complying Test

All areas where soap bubbles appear should be marked and such areas repaired in accordance with Clause AA.PS.1.4.5.

Repaired areas should be re-tested.

General Vacuum Testing Procedures

Vacuum box testing should be performed only by qualified construction personnel.

Overlap must be trimmed prior to vacuum boxing all seams.

Special attention shall be exercised when vacuum testing "T" seams or patch intersections with seams.

Vacuum Testing Documentation

Vacuum testing crew should use permanent markers to write on liner indicating tester's ID number, date, and pass/fail designation on all areas tested.

Records of vacuum testing should be maintained by the CQC co-ordinator or testing crew on the Non-Destructive Testing Form as exhibited in **Annexure E**.

SDDK 5.5.8 Destructive Testing

Concept

The purpose of destructive testing is to determine and evaluate seam strength. These tests require direct sampling and thus subsequent patching. Therefore, destructive testing should be held to a minimum to reduce the amount of repairs to the Flexible Membrane Liner.

Procedure for Destructive Testing

Destructive test samples should be marked by the engineer or his representative and cut out randomly at a minimum average frequency of one (1) test location every 150m of seam length, unless otherwise specified or agreed.

Location of destructive samples will be selected by the Engineer or his representative with samples being cut by the staff of the Contractor.

Destructive samples should be taken and tested as soon as possible after the seams are welded (the same day), in order to receive test results in a timely manner.

Qualified personnel should observe all field destructive testing and record date, time, seam number, location and test results on an agreed Destructive Testing Form.

All destructive test locations with pass/fail designation will be marked on the liner with permanent markers.

Sample Size

The sample should be 300mm wide with a seam 400mm long centred lengthwise in the sample. The sample may be increased in size to accommodate independent laboratory testing by the Engineer or by specific Project Specifications.

A 25mm specimen shall be cut from each end of the test seam for field testing.

The two (2) 25mm wide specimens should be tested on a field tensiometer for peel strength. If either field specimen does not pass, it should be assumed the sample would also not pass specified destructive testing.

The procedure outlined above should be followed to locate passing samples for specified testing.

Procedure for Non-complying Destructive Test

Additional field samples should be cut out for peel testing. In the case of a field production seam, the samples should lie a minimum of 3m in each direction from the location of the initial non-complying sample. Perform a field test for peel strength. If these field samples pass, then full samples can be cut for specified testing.

If the full samples pass, then the seam between the two (2) passing sample locations should be repaired according to procedures detailed in Clause AA.PS.1.7.5.

If either of the samples are still in non-compliance then additional samples should be taken in accordance with the above procedure until two (2) passing samples are found to establish the zone in which the seam should be reconstructed.

All passing seams must be bounded by two (2) locations from which full samples passing specified destructive tests have been taken.

In cases of repaired seams exceeding 50m, a sample must be taken and pass destructive testing from within the zone in which the seam has been reconstructed. Each destructive test must be considered a seam.

All destructive seam samples should be numbered and recorded on the Destructive Test Form as exhibited in **Annexure E**.

SDDK 5.5.9 Specified Testing of Destructive Seam Samples

Full Destructive Seam Testing

Full destructive samples should be tested by the Contractor in the event that testing is not being performed by the Engineer. Full samples should be tested under appropriate condition on Site, unless the Engineer requests laboratory testing.

Destructive samples should be tested for "Shear Strength" and "Peel Adhesion". Five (5) specimen should be tested for each test method. Four (4) out of the five (5) specimens must exhibit FTB for each round of peel and shear testing.

SDDK 5.5.10 Defects and Repairs

The CQC co-ordinator should conduct a detailed walk through and visually check all seams and non-seam areas of the geomembrane for defects, holes, blisters and signs of damage during installation.

All other installation personnel shall, at all times be on the lookout for any damaged areas. Damaged areas shall be marked and repaired.

SDDK 5.5.11 Repair Procedures

Any portions of the geomembrane, or geomembrane seam, showing a flaw, or having a destructive test in non-compliance should be repaired. Several procedures exist for repair and the decision as to the appropriate repair procedure should be made by the Contractor in conjunction with the Engineer.

Procedures available for repair are to include the following :

Patching - used to repair large holes, tears. and destructive sample locations. All patches shall extend at least 75mm beyond the edges of the defect and all corners of patches shall be rounded.

Grounding and welding - used to repair sections of extruded fillet seams.

Spot Welding or Seaming - used to repair small tears, pinholes or other minor localised flaws.

Capping - used to repair lengths of extrusion or fusion welded seams.

Extrude overlap along the length of fusion welded seams.

Removal of a seam and replacement with a strip of new material seamed into place.

SDDK 5.5.12 Verification of Repairs

Every repair should be non-destructively tested. Repairs which pass the non-destructive test shall be deemed acceptable. Repairs in excess of 50m will require a destructive test. Non-destructive testing of repair shall be logged on Repair Report Form when specified, as exhibited in **Annexure E**.

SDDK 5.5.13 Construction Quality Assurance

The Engineer, or his representative, shall have full access to all test results carried out by the Contractor. In addition, he shall be entitled to be present whenever such test are carried out.

Should it be deemed necessary, additional tests may be called for by the Engineer and the Contractor shall give full co-operation in obtaining samples for such tests.

SDDK 5.6 SINGLE CUSPATED GEODRAIN

The finished surfaces of all works that will be in contact with the cuspated geodrain shall be free of all protrusions, stones, vegetation, roots, rubble, refuse and particles that could damage either type of liner. The surface shall be approved by the Engineer prior to any geodrain placement.

The geodrain shall be a manufactured product consisting of a single cuspated sheet with minimum uncompressed cuspate height of 3.6mm. The cuspated sheet is to be handled and installed as per manufacturer's specifications.

SDDK 8 MEASUREMENT AND PAYMENT

SDDK 8.2 SCHEDULED ITEMS

SDDK 8.2.8 Geosynthetic Clay Liner (GCL)

The unit of measurement shall be the square metre (m^2) of slope area on which the GCL has been supplied and satisfactorily installed.

The tendered rate shall include full compensation for all materials, plant, labour and other incidentals required to supply and install the GCL, complete to the Engineer's satisfaction, including for keeping stockpiled and laid material secure until such time as the works are handed over. No additional payment will be made for any cutting, waste, placing, joining, overlapping, temporary anchoring or securing of material in position. The area measured shall be the plan area covered by the GCL and also the length in the anchor trench.

SDDK 8.2.9 HDPE Geomembrane

The unit of measurement shall be the square metre (m^2) of slope area on which the geomembrane has been supplied and satisfactorily installed.

The tendered rate shall include full compensation for all materials, plant, labour and other incidentals required to supply and install the geomembrane, complete to the Engineer's satisfaction, including for keeping stockpiled and laid material secure until such time as the works are handed over. No additional payment will be made for any cutting, waste, placing, joining, overlapping, temporary anchoring or securing of material in position. The area measured shall be the plan area covered by the geomembrane and also the length in the anchor trench.

SDDK 8.2.10 Single Cuspated Geodrain

The unit of measurement shall be the square metre (m^2) of slope area on which the geodrain has been supplied and satisfactorily installed.

The tendered rate shall include full compensation for all materials, plant, labour and other incidentals required to supply and install the geodrain, complete to the Engineer's satisfaction, including for keeping stockpiled and laid material secure until such time as the works are handed over. No additional payment will be made for any cutting, waste, placing, joining, overlapping, temporary anchoring or securing of material in position. The area measured shall be the plan area covered by the geomembrane and also the length in the anchor trench.

SDH STRUCTURAL STEELWORK

SDH 8 MEASUREMENT AND PAYMENT

SDH 8.3.13 Soccer goal **Unit: t.**

ADD THE FOLLOWING ITEMS:

‘’The tendered rate shall include full compensation for all plant, equipment, labour and consumables. Surface preparation and coating application will be as per SABS 1200 HC.

SDH 8.3.14 Turnstyle **Unit: No.**

The tendered rate shall include full compensation for all plant, equipment, labour and consumables and associated spoiling of unsuitable material required to effectively construct the steel turn style and associated foundations as per drawing.

SDH 8.3.15 Seating for Spectator pavilion **Unit: No.**

The tendered rate shall include full compensation for all plant, equipment, labour and consumables to effectively supply and fix into a permanent position, according to manufacturer’s specification a plastic seat.

SD 8.3.17 Soccer/Rugby goal **Unit: No.**

The tendered rate shall include full compensation for all plant, equipment, labour and consumables and associated spoiling of unsuitable material required to effectively construct a rugby and soccer pole, including the required paint, foundations and steelwork as per drawing

SDL MEDIUM-PRESSURE PIPELINES

SDL 3 MATERIAL

SDL 3.1 GENERAL

ADD THE FOLLOWING PARAGRAPHS TO SUBCLAUSE 3.1:

"Each type of pipe delivered to the Site shall be of a standard length corresponding to the standard lengths offered by the pipe manufacturer in his catalogue, with a maximum permissible variation in length of ± 2%.

A pipe that is shorter or longer than the defined standard will be rejected by the Engineer, except when such non-standard lengths are required in terms of the Contract and have been specifically manufactured or cut as such by the pipe manufacturer or supplier.

SDL 3.1.1 Storage of couplings and fittings and stacking

The Contractor shall provide adequate storage facilities for pipes, couplings and specials to conform to the following:

(a) Couplings and specials

Until required for use, the rubber rings shall be stored in a cool, dark place, away from grease, oil or harmful chemicals. If rubber rings have been tied, they shall be separated a few days before they are required for use in order to eliminate minor impressions which the ties may have caused.

(b) Stacking of pipes and specials

Pipes and specials may be strung out alongside the position installed. The pipes shall be stored off the ground to prevent damage to them. When stacking is necessary, the Contractor shall make the necessary arrangements for stacking areas and shall stack as recommended by the manufacturer.

(c) Valves

All valves shall be stored under cover and shall be stacked off the ground in a manner which will prevent the ingress of dirt and ensure that the valves faces are not damaged."

SDL 3.4 STEEL PIPES, FITTINGS AND SPECIALS

SDL 3.4.2 Pipes of nominal bore up to 150 mm

ADD THE FOLLOWING TO SUBCLAUSE 3.4.2:

Where flanges are required they shall comply with SANS 1123 table 1000 unless otherwise indicated on the Drawings."

SDL 3.4.4 Fittings and Specials

ADD THE FOLLOWING TO SUBCLAUSE 3.4.4:

"The dimensions of the steel specials and fittings shall comply strictly with the details shown on the drawings. All specials shall be suitable for a minimum working pressure of 1,0 MPa.

Standard specials such as tees, flange adaptors, reducers, etc. for PVC-u pipelines shall be fabricated from cast iron (CI). Unless shown on the drawings, all bends shall be PVC-u."

SDL 3.7 OTHER TYPES OF PIPES

SDL 3.7.1 PVC-u pipes

ADD THE FOLLOWING:

"Pipes for watermains shall be PVC-u Class 9 pipes complying with the requirements of SANS 966 Part 1 unless otherwise indicated on the Drawings."

SDL 3.8.2 FLEXIBLE COUPLINGS

ADD THE FOLLOWING AT THE BEGINNING OF SUBCLAUSE 3.8.2:

"Where flexibility is required on pipelines as shown on the drawings, “Klamflex” couplings and “Klamflex” flange adaptor couplings have been specified. Corrosion protection shall be in accordance with the requirements of clause 3.9.4

In certain instances “slip-on” couplings may be required. These couplings shall only be used when instructed by the Engineer in writing or where the use of such couplings is shown on the drawings. Where the Contractor elects to use “slip-on” couplings for convenience, he shall allow for the cost of such couplings in the rates tendered for pipework.

These couplings shall conform to the following, as applicable:"

ADD THE FOLLOWING NEW SUBCLAUSE AFTER SUBCLAUSE 3.11:

"SDL 3.12 MARKING OF ITEMS

All items delivered on Site shall be clearly marked showing the following:

(a) Nominal diameter,

(b) Class of pipe,

(c) Date of manufacture, and

(d) Reference number as shown in the Schedule of Quantities.”

SDL 5 CONSTRUCTION

SDL 5.1 LAYING

SDL 5.1.3 KEEPING PIPELINES CLEAN

ADD THE FOLLOWING AT THE END OF SUBCLAUSE 5.1.3:

“All pipes and specials strung out above ground along the line of the trench shall have both ends closed by means of an adequately fixed plastic cap or other approved material, supplied by the Contractor, in order to prevent the ingress of foreign material.

Unless otherwise directed by the Engineer, the Contractor shall, when filling the pipeline with water for the first time, use suitable pipe pigs driven by a flush of water to aid the cleaning of all sections of the pipeline. If necessary, the pig shall be passed through a section more than once. If necessary, the Contractor shall install special temporary fittings in the pipeline for the insertion and recovery of the pigs. Such temporary fittings shall be removed after the pipeline has been cleaned to the satisfaction of the Engineer. The Contractor shall satisfy the Engineer that every pig inserted into the pipeline is recovered after use.”

SDL 5.1.4 Depth and Cover

ADD THE FOLLOWING:

"Water mains shall be laid so that the minimum cover to the top of the pipe barrel from finished surface level is 1,0 m under roads and 900mm elsewhere."

ADD THE FOLLOWING NEW SUBCLAUSES TO SUBCLAUSE 5.1:

"SDL 5.1.5 Alignment

Horizontal and vertical angular deviations at flexible couplings shall be limited to a maximum of 3° for pipelines up to and including 300 mm diameter.

SDL 5.1.6 Minimum clearance between pipelines

The minimum clearances at crossings between the barrels of proposed pipelines or between existing and proposed pipelines shall be 5000 mm. The Contractor shall inform the Engineer should he find that this minimum clearance cannot be achieved."

SDL 5.2 JOINTING METHODS

ADD THE FOLLOWING SUBCLAUSE AFTER SUBCLAUSE 5.2.4:

"SDL 5.2.5 Protection of Buried Joints

The Contractor shall protect all buried joints with nuts and bolts against corrosion by wrapping them with a petrolatum mastic and "Denso" tape or equal approved, in accordance with the manufacturer's instructions.

After application, the petrolatum mastic shall be free from voids and not less than 10mm thick. The wrapped joint shall then be enclosed in a non-degradable polyethylene sheeting of not less than 250 micron thickness securely held in place with plastic cable ties."

SDL 5.6 Valve and Hydrant Chambers

SDL 5.6.1 General

REPLACE THE WORDS "drawing L-1" *IN THE SECOND LINE WITH* "the Drawings".

ADD THE FOLLOWING PARAGRAPH AT THE END OF SUBCLAUSE 5.6.1:

"The concrete in the valve chambers shall be Grade 25 MPa. The minimum cover to all steel shall be 40 mm.

Where no reinforcement is shown, allow 120 kg/m³ of concrete."

SDL 5.6.2 Construction of chambers

REPLACE THE WORDS "drawing L-1, L-2 and L-3" *IN THE FOURTH LINE WITH* "the Drawings".

ADD THE FOLLOWING SUBCLAUSES AFTER SUBCLAUSE 5.10:

"Notwithstanding the requirements of Subclause 5.10, the Contractor shall disinfect the pipelines before testing and before connecting into the reticulation."

ADD THE FOLLOWING SUBCLAUSES AFTER SUBCLAUSE 5.10:

"SDL 5.11 CONNECTION INTO EXISTING MAIN

Before commencing the excavation of pipe trenches in the vicinity of a proposed connection, the contractor shall excavate for, expose, survey and record the position and level of the connection point on the existing water main and shall determine all specials required.

The Contractor shall be responsible, through the Engineer, for liaison with the Municipality to arrange for turning off the water in order to carry out the connection.

The Contractor may cut into the existing water main (where applicable) only after he has received a written instruction from the Engineer to do so. No connection will be allowed on a Friday or after 12:00 on any day.

Before the connection is made, the new pipes must be laid to within 2 m of the connecting point, and must be temporarily blanked off, anchored, sterilized and tested. All specials required must be available on site.

The connection to existing pipes shall include the breaking out of anchor blocks (if necessary), and removal of existing pipe fittings and couplings.

SDL 5.12 REPLACEMENT OF EXISTING VALVE AND PIPE

Before commencing the excavation of pipe trenches in the vicinity of the proposed replacement, the contractor shall excavate for, expose, survey and record the position and level of the existing watermain and shall confirm all specials required.

The Contractor shall be responsible, through the Engineer, for liaison with the Municipality to arrange for turning off the water in order to carry out the connection.

The Contractor may cut into the existing watermain (where applicable) only after he has received a written instruction from the Engineer to do so. No connection will be allowed on a Friday or after XXh00 on any day.

All specials required must be available on site.

The replacement of the existing valve and pipe shall include the breaking out of anchor blocks (if necessary), and removal of existing pipe fittings and couplings.

SDL 5.13 PROTECTION OF BURIED JOINTS

The Contractor shall protect all joints with nuts and bolts against corrosion by wrapping them with “Denso” tape or equal approved, in accordance with the manufacturer’s instructions.

SDL 7 TESTING

REPLACE THE CONTENTS OF SUBCLAUSE 7.3.1.3 WITH THE FOLLOWING:

“Over and above other tests specified, all pipelines shall be hydraulically tested. The pipelines shall be fitted with all valves, fittings and couplings required to complete the section before testing will be permitted. The Contractor shall construct temporary thrust blocks or provide plugs and blank flanges where required for testing at no extra cost to the Employer. The field test pressure shall be 1,5 times the working pressure measured at the lowest point on the section to be tested but not less than 30 m or 1,25 times the working pressure, whichever is the most, at any other point on the section tested. Before any tests are carried out the test pressures and test points shall be confirmed with the Engineer. The Contractor shall provide all equipment and fittings or specials required for the pressure testing of the pipeline.”

SDL 8 MEASUREMENT AND PAYMENT

SDL 8.2 SCHEDULED ITEMS

SDL 8.2.1 Supply, Lay, and Bed Pipes Complete with Couplings

ADD THE FOLLOWING TO SUBCLAUSE 8.2.1:

“The Contractor will be allowed to claim the following percentages for interim payment purposes as the various activities are completed:

Stage of Completion	Percentage Applicable
Pipes laid and bedded in trench	85.00%
Pipes tested successfully, cleaned and disinfected.	100.00%

Note that the percentage applicable is given in the above table as a cumulative figure.

SDL 8.2.2 Extra-over 8.2.1 for the Supplying, Laying, and Bedding of Specials Complete with Couplings

ADD THE FOLLOWING TO SUBCLAUSE 8.2.2:

"Specials will be measured by number. The tendered rate for supply and delivery to Site shall cover the manufacture, transport, handling and fixing into position of the specials (including jointing materials as appropriate) and all alterations required to formwork and grouting in where applicable."

The cost of marking (see SDL 3.12) will also be held to be included in the price for supplying of the item"

SDL 8.2.3 Extra-over 8.2.1 for the Supplying, Fixing, and Bedding of Valves

REPLACE SUBCLAUSE 8.2.3 WITH THE FOLLOWING:

"Refer to Specification LK Clause 8 for the measurement and payment of valves."

SDL 8.2.11 Anchor/Thrust blocks and pedestals

ADD THE FOLLOWING TO SUBCLAUSE 8.2.11(a):

"The rates for the thrust blocks shall cover the cost of excavation and backfill, concrete, formwork, and steel reinforcement (including 120 kg high tensile steel per cubic metre of concrete where the amount of steel is not indicated on the drawings) as well as labour, etc., to complete the thrust block as shown on the drawings in addition to the operations and materials specified in this subclause."

PSL 8.2.12 Irrigation connection point unit: no

The tendered rate shall include full compensation for all plant, equipment, labour and consumables to effectively supply and install a plug-in irrigation connection as per manufactures specification. The final level of the end cap will be located 50 mm below the final playing surface on the outside of the playing surface. Please see drawing number 1007-CIV-DRG-202.

PSL 8.2.13 Movable Impact Sprinkler unit: no

The tendered rate shall include full compensation for all plant, equipment, labour and consumables to effectively construct and supply a movable irrigation sprinkler, inclusive of a durable 25 mm hose with UV protection and associated standard end connections to irrigate grass. All Steel work to be hot dipped galvanised. Please refer to drawing number 106776-G012.

PSL 8.2.14 Irrigation Pump

PRIME COST SUMS

(a) Description of item to which Prime Cost Sum applies *unit: PC Sum*

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

Subitems (a) and (b) will be provided in the Schedule of Quantities for each different item to which a Prime Cost Sum applies.

The Contractor shall be reimbursed under subitem(s) (a) in substitution of the respective Prime Cost Sums included in the Contract, the actual price(s) paid or payable by him in respect of the goods, materials or services supplied, but excluding any charges for the Contractor's labour, profit, carriage, establishment or other charges related to such goods, services or materials.

The Contractor shall be paid under subitem (b), the respective percentage, as stated by the Contractor in his tender, of the amount certified by the Engineer for payment under the related subitem (a). The percentages tendered by the Contractor for each respective subitem (b) included in the Schedule of Quantities shall be deemed to be in full and final compensation to the Contractor in respect of any charge by the Contractor for labour, carriage profit, establishment and for any other charges related to the goods, services or materials supplied under the related subitem (a).

If the Contractor shall have omitted within his tender to insert a tendered percentage under subitem (b), or tendered a zero percentage, the Contractor's tendered rate for subitem (b) shall be deemed to be zero and the Contractor shall not be entitled to any payment under subitem (b).

Note in connection with additional tests required by the Engineer:

When a PC sum is included in the Schedule of Quantities for additional tests required by the Engineer, the Contractor shall be responsible for both the cost of normal testing as described in C3.6.4.3(b) of the Project Specifications and for the cost of any additional test that indicates that the specifications have not been complied with."

SDL 8.2.15 Valve and Hydrant Chambers, etc.

ADD THE FOLLOWING TO SUBCLAUSE 8.2.13:

"The rates for valve chambers and other pipeline structures shall cover the cost specified for thrust blocks and for all other necessary materials, such as air vents, access covers and access ladders to complete the chamber as detailed on the drawings (including 120 kg high tensile steel per cubic metre of concrete where the amount of steel is not indicated on the drawings).

SDLB BEDDING (PIPES)

SDLB 3 MATERIALS

SDLB 3.1 SELECTED GRANULAR MATERIAL

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"Selected granular material shall have a PI not exceeding 6 and shall be free from sharp-edged particles exceeding 19 mm."

SDLB 3.2 SELECTED FILL MATERIAL

ADD THE FOLLOWING:

"Selected fill material used for bedding shall, where indicated on the Drawings be stabilized with 5% cement as specified under subclause SDDB 3.5(c)."

SDLB 3.3 BEDDING

ADD THE FOLLOWING:

"PVC-U and HDPE pipes are deemed to be flexible pipes for the purposes of this subclause.

"Where structures are to be built over pipework, where shown on the drawings, or where ordered by the Engineer, the bedding cradle specified shall be stabilized with 5% cement as specified under subclause SDDB 3.5(c)."

SDLB 3.4 SELECTION

SDLB 3.4.1 Suitable material available from trench excavation

REPLACE THE WORDS "(but is not required)" *IN THE FIFTH LINE WITH THE WORDS* "(at his own cost)".

SDLB 8 MEASUREMENT AND PAYMENT

SDLB 8.1 PRINCIPLES

SDLB 8.1.3 Volume of bedding materials

ADD THE FOLLOWING SENTENCE TO SUBCLAUSE 8.1.3:

"Note that the outside diameters of the pipe shall be taken as “D” on all drawings where not specifically shown. Overbreak shall not be applicable for the measurement of the bedding material and selected fill material. The volume of bedding material will be measured net, excluding the volume occupied by the pipe."

SDLB 8.1.5 Disposal of displaced material

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"Material displaced by the pipeline and by imported material from sources other than trench excavation, shall be disposed of at an approved site furnished by the Contractor. No haulage is payable for such material."

SDLB 8.1.6 Free-haul

DELETE THE WORDS "of 0,5 km" *IN THE FIRST LINE OF THIS SUBCLAUSE.*

SDLB 8.2 SCHEDULED ITEMS

SDLB 8.2.1 Provision of Bedding from Trench Excavation

DELETE THE WORDS "from within 0,5 km," *AND* “within a freehaul distance of 0,5 km” *IN THE FIRST SENTENCE OF SUBCLAUSE 8.1.6.*

REFER TO SDD 5.2.5 Transport for earthworks.

SDLB 8.2.2 Supply only of bedding by importation

SDLB 8.2.2.2 From borrow pits

DELETE THE WORDS "within a freehaul distance of 0,5 km" *IN THE LAST SENTENCE OF SUBCLAUSE 8.2.2.2.*

REFER TO SDD 5.2.5 Transport for earthworks.

***OR** IN THE CASE OF **ROAD CONSTRUCTION**; DELETE THE WORDS IN BRACKETS IN THE FIRST FOUR LINES AND ADD THE FOLLOWING:*

"The opening up of borrow pits and the removal of overburden are paid for under item 8.3.4 of SABS 1200 D."

ADD THE FOLLOWING SUBCLAUSE TO CLAUSE 8:

"SDLB 8.2.6 Extra over items 8.2.1 and 8.2.2 for bedding stabilized with 5% cement

Unit: m³

The tendered rate shall include full compensation for selecting, mixing, backfilling and compacting the stabilized material to 90% of modified AASHTO dry density."

SDLC CABLE DUCTS

SDLC 3 MATERIALS

SDLC 3.1 DUCTS

ADD THE FOLLOWING:

SDLC 3.1.2 Split uPVC pipes

Split pipes shall only be used to provide ducts for existing services that cannot be severed and threaded through the ducts. The pipes shall be cut accurately in the middle, and opposite halves shall be matched as sawn. Split pipes shall be placed around the service, firmly bound by steel straps, and encased in concrete."

SDLC 3.4 CABLE DUCT MARKERS

ADD THE FOLLOWING:

"A cable duct marker shall consist of a 300 mm x 300 mm x 100 mm deep, class 20 MPa/19 mm concrete block, connected by means of a non-ferrous metal strip to a temporary plug to seal the end of the duct. The plug shall prevent moisture or soil from entering the duct. The metal strip shall be firmly connected to both the plug and the concrete block. The concrete block shall be positioned not further than 0,5 m horizontally from the end of the cable duct. The face of the concrete block shall be clearly marked "E" to indicate electricity cables."

SDLC 5 CONSTRUCTION

SDL 5.3 DUCT LAYING

SDLC 5.3.1 Straight laying

ADD THE FOLLOWING:

"If the trench is to contain more than one pipe exceeding 75 mm internal diameter, the base of the trench shall slope so that water may drain away from the pipes. The level of the bottom of the trench shall fall at least 75 mm per 30 m."

SDLC 5.3.3 Draw wire

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"A length of 3,05 mm diameter galvanized iron wire (supplied by Telkom) shall be attached to the cleaning-brush and drawn into the pipe and left for use as a draw wire. Surplus wire at least 2 m in length shall be left neatly coiled at each end of each duct. All open pipe ends must be plugged to prevent the ingress of dirt."

ADD THE FOLLOWING SUBCLAUSES:

SDLC 5.6 LAYING OF CABLES WITH OTHER SERVICES

ADD THE FOLLOWING:

"Trenches for telephone ducts shall be excavated so that pipes can be laid at least 300 mm from power cables.

Where this is not possible, pipes shall be separated from power cables by vertically placed concrete or paving slabs."

SDLC 5.7 CROSSING OF TELEPHONE AND ELECTRICITY CABLE DUCTS

REPLACE THIS SUBCLAUSE WITH THE FOLLOWING:

"SDLC 5.7 CROSSING OF TELEPHONE DUCTS WITH OTHER SERVICES

When a duct crosses an existing service such as an electricity supply cable, a water supply pipe or a sewerage pipe, the telecommunication duct shall, if possible, be laid not less than 25 mm above the existing service. Where the depth of the existing service is insufficient for this to be done, the telecommunication duct shall be laid to pass not less than 25 mm below the other service."

SDLC 7 TESTING

ADD THE FOLLOWING SUBCLAUSE:

"SDLC 7.4 FINAL INSPECTION

A final inspection will take place on completion of the work. The Contractor shall, at his own cost, expose all pipe ends prior to the final inspection, after which they may be finally plugged and closed."

SDLC 8 MEASUREMENT AND PAYMENT

SDLC 8.2 SCHEDULED ITEMS

SDLC 8.2.5 Supply, lay, bed and prove duct

REPLACE THE PAYMENT PARAGRAPH WITH THE FOLLOWING:

"Separate items are scheduled for each diameter of duct.

The rates shall cover the cost of providing all the materials and the cost of laying the ducts, installing the draw wire, jointing, bedding and providing all as specified."

SDLD SEWERS

SDLD 3 MATERIALS

SDLD 3.5 MANHOLES, CHAMBERS, ETC

SDLD 3.5.2 Precast concrete sections

ADD THE FOLLOWING:

"Sectional spun-concrete cylinders shall be manufactured from dolomitic aggregate."

SDLD 5 CONSTRUCTION

SDLD 5.9 CONNECTING SEWERS

SDLD 5.9.1 Location and details

DELETE THE FOLLOWING FROM THE FIRST PARAGRAPH:

"or required in terms of the Project Specifications."

DELETE THE SECOND PARAGRAPH.

SDLD 8 MEASUREMENT AND PAYMENT

SDLD 8.2 SCHEDULED ITEMS

SDLD 8.2.11 Connection to existing sewer at

REPLACE THIS ITEM WITH THE FOLLOWING:

"SDLD 8.2.11 Connection to existing sewer manhole Unit: Sum

The tendered sum shall include full compensation for excavation, making an opening in the existing manhole, installing new pipes in the new opening, breaking out and modifying the channelisation inside the manhole to suit the new pipe layout, ensuring the watertightness of the new connection, supplying all the necessary materials, removing surplus material and debris, all labour and equipment required to make the connection, and liaison with the local authorities."

ADD THE FOLLOWING ITEM:

"SDLD 8.2.13 Breaking into existing sewer and building a new manhole Unit: No.

The tendered rate shall include full compensation for excavation, building a new manhole over the sewer, breaking into the existing sewer, building the channelisation under wet conditions, ensuring the watertightness of the new connection, supplying all the necessary materials, removing surplus material, all labour and equipment required to make the connection, and liaison with the local authorities."

SDLK VALVE INSTALLATIONS (SPEC LK)

SDLK 3 MATERIALS – THE VALVES

SDLK 3.1 Gate valve or resilient seal valve

SDLK 3.1.1 General

ADD THE FOLLOWING TO SUBCLAUSE 3.1.1:

"The resilient seal valve gates shall be completely rubber or neoprene sheathed (not with rubber stirrups only) to provide a resilient seal. The sheath shall be pinhole free.

The gate valve spindle shall be either EN56B grade or other approved stainless steel and shall operate in a spindle nut of appropriate non-corrodible material. The design of the stuffing box shall be such that the "O-rings" can be replaced while the valve is in service without having to remove the valve dome.

Should there be any danger of the main valve shaft shearing due to the high gearing of the valves, fail safe shear pins shall be fitted to the gearbox."

SDLK 3.14 Protection against corrosion

ADD THE FOLLOWING NEW SUBCLAUSE TO SUBCLAUSE 3.14:

"**SDLK 3.14.4 Repair of corrosion protection**

All damage to the coating (if any) caused by the transport and handling of the valves shall be repaired by the Contractor in accordance with the above specification, prior to the installation of the valves. Any damage to the coating caused by the installation of the valves shall be repaired in accordance with the paint manufacturer's specifications. The grinding down of the damaged area to Sa2½ and the feathering of the edges are an acceptable alternative to re-blast cleaning."

SDLK 8 MEASUREMENT AND PAYMENT

SDLK 8.2 SCHEDULED ITEMS

SDLK 8.2.1 Supply and deliver valve

ADD THE FOLLOWING TO SUBCLAUSE 8.2.1:

"The rates tendered for all valves shall cover the cost of the supply and delivery to Site of the valves, complete with handwheels or extension spindle and support bracket (as billed), corrosion protection as specified in Subclause 3.14 and the necessary testing and commissioning specified in Clause 7, together with packaging and marking."

SDLK 8.2.2 Install, bed and field-test small valve (of nominal bore of up to 300 mm)

ADD THE FOLLOWING TO SUBCLAUSE 8.2.2:

"No separate payment will be made for the repairs to paintwork in the event of damage to the valves."

SDME SUBBASE

SDME 3 MATERIALS

SDME 3.2 PHYSICAL PROPERTIES

SDME 3.2.1 Subbase material

REPLACE THE CONTENTS OF PARAGRAPH (a) WITH THE FOLLOWING:

"(a) The maximum particle dimension of the gravel shall not exceed 63 mm."

REPLACE THE CONTENTS OF PARAGRAPH (d) WITH THE FOLLOWING:

"(b) The CBR at specified density shall be 45 for unstabilized material as well as for stabilized material prior to stabilization."

DELETE PARAGRAPH (e).

SDME 3.2.2 Gravel shoulder and gravel wearing course material

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"The material used for gravel shoulders and gravel wearing course shall comply with the following:

(a) The PI shall not be less than 6 and not more than (3 x GM) + 10.

(b) The maximum particle dimension of the gravel shall not exceed 40 mm.

(c) The CBR shall be greater than 15 at 93% of modified AASHTO density."

SDME 5 CONSTRUCTION

SDME 5.2 EXCAVATION

SDME 5.2.2 Borrow pits

INSERT THE WORDS "designated by the Engineer and" BETWEEN THE WORDS "pits" AND "established" IN THE FIRST LINE.

ADD THE FOLLOWING SUBCLAUSES:

"SDME 5.8 WEED-KILLER

The subbase layer shall be treated before compaction by applying and mixing in granular HYVAR X or TENOC X weed-killer in accordance with the manufacturer's instructions. An approved equivalent may be used.

SDME 5.9 INSECTICIDE

An insecticide approved by the Engineer shall be applied strictly in accordance with the manufacturer's instructions over the total area of the subbase. The instructions indicate whether the poison is to be applied before or after compaction of the layer."

SDME 8 MEASUREMENT AND PAYMENT

SDME 8.1 BASIC PRINCIPLES

INSERT A SEMICOLON IN THE FIRST LINE OF PARAGRAPH (b) AFTER THE WORDS "will be paid for once only" AND DELETE THE REST OF THE PARAGRAPH.

AMEND PARAGRAPH (d) AS FOLLOWS:

"(d) that, in the case of material from a commercial source or from borrow pits selected by the Contractor, no additional payment will be made for the class of excavation, method of processing (except stabilizing), or overhaul."

SDME 8.3 SCHEDULED ITEMS

SDME 8.3.2 Construct the subbase course/shoulders/gravel wearing course with material from designated excavations

REPLACE THE CONTENTS OF SUBITEM (a) WITH THE FOLLOWING:

"The rate for (a) shall include full compensation for excavating and selecting subbase material, for loading and transporting the material within the free-haul distance, and for either placing the material on the road or stockpiling the material for later use. When material is stockpiled, the rate shall include compensation for shaping and grading the stockpile so that it is free-draining."

SDME 8.3.3 Construct the subbase course/shoulders/gravel wearing course with material from commercial sources or designated borrow areas

ADD THE FOLLOWING PARAGRAPH:

"This item shall also apply to the construction of subbase course/shoulders/gravel wearing course with material from borrow pits selected by the Contractor."

"SDME 8.3.9 Treatment of subbase with:

(a) Weed-killer Unit: m²

(b) Insecticide Unit: m²

The tendered rates shall include full compensation for supplying, spreading and mixing-in or applying the poison.

Only areas that were treated on the written instructions of the Engineer will be measured for payment."

C3.7 PARTICULAR SPECIFICATION

PA FENCING

CONTENTS

PA 01 SCOPE

This is a Particular Specification and covers the erection of new fences.

PA 02 TYPE OF FENCE

The fence around the facility shall be Clear-Vu security fence and shall be erected in accordance with the dimensions shown on Drawing 1081-CIV-DRG-500.

The fence around the courts shall be diamond mesh fence and shall be erected in accordance with the dimensions shown on Drawings.

PA 03 MATERIALS

PA 03.1 POSTS, STAYS AND STANDARDS

Posts, stays and standards shall be of the type and size indicated on the Drawings and as per manufacture's specification. Posts shall include gate posts, straining posts and corner posts.

PA 03.2 BOLTS FOR STAYS

Bolts shall be as per the Manufacturer's specification

PA 03.5 GATES

Gates shall be complete in every respect, and shall include hinges, washers, bolts and the locking mechanism shown on the Drawings.

PA 03.6 CONCRETE

Concrete used for fencing shall comply with the requirements of SANS 1200 G.

PA 04 CLEARING FENCE LINE

Strip clearing for the fence shall be carried out in accordance with SANS 1200 C and will be measured and paid for under Section 1200 C of the Schedule of Quantities.

PA 09 CLOSING OPENINGS UNDER FENCES

At ditches, streams, drainage channels or other hollows where the fence cannot follow the general ground contour, the Contractor shall close the opening under the fence by means of horizontal barbed wires 150 mm

apart and stretched between additional straining posts as shown on the Drawings. The opening shall be covered with strips of diamond mesh, 1 000 mm wide, fixed to the barbed wires.

In the case of larger streams, the opening below the lower fencing wire shall be closed by means of loose-hanging wire nets as shown on the Drawings. These nets shall be erected at streams only on the instructions of the Engineer.

PA 10 INSTALLING GATES

Gates shall be installed at the positions indicated on the Drawings or pointed out on Site.

PA 11 GENERAL REQUIREMENTS AND TOLERANCES

The completed fences shall be plumb, taut, true to line and to the ground contour, and with all posts, standards and stays firmly set.

The height of the lower fencing wire above the ground at posts and standards shall not vary by more than 25 mm from that shown on the Drawings. Other fencing wires shall not vary by more than 10 mm from their prescribed relative vertical positions.

Anchoring of a fence to structures shall be done as shown on the Drawings.

The Contractor shall, on completion of each section of fence, remove all cut-offs and other loose wire or mesh so as to leave the fence with a neat and finished appearance.

PA 12 MEASUREMENT AND PAYMENT

PA.01 Supply and erection of new fencing material including:

(a) Clear-Vu ..... Unit: m

PA.02 New gates:

(a) Single leaf (size and type indicated) ..... Unit: No.

The unit of measurement shall be the number of new gates erected. A pair of gates shall be measured as one.

The tendered rate shall include full compensation for gate posts, hinges, bolts, concrete, locking mechanism and straining wire, and for the erection of the gates complete as specified and as shown on the Drawings. It shall not include compensation for any fencing wire or mesh used on the gate.

PD BUILDING WORK

CONTENTS

PD 01 SCOPE

This is a Particular Specification and covers the various construction activities associated with the erection of buildings which form part of this Contract.

Building work shall be carried out in accordance with the National Building Regulations, SANS 10400, the applicable clauses of the SABS Standardized Specifications and the information contained in this Specification.

Work appurtenant to the erection of buildings such as earthworks, concrete work, structural steelwork, etc shall be carried out as specified in the appropriate Standardized Specifications and will be measured and paid for under those Specifications.

PD 02 BRICKWORK, PLASTER WORK AND FLOOR SCREEDS

PD 02.1 MATERIALS

(a) Bricks

Bricks shall comply with SANS 227 and shall be of the class scheduled or shown on the Drawings.

Satisfactory proof of the load-bearing capacity of the bricks offered shall be submitted before deliveries are made to the Site.

Air bricks shall be well-burnt terracotta and shall be free from cracks and blemishes and lined with copper mosquito gauze.

Three samples of each type of brick shall be submitted to the Engineer for approval. All subsequent deliveries shall be of a standard equal to or better than that of the approved samples.

(b) Cement

Cement shall comply with the requirements of SANS 50196 and shall be stored under cover. The use of Portland blast-furnace cement (PBFC) which complies with the requirements of SANS 50196 will only be allowed if approved by the Engineer.

(c) Aggregate

Fine aggregate shall consist of natural sand, or crushed rock or gravel, and shall be hard, clean and free from adherent coatings or other deleterious matter. Sand for plaster and mortar shall comply with the requirements of SANS 1090, whereas the aggregates for normal and granolithic floor screeds shall comply with the requirements of BS 1199 and BS 1201 respectively.

(d) Water

Water shall be clean and free from clay, silt, oil, acid, alkali, organic or other matter which would impair the required strength and durability of the mortar, plaster or floor screed.

(e) Wall ties

Wall ties shall be of the galvanized, crimped, single-wire type, 3,5 mm in diameter, and shall comply with the requirements of SANS 28.

(f) Damp-proof sheeting

Damp-proof sheeting shall comply with SANS 248, type FV for fibre felt, or SANS 952, type B for embossed polyethylene sheeting.

PD 02.2 CONSTRUCTION OF BRICKWORK

(a) Cement mortar

Cement mortar shall, unless otherwise specified, consist of one part Portland cement to four parts sand (1:4) by volume for normal brickwork and one part Portland cement to three parts sand (1:3) by volume for reinforced brickwork. The ingredients for cement mortar shall be measured in proper gauge boxes on a boarded platform and thoroughly mixed. Alternatively, mixing may be by means of an approved mechanical batch mixer. Only when the dry ingredients have been thoroughly mixed and a mixture of uniform colour has been obtained may the water be added in sufficient quantity to obtain mortar with the required consistency.

Cement mortar shall be used within two hours of adding water to the mix and shall not be used after two hours or if it has begun to set. Mortar shall be turned over frequently to prevent it from setting until it is used.

(b) Brickwork

Dimensions of all the brickwork shall be set out and built as shown on the Drawings. Bricks shall be kept wet before laying and the top of brickwork shall be wetted before any further bricks are laid. Bricks shall be well buttered with mortar before being laid and all joints shall be thoroughly flushed up as the work proceeds. All joints to face brickwork shall be neatly made and key-drawn with a 6 mm key.

Brickwork shall be carried up in a uniform manner with no portion being raised more than 1 m above an adjacent portion. All perpends, quoins, etc, shall be kept strictly true and square and the whole properly bonded together.

Brickwork shall be built in stretcher bond or english bond as shown on the Drawings, and bats shall not be used except where required for the bond. All joints shall be 10 mm wide and four courses shall measure 340 mm.

Brickwork for cavity walls and solid walls built in stretcher bond shall be tied with wall ties placed not more than one metre apart in every third course, and shall be staggered vertically. At openings, the ties shall be positioned not more than 300 mm apart along the periphery of the opening and 150 mm from the opening.

Face brickwork shall be kept perfectly clean and rubbing down of the brickwork shall not be allowed. Scaffold boards shall be turned back during heavy rain to avoid splashing. Soiled brickwork shall be cleaned at the Contractor's expense, and the cleaning method shall be approved by the Engineer.

(c) Reinforced brickwork

Brickwork over door and window openings shall be reinforced with steel rods, welded or expanded mesh, etc. Reinforcement shall be placed in each course of brickwork for a minimum of four (4) courses or as shown on the Drawings. Reinforced brickwork shall continue at least 300 mm on each side of the openings.

Brick lintels shall be built upon rigid temporary supports left in position for not less than seven (7) days after brick-laying. Prestressed concrete lintels may be used where approved by the Engineer.

(d) Key for plaster

Joints of all brickwork receiving plaster shall be raked out, or the brick surfaces shall otherwise be prepared with an acrylic slurry or any other approved bonding agent.

(e) Damp-proofing

A damp-proof course shall be laid over the full width of all the walls at a minimum height of 150 mm above the final ground level or wherever else it may be required, and it shall be lapped for at least 150 mm at angles and joints. A damp-proof course shall also be laid and stepped up under all external sills.

(f) General

Rough and fair cutting shall be performed as required, and the brickwork shall be fitted around any steel work. Face brickwork shall be carefully cut and fitted to suit fittings.

Chases shall be left or formed for edges of concrete floors, staircases, etc. Chases shall also be provided wherever they may be required for pipes, conduits, switch boxes, distribution boards, and the like. Joints shall be raked out for flashings.

PD 02.3 PLASTER WORK

(a) Plaster coats

A plastered finish shall consist of a single coat, comprising one application of a 1:6 cement sand mixture with a wood or steel-float finish.

(b) Thickness

The total thickness of the plaster finish shall be 13 mm minimum and 20 mm maximum.

(c) Workmanship

All plaster work shall be finished smooth and ready to receive paint. Plaster shall be flush with the faces of all switch and plug boxes, the interiors of which shall be kept free from plaster. Plastered surfaces shall be plumb and jambs and reveals shall be formed square.

The plasterer shall cut out and make good all cracks, blisters and other defects and leave the plaster work, on completion, in a state which is acceptable to the Engineer.

PD 02.4 FLOOR SCREEDS

Floor screeds shall have a mix proportion by mass consisting of one (1) part Portland cement and three (3) parts (1:3) fine aggregate. A minimum amount of water is to be used, but it shall be sufficient to allow adequate compaction.

Screeds shall be laid on clean hardened bases in panels not exceeding 14 m² and shall be steel-trowelled to a true and smooth finish. In monolithic construction, the panels shall not exceed 30 m². Joints in screeds shall coincide as nearly as possible with joints in the bases. The thickness of screeds shall be as shown on the drawings or as directed by the Engineer.

The entire screed surface shall be free from loose or raised particles of aggregate, trowel marks or any irregularities, humps or depressions exceeding 5 mm when measured from a 3 m long straight edge.

Screeds shall be cured for three (3) to seven (7) days as may be directed by the Engineer, and shall be protected from damage.

No moisture-sensitive floor finish shall be laid on screeds unless a reliable moisture test shows that the screed is sufficiently dry to receive the covering.

PD 02.5 Structural Concrete

Only ordinary Portland cement shall be used.

Coarse aggregate maximum size: 19 mm
28-day cube strength: 30 MPa.

A plasticizer approved by the Engineer shall be used to reduce the water content of the mix to an absolute workable minimum.

The mix design shall be submitted to the Engineer for approval.

PD 03 DOORS AND WINDOWS

PD 03.1 MATERIALS

(a) General

All steel and iron work shall be delivered clean and free from rust, pitting or other defects. Shop primings shall be applied before delivery and shall consist of a coat of red oxide paint, or any other approved anti-rust paint on all surfaces.

Unless otherwise specified, all materials shall conform at least to the appropriate SABS or BS standards where such standards apply to ironmongery, or steel, cast iron and any other related materials.

(b) Pressed-steel door frames

Pressed-steel door frames shall comply with SANS 1129 and shall be manufactured from 1,6 mm thick mild-steel sheeting, pressed to the required shapes, properly mitred, welded and reinforced, with all welding neatly cleaned off.

Frames shall be of the widths required to suit the thickness of the walls into which they are built and shall be fitted with suitable tie bars and braces at the bottom. Three lugs to be built into the brickwork shall be provided on each jamb.

Rebates in frames and transoms for doors shall be of the widths required to suit the thicknesses of the doors and shall be fitted with a pair of approved steel butt hinges set flush into recesses in the frames. 4,5 mm thick reinforcing plates shall be welded to the backs of the frames at hinge positions.

Heads of frames over double doors shall be drilled where required to form keeps for bolts and shall be fitted with one rubber buffer for each leaf of the door.

Frames for single doors shall be fitted with approved chromium striking plates and an adjustable striking-plate keeper boxed in at the back of the frame by a welded-on sheet-metal box. The frames shall be fitted with a minimum of two rubber buffers.

Frames shall be protected against twisting and damage during transit and erection.

(c) Pressed-steel doors

Pressed-steel doors shall be manufactured from 1,6 mm thick steel plate. The doors shall be of standard design, pressed to shape with 40 mm reveals all round. The doors shall be strengthened with full-length vertical V-shaped or other approved sectional strengthening ribs projecting to the outer face. Two horizontal stiffening rails shall also be welded to the inner face of the doors.

A door shall be hung on a pair of 100 mm long steel butt hinges with loose pins. The leaves of the hinges shall be welded to both the door and the door frame, and a 1,6 mm thick steel plate shall be welded to the inner face of the door to protect the lock.

One leaf of double doors shall be fitted at the top and bottom with approved 150 mm cast brass barrel bolts in an approved manner and the other leaf shall be fitted with a lock, the striking plate of which shall be fixed to the first leaf.

Where indicated on the drawings, doors shall be fitted with louvred ventilation grills of approved design, backed with insect and vermin-proof gauze screening.

(d) Steel window frames

All steel window frames shall comply with SANS 727 and shall be of the types and sizes shown on the Drawings.

Standard industrial types of steel window frame shall be constructed from rolled mild-steel industrial sections, 35 mm wide by 3 mm thick, with opening sections constructed from standard residential sections, 25 mm wide by 3 mm thick, welded at angles and properly jointed at intersections.

Window frames shall be formed perfectly flat, truly square and properly jointed at all angles, and the opening portion shall fit properly on all faces and shall open and close freely.

Glazing bars shall be continuous with jointed intersections, the ends being neatly tenoned into the frame and securely welded in position.

Frames shall be fitted with standard fixing lugs.

Opening sections shall open as indicated on the drawings, and shall be fitted with steel hinges with brass pins. Pivots shall be fitted with bronze ring centres.

Side hung or top hung opening sections shall be fitted with brass handles and friction stays. Bottom hung sections shall be fitted with friction pivots and spring catches.

Weather bar drips shall be attached to the fixed frames for the complete width of the window at the head of outward opening sections.

Composite windows shall preferably be delivered to the Site fully assembled, complete with mullions and transoms.

(e) Door-locks and handles

All door-locks shall comply with the requirements of SANS 4 and shall be of approved manufacture and pattern. All locks shall be supplied with two keys. Keys shall be distinctly numbered with consecutive numbers and each key shall be stamped with the same number as that of the lock which it controls. No two locks in any one building may have the same key.

External doors shall be fitted with four-lever heavy-duty mortice locks, which shall be master-keyed.

All locks shall be properly installed and, after completion, striker plates shall be adjusted and the locks serviced.

Door-handles shall be of cast zinc of approved manufacture and pattern.

(f) Miscellaneous fittings

All retaining devices for doors and windows as well as fittings such as coat hooks, retaining hooks, etc shall be of solid brass. All fittings shall be secured by screws or set screws of the same material and finish as the fitting.

Fittings to be fixed to plastered walls, masonry or floors shall be fixed direct by means of patent plastic or fibre plugs fitted into drilled holes.

Door stops shall be provided at every door and shall be 40 mm diameter rubber stops.

PD 03.2 INSTALLATION OF DOORS AND WINDOWS

All built-in door and window frames shall be set straight, plumb and level, and shall operate to the satisfaction of the Engineer after fixing has been completed.

Fittings shall be either removed, or wrapped and protected from damage, until all rough trades have been completed.

PD 04 GLAZING

PD 04.1 MATERIALS

(a) Glass

Glass shall comply with the requirements of CKS 55. The quality of all window glass shall be such that surface deterioration will not develop after glazing.

All glass shall be free from bubbles, waviness, scratches, stains or other imperfections.

Unless otherwise specified, sheet glass for glazing shall be flat-drawn clear glass of ordinary glazing quality and of the thicknesses indicated below:

For panes not exceeding 0,75 m² in area	3 mm
For panes exceeding 0,75 m² but not exceeding 1,5 m² in area	4 mm

(b) Putty

All putty shall comply with the requirements of SANS 680.

Putty shall not be too hard or soft or caked when used, and shall dry evenly without crazing or cracking.

Defective putty shall be cut out and replaced by the Contractor at his own expense, and any broken glass shall also be so replaced and putty so repainted.

PD 04.2 GLAZING

Glass shall be cut in panes to suit all glazed openings with sufficient clearance all round to prevent cracking by expansion, contraction or vibration.

In all cases the glass shall be well bedded and back-puttied and installed as specified in SABS Code of Practice 0137.

All putty shall be carefully trimmed, cleaned off and neatly finished off straight with smooth surfaces and sharp mitres. A paint primer shall be applied as soon as the putty has dried out sufficiently to prevent shrinkage cracks from forming.

The entire glazing operation shall be cleaned before the premises are handed over for occupation.

PD 05 CARPENTRY AND JOINERY

PD 05.1 GENERAL

(a) Materials

All timber used for structural purposes shall be of merchantable grade and shall comply with the requirements of SANS 1783. Structural timber shall be carefully selected and of the best quality, free from large or dead knots, shakes, waney edges or other defects. Purlins and brandering shall comply with the requirements of SANS 1783. Finger-jointed structural timber shall comply with the requirements of SANS 10096 and laminated timber with the requirements of SANS 1460.

Hardwoods and softwoods for joinery shall comply with SANS 1099 and SANS 1783 respectively and suitable species shall be used for the various purposes.

Unless otherwise specified, all materials shall conform to the appropriate SABS or BS Specification where such standards exist for nails, screws, bolts, adhesives, etc.

(b) Preservative treatment

All structural timber shall be given a preservative treatment suitable for the duty for which the timber is intended in accordance with SANS 10005, and no untreated timber shall be used. The preservative treatment shall not impair the final finish. The timber shall be impregnated throughout. When surface coating is specified, the compounds applied on the surfaces of the timber shall form an unbroken film.

(c) Priming

The jointing surfaces of all joints exposed to the weather and built-in portions of frames shall be thickly primed except where adhesives are specified.

Carpentry and joinery items which are prepared for painting by the manufacturer, shall be knotted and primed before being dispatched to the Site.

Primed surfaces shall be touched up where necessary during the progress of the work or where site adjustments have been made.

PD 05.2 CARPENTRY WORK

(a) Scope of work

Carpentry work shall be carried out in a manner consistent with good workmanship and in compliance with the Drawings.

The carpenter shall perform all cutting away and making good in attendance upon all other trades and he shall provide and maintain temporary coverings required for the protection of any finished work that might be damaged if left unprotected during the progress of the work.

(b) Dimensions

Unwrought timber shall be as sawn and shall be to the dimensions and within the tolerances specified in the relevant SABS Standard Specifications mentioned in subclause PD 05.1(a).

(c) Jointing

Unless otherwise specified, all joints shall be secured by means of a suitable type and a sufficient No. of approved connectors. All joints shall be carefully made in such a way that they will not impair the strength and stiffness of the beams or members.

(d) Timber roof construction

The plates, joists, rafters, purlins, brandering and other pieces used for the construction of the roof and trusses shall be of the dimensions, spacing and construction as shown on the Drawings.

All the joints in the framework shall be of the most appropriate type, accurately formed and adequately secured with fasteners as specified.

PD 05.3 JOINERY WORK

(a) Scope of work

Joinery work shall consist of the manufacture, delivery to the Site, and fixing in the buildings, of all joinery shown on the Drawings.

Except where a special finish is specified, the Contractor shall have all stairs, landings, doors, shelves and other joinery work cleaned and scrubbed down and shall leave all his work in a good order to the satisfaction of the Engineer.

(b) Dimensions

All wrought timber shall be sawn, planed, drilled or otherwise machined or worked to the correct sizes and shapes shown on the Drawings.

Reasonable tolerances shall be provided at all connections between joinery works and the building structure to compensate adequately for any irregularities, settlements or any other movements.

(c) Manufacture

The joiner shall perform all the necessary mortising, tenoning, grooving, matching, tonguing, housing, rebating and all the other works necessary for correct jointing. He shall also provide all metal plates, screws, nails and other fixings that may be necessary for doing the specified joinery work properly.

(d) Joints

Where joints are not specifically indicated, they shall be the recognised forms of joints for each position. The joints shall be so made as to comply with Part 2 of BS 1186.

(e) Doors and frames

Door frames, linings, panel doors, framed, ledged and braced doors, flush doors, sliding doors, etc shall be supplied or made by the joiner and shall be installed, fitted or hung as detailed on the Drawings.

All timber shall be wrought and prepared for oiling, staining, varnishing or painting.

(f) Skirtings, cornices, etc

Skirtings, cornices, etc shall not be installed until after the wall coverings have been applied, the flooring laid and ceilings installed, unless otherwise specified.

(g) In-situ joinery

In-situ joinery work shall not be executed until after all floor, wall and ceiling surfaces have been formed or constructed, unless otherwise instructed.

(h) Ceilings

Ceilings shall consist of plaster board or fibre-cement panels as shown on the Drawings and shall be nailed to the brandering or suspended from the roof structure. The panels shall be separated by exposed tees and insulated with a 50 mm thick fibreglass wool blanket where shown on the Drawings.

PD 06 ROOF SHEETING AND ACCESSORIES

Roof sheeting and accessories shall comply with and will be measured and paid for under SANS 1200 HC.

PD 07 ELECTRICAL WORK

The electrical wiring of buildings shall be carried out by registered and licensed electricians in accordance with the requirements of SANS 10142-1 and the regulations of the Employer.

The electrician shall work in close co-operation with the Contractor to ensure that all conduits, switchboards, plug boxes and switch boxes are installed in their correct position.

The work shall be carried out in accordance with the Drawings and to the satisfaction of the Engineer and the local authority.

PD 08 PLUMBING

PD 08.1 MATERIALS

(a) General

All materials shall be of the best quality and shall be approved by the Engineer before installation. Cracked, chipped, dented or faulty items or materials shall be replaced at the Contractor's expense. Glazed ceramic sanitary ware shall comply with the requirements of SANS 497 and all other materials shall comply with the standards as specified, scheduled or shown on the Drawings.

(b) Water closet (WC) suites

WC suites shall consist of a white glazed vitreous china closet with an S or P trap and seat lugs, a 14 litre low-level matching flat-bottomed flushing cistern placed and fixed on the closet, or a suspended enamelled cast-iron cistern with the flush pipe connected to the flushing rim of the closet with rubber cone joints, and a solid heavy-duty plastic seat with cover, hinges and buffers.

(c) Urinals

Urinals shall be of the type detailed or scheduled, of white glazed vitreous china, wall mounted, with an automatic or a manual flushing system, and chromium-plated fittings.

(d) Wash-hand-basins

Wash-hand-basins shall be of white glazed vitreous china or enamelled cast iron, wall mounted on a pair of cast-iron brackets, and fitted with chromium-plated fittings consisting of two taps, outlet and chain, and supplied with a plug and an anti-siphon trap.

(e) Sinks

Sinks shall comply with the requirements of SANS 242 and shall be complete with cabinet, chromium-plated outlet, anti-siphon trap, plug, chain and two bib taps or one mixer tap, all as detailed or as scheduled.

(f) Pipes and tubing

Cast-iron and steel pipes used in plumbing work shall comply with the requirements of SANS 746 and SANS 10062 respectively. Copper tubing shall comply with the requirements of SANS 460 and malleable cast-iron fittings with SANS 14.

PD 08.2 CONSTRUCTION

Plumbing shall be carried out strictly in accordance with the Drawings and with the National Building Regulations, with specific reference to Government Notice R1875 dated 31 August 1979.

Steel pipes and their malleable cast-iron fittings shall be joined with red lead and hemp, lead pipes shall have wiped soldered joints, and cast-iron pipes shall be joined by caulking with hemp and metallic lead.

Soil pipes from WCs shall have an internal diameter of at least 100 mm and shall be fitted with a pan connector and an access bend (or an access junction where a vent pipe is used), and carried through walls and into the ground for connection to the sewer. Vent pipes shall be fitted with approved balloon gratings.

Waste pipes from basins and sinks shall have an internal diameter of at least 32 mm and shall discharge into gulleys. Bends for waste pipes shall incorporate cleaning eyes.

Cisterns, basins and sinks shall be connected to the pipe system with 12 mm diameter copper service pipes, and chromium-plated stopcocks shall be installed for isolation and maintenance purposes.

PD 09 PAINTING

PD 09.1 GENERAL

No paint shall be applied to any surface containing traces of dust, grit, grease, oil, loose rust, millscale or corrosion products of any kind or to any surface that is not free from moisture. Where necessary, surfaces shall be thoroughly washed to remove all traces of soluble salts and/or corrosive air-borne contaminants prior to painting, and the surfaces shall be dried and painted immediately thereafter.

Welding shall be completed in so far as it is possible before painting commences, but in cases where welding can be done only at a later stage, no paint shall be applied to within 75 mm of the proposed weld position unless otherwise specified. Welds and adjacent parent metal shall be abrasive blasted and/or ground and all contaminants such as flux shall be removed prior to painting.

Surfaces of members which are to rest on concrete or other floors or which will be otherwise inaccessible after erection shall receive the full paint system prior to erection.

Damaged paint areas on metal surfaces shall be cleaned, rust spots removed where applicable and the surrounding paint which is still intact shall be feathered for a distance of 20 mm beyond the damaged area. Spot priming and repair shall consist of all the coats previously applied and shall overlap the damaged area.

Damaged galvanised areas shall be cleaned and any rust spots and any flakes of the coating surrounding the damaged area removed. The coating shall then be restored by zinc spraying or soldering, or painting with a zinc-rich paint, as may be approved by the Engineer.

Where the shop coat is allowed to age for a few months before the final painting is done, light sanding or rubbing with steel wool or scrubbing with clean water using a bristle brush shall be carried out.

Steel to be embedded in concrete shall not be painted below 50 mm from the final level of the concrete.

Each priming coat and each undercoat of paint shall be inspected and approved by the Engineer before any subsequent undercoat or finishing coat is applied.

All finishing colours shall be as shown on the Drawings, or as directed by the Engineer.

PD 09.2 MATERIALS

Paints shall comply with the requirements of the appropriate Specifications below:

(a) Primers

SANS 678	:	For wood
SANS 679	:	Zinc chromate for steel
SANS 996	:	Etch-wash primer for metals
SANS 912	:	Calcium plumbate for galvanized iron

(b) Undercoats

SANS 681	:	For all undercoats

(c) Finishing coats

SANS 515	:	For interior use, flat and egg-shell finish
SANS 630	:	For interior and exterior use, high-gloss enamel
SANS 1586	:	For interior use, emulsion paint
SANS 801	:	For interior and exterior use, epoxy-tar paint
SANS 887	:	For interior use, glossy and egg-shell varnish

The Contractor shall furnish the Engineer with the following information and details regarding the paints and decorative materials for the painting system he proposes to use, for written approval:

(i) The name of the manufacturer and trade name

(ii) The brand, type or grade of paint and the appropriate SABS Specification

(iii) Manufacturer's data sheets, colour references, instructions for use, including surface preparation, sealers, primers, undercoats, finishing coats, coat thicknesses and curing periods, which shall all be considered as being part of these Specifications if approved by the Engineer

(iv) Safeguards to protect the applied paint from damage until the work is accepted by the Engineer

(v) The shelf or pot life of materials, if applicable

(vi) An undertaking that the proposed paint system is suitable for its intended use and that the various coats of paint are compatible with one another

Where proprietary brands are used, the manufacturer's priming and all subsequent coats of paint suitable for that particular brand shall be employed in accordance with the manufacturer's instructions.

No other materials of a similar nature and quality or from another manufacturer may be used instead of those approved, unless written permission to do so has been obtained from the Engineer.

All materials shall be brought onto the Site in containers sealed by the manufacturer. Paints of a different quality, type, brand or colour shall not be mixed, or thinned and shall not be adulterated in any way, but shall be used as supplied by the manufacturer. Any mixing or tinting required shall be carried out by the manufacturer.

Tinting of paint on the Site by the Contractor will only be allowed with the written permission of the manufacturer and the Engineer.

PD 09.3 INSPECTION AND PRELIMINARY WORK

Before commencing paintwork, the Contractor shall carefully inspect the surfaces to be painted to satisfy himself that the surfaces are in a satisfactory or acceptable condition to receive the paint system specified.

All metal fittings and fastenings shall be removed where applicable before the preparatory processes are commenced. On completion, the metal fittings and fastenings shall be cleaned and refitted in position.

PD 09.4 WORKMANSHIP AND FINISHES

Paint may be applied by spray, brush or roller depending on the materials used, the surface to be painted, and the manufacturer's instructions.

Every coat of paint, irrespective of the method of application, shall be adequately and permanently keyed or bonded to the base material or previously applied coat, and shall be evenly distributed, continuous, free from sags, runs, brush marks, pin holes or other imperfections, and shall dry to a smooth finish.

An approved water trap and air-regulating valve shall be furnished and installed on all equipment used in spray painting.

Before painting the interiors of buildings they shall be cleaned and the floors shall be washed and kept free from dust during the progress of the interior work.

The Contractor shall protect all nearby surfaces against disfigurement by spatters, splashes and smirches of paint or paint materials. The Contractor shall be responsible for any damage by paint or dirt caused by his operations to vehicles or property or injury to persons and he will be required to provide protective measures to prevent any such damage or injury and make good, where required, at his own expense.

If passing traffic creates dust which may harm or spoil the appearance of external painted surfaces, the Contractor shall sprinkle the adjacent areas with water, at his own cost, for a sufficient distance on each side of the location where painting is being done.

Undercoats shall be tinted by the manufacturer to distinguish between successive coats.

The final coats or finishing coats of paint shall be applied after all the other work in the vicinity has been completed.

The painter shall keep some of the final paint in reserve in the event of his having to make good any patching which may be required as a result of damage or unforeseen circumstances.

Upon completion, the Contractor shall, in the case of buildings, clean all glass, remove all paint spots from walls, floors and fittings, and leave the premises clean and fit for occupation.

All inflammable materials, comprising solvents, thinners, wiping cloths, etc, shall be placed in tightly closed containers and properly disposed of.

PD 09.5 PAINTING OF PLASTER, CONCRETE OR BRICK SURFACES

(a) Surface preparation

Surfaces for painting shall be prepared by sandpapering, scraping or wire-brushing to remove loose material, dust, laitance, scum or other deleterious materials or high spots. Defective areas shall be cut out where necessary and made good with an approved non-shrink filler. Cracks shall be cut out, suitably keyed, and given a coat of an approved bonding agent before the filler is applied. All patches shall be rubbed down to an even surface. Surfaces shall be washed and allowed to dry.

Surfaces shall be treated with neutralising liquid for walls, and if the surface is coarse or textured, either one full coat of pigmented wall sealer or one full filler coat shall be applied in addition to the neutralising liquid.

(b) Paint application

Prior to the emulsion paint being applied, the surface shall be sealed with an approved clear sealer and primed with an undercoat diluted to 50%. Emulsion paint (PVA or acrylic) shall then be applied in two finishing coats.

Egg-shell finish (alkyd oil-based), oil gloss paint or enamel gloss paint shall be applied as follows: one coat of universal undercoat shall be applied and it shall be followed by one coat of a mixture comprising 50% of the undercoat and 50% of the paint to be used for the finishing coat. A finishing coat of semi-gloss egg-shell, or oil gloss paint or enamel gloss paint shall then be applied.

PD 09.6 PAINTING OF WOODWORK

(a) Surface preparation

The surfaces shall be cleaned, sandpapered and rubbed down to a smooth, even face before painting. The moisture content of the timber shall not be more than 20% at the time when the first coat is applied. All cracks, shakes or scars shall be filled flush with a filler approved by the Engineer before painting. The surface shall then be washed with cleaner and allowed to dry.

(b) Primer application

One coat of an approved wood primer shall be applied.

After open-grained timber has been prepared and primed, the grain shall be stopped and filled with synthetic filler and rubbed down with water paper.

All new woodwork shall be properly primed on all surfaces and edges before being fixed in position. All woodwork not previously painted shall be given a prime coat, well brushed in.

(c) Paint application

One coat of universal undercoat shall be applied followed by one coat of a mixture of 50% of the undercoat and 50% of the paint to be used for the finishing coat. A finishing coat of oil gloss paint or enamel gloss paint or semi-gloss egg-shell (alkyd oil-based) paint shall then be applied.

(d) Varnish finish

Two coats of gloss varnish or egg-shell varnish shall be prepared, stopped and applied.

PD 09.7 PAINTING OF METAL SURFACES

(a) General

Wherever possible, all painting shall be done at the manufacturer's works, but where this is not feasible, the Engineer may permit the application of the undercoat and finishing coats to be carried out on the Site, in which case a prime coat shall be applied at the manufacturer's works prior to the members being despatched to the Works.

(b) Surface preparation

The preparation of metal surfaces shall comply with SABS Code of Practice 064 and shall receive the greatest care to ensure rust-free conditions prior to the paint system being applied.

All surfaces shall be prepared by removing loose paint, rust, plaster, scale, dust, dirt, grease, etc and by repairing or patching defective paint surfaces before painting or repainting. Damaged shop-primed surfaces shall be thoroughly cleaned of rust and patched with a prime coat.

(c) Paint application

(i) Iron and steel work

All iron and steel work shall be properly primed with a red-lead-based primer where steel work is likely to be exposed to the elements for longer than 30 days. Zinc-chromate primer may be used where

overpainting will be completed within 30 days of priming. Metal-etch wash primers may be used under dry conditions where overpainting will be completed within 24 hours of priming. The dry-film thickness of the prime coat shall not be less than 0,300 mm.

After priming, one coat of universal undercoat shall be applied. If necessary, the undercoat shall be tinted to a shade just lighter than the desired finish with approved liquid stainers. The dry-film thickness shall not be less than 0,250 mm.

The two finishing coats shall either be of alkyd resin-based synthetic enamel, gloss or matt oil paint, or as specified elsewhere. The dry-film thickness shall not be less than 0,250 mm per coat.

When mating surfaces are brought together, both surfaces shall have been given the full treatment specified, but where this cannot be done, each surface shall be given a copious coating of primer and the surfaces drawn together while the paint is still wet.

The portion of structural steel members to be buried in soil, and all bases to a height of 500 mm shall be given two coats of an epoxy-tar primer instead of the zinc-chromate primer specified for other surfaces.

The surfaces of steel and cast-iron articles, such as floor gratings, grids and manhole covers, shall, after a thorough brushing to remove loose rust, be painted with two coats of epoxy-tar paint, each at least 0,230 mm thick.

(ii) Galvanized iron and steel

All traces of protective coating shall be removed with galvanized iron cleaner, and two coats of calcium plumbate primer shall be applied. One coat of tinted universal undercoat and two finishing coats of alkyd resin-based synthetic enamel gloss paint shall be applied.

(iii) Non-ferrous metals

Surfaces of aluminium, copper, etc shall be prepared and cleaned, and one coat of self-etch zinc-chromate wash primer shall be applied. One coat of universal tinted undercoat and two finishing coats of enamel gloss paint shall then be applied. Where non-ferrous metals are not to be painted, the surfaces shall be cleaned, polished and two coats of lacquer applied.

PD 09.8 PAINTING OF FLOOR SCREEDS

Where chemicals could cause damage to floors, such floors shall be painted with an approved epoxy paint. The type of paint to be used will be shown on the Drawings and will depend on the types of chemical that are used.

The preparation of such floor screeds for painting and the subsequent application of paints shall be carried out strictly in accordance with the manufacturer's instructions.

PD 09.9 PAINT THICKNESS

Unless otherwise specified, all coats of paint, whether prime coat, undercoat or finishing coat, shall have a dry-film thickness of not less than 0,200 mm, irrespective of the method of application.

PD 09.10 INSPECTION

The Contractor shall provide the necessary equipment to establish whether the primers, undercoats and finishing coats have been applied to the correct thickness according to the correct applications. The Engineer may take samples of the paints during painting operations for testing and quality control.

PD 09.11 MISCELLANEUOS

The following are will be installed or similarly approved standard

Manufactured by "Union" 90 Degree aluminium butt hinge
100 x 75mm Ball Bearing stainless steel butt hinges - code
8352-100SS (3Pairs)
"Union" AL8052-150AS aluminium flush bolt

"Union" 766/1SS Euro profile lock case with stainless steel forend

Locks, etc

Manufactured by "Union"
3 Lever Upright Lock - Code 2252-76SS
34651LH Aluminium single or multitrack helping hand disabled facility indicator bolt with anodised silver finish
Cylinders "Union" 810NPMKD Euro profile double cylinder

Handles

Manufactured by "Union" Radius lever furniture - Code CZ692-24SC "TEAL" AL6T28-05AS aluminium lever handle on 220 x 28mm narrow stile backplate

Door Closers, Floor Springs, etc

"Union" 744P Heavy duty adjustable power arm overhead door closer

PD 10 MEASUREMENT AND PAYMENT

243.01 Brickwork:

(a) (Thickness, type and class indicated) Unit: m²

(b) Etc for other thicknesses, types and classes

The unit of measurement shall be the square metre of each type of brickwork built, calculated from the leading dimensions of the brickwork. Areas of pipes, etc built into brickwork shall not be included in the areas measured. At corners and intersections common to more than one brick wall, the areas shall be measured only once.

The tendered rates shall include full compensation for the construction of the brickwork complete as specified, including pointing, the building-in of conduits, beams, pipe sleeves, doors, windows, the raking-out of joints, damp-proof course, as specified, etc.

243.02 Plaster work:

(a) (Thickness of plaster and finish indicated) Unit: m²

(b) Etc for other thicknesses and finishes

The unit of measurement shall be the square metre of each type of coat completed as specified.

The tendered rates shall include full compensation for the construction of the plaster work, including supplying all materials, mixing, applying, finishing, forming reveals, joints, narrow widths, rounded angles, V-joints, etc complete as specified.

243.03 Brickwork reinforcement:

(a) (Description and width indicated) Unit: m

The unit of measurement shall be the metre of brickwork reinforcement, as specified, on floors, areas shown on the Drawings or as designated by the Engineer/Architect.

The tendered rates shall include full compensation for supplying of all for the placing, cutting, joining of all brickwork reinforcement and all other associated costs, as specified

243.04 Prestressed fabricated lintels:

(a) (Description and lengths indicated) Unit: m

The unit of measurement shall be the metre of lintels, as specified, on brickwork shown on the Drawings or as designated by the Engineer/Architect.

The tendered rates shall include full compensation for supplying of all for the placing, cutting, joining of all material and all other associated costs, as specified

243.05 Turning pieces:

(a) (Description indicated) Unit: m

The unit of measurement shall be the metre of lintels, as specified, on brickwork shown on the Drawings or as designated by the Engineer/Architect.

The tendered rates shall include full compensation for supplying of all for the placing, cutting, joining of all material and all other associated costs, as specified

243.06 Brickwork Sundries:

(a) (Description indicated) Unit: m

The unit of measurement shall be the metre of each type of coat completed as specified.

The tendered rates shall include full compensation for supplying of all for the placing, cutting, joining of all brickwork and all other associated costs, as specified

243.07 Galvanised hoop iron cramps, ties, etc:

(a) (Description and length indicated) Unit: No.

The unit of measurement shall be the number of galvanised hoop iron cramps, ties, etc installed complete as specified.

The tendered rates shall include full compensation for supplying of all for the placing, cutting, joining of all material and all other associated costs, as specified

243.08 Expansion Joint:

(a) (Description) Unit: m.

The unit of measurement shall be the metre of each type of joint completed as specified.

The tendered rates shall include full compensation for supplying of all for the placing, cutting, joining of all material and all other associated costs, as specified on the drawings.

243.09 Brickwork:

(a) (Description, type and pitch indicated) Unit: m².

The unit of measurement shall be the square metre of each type of facebrick built, calculated from the leading dimensions of the brickwork.

The tendered rates shall include full compensation for the construction of the brickwork complete as specified, including pointing, the building-in of conduits, beams, pipe sleeves, doors, windows, the raking-out of joints, damp-proof course, as specified, etc.

243.10 Roof Coverings:

(a) (Thickness of plaster and finish indicated) Unit: m²

(b) Etc for other materials for roofing

The unit of measurement shall be the square metre of each type of roof covering, calculated from the leading dimensions of the buildings.

The tendered rates shall include full compensation for supplying all materials and manufacturing, cutting, wasting, jointing and installing the timber as shown on the Drawings

243.11 Roof and Wall Insulation:

(a) (Description indicated) Unit: m²

(b) Etc for other materials for roofing

The unit of measurement shall be the square metre of each type of roof and wall insulation, calculated from the leading dimensions of the buildings.

The tendered rates shall include full compensation for supplying all materials and manufacturing, cutting, wasting, jointing and installing the timber as shown on the Drawings

243.12 Roof Construction:

(a) (Thickness of plaster and finish indicated) Unit: No.

(b) Etc for other materials for roofing

The unit of measurement shall be the number. of each type of roof, calculated from the leading dimensions of the buildings.

The tendered rates shall include full compensation for supplying all materials and manufacturing, cutting, wasting, jointing and installing the roof as shown on the Drawings.

243.13 Doors:

(a) (Type and size indicated) Unit: No.

(b) Etc for other types and sizes

The unit of measurement shall be the number of doors installed complete as specified.

The tendered rates shall include full compensation for manufacturing and installing specified doors, and frames complete with retaining devices, door stops, stays and any other work necessary to complete the work as specified or as shown on the Drawings.

243.14 Fittings:

(a) (Type and size indicated) Unit: No.

(b) Etc for other types

The unit of measurement shall be the number of fittings installed complete as specified.

The tendered rate for windows shall also include full compensation for supply, fitting and provision of padlock for each locker unit.

243.15 Benches:

(a) (Description indicated) Unit: m

The unit of measurement shall be the metre of benches completed as specified

The tendered rate for benches shall also include full compensation for supply, fitting and application of SABS protection coating.

243.16 Ceilings:

(a) Plaster-board ceiling (type and thickness indicated):

(i) Fixed ceiling Unit: m²

(ii) Suspended ceiling Unit: m²

(b) Fibre-cement ceiling (thickness indicated):

(i) Fixed ceiling Unit: m²

(ii) Suspended ceiling Unit: m²

The unit of measurement shall be the square metre of fixed or suspended ceiling installed complete as scheduled.

The tendered rates shall also include full compensation for the construction of the ceilings, including the exposed tees, insulation blanket and brandering as specified, as well as the suspension system where applicable.

243.17 Floor Covering:

(a) (Description and thickness indicated) Unit: m²

(b) Etc for other types

The unit of measurement shall be the square metre of floor screed laid, as specified, on floors, steps or areas shown on the Drawings or as designated by the Engineer.

The tendered rates shall include full compensation for constructing the floor covering, including supplying all materials, mixing, laying, finishing, and forming nosings, reedings, skirtings, etc.

243.18 Bathroom Fittings:

(a) (Type indicated) Unit: No.

(b) Etc for other types

The unit of measurement shall be the number of fittings installed complete as specified.

The tendered rate for bathroom fitting shall also include full compensation for supply, fitting, plumbing fittings and all other installation associated costs.

243.19 Push Plates and Kicking Plates

(a) (Type indicated) Unit: No.

(b) Etc for other types

The unit of measurement shall be the number of fittings installed complete as specified.

The tendered rate for bathroom fitting shall also include full compensation for supply, push plates and kicking plates and all other installation associated costs.

243.20 Door Furniture:

(a) (Type indicated) Unit: No.

(b) Etc for other types

The unit of measurement shall be the number of fittings installed complete as specified.

The tendered rate for door furniture shall also include full compensation for supply, installation with door stops and all other installation associated costs.

243.21 Windows:

(a) (Type and size indicated) Unit: No.

(b) Etc for other types and sizes

The unit of measurement shall be the number of doors and windows installed complete as specified.

The tendered rate for windows shall also include full compensation for paintwork, glazing, window sills as specified, and damp-proof sheeting.

243.22 Tiling:

(a) (Description and thickness indicated) Unit: m^2

(b) Etc for other types

The unit of measurement shall be the square metre of floor screed laid, as specified, on floors, steps or areas shown on the Drawings or as designated by the Engineer.

The tendered rates shall include full compensation for constructing the floor screeds, including supplying all materials, mixing, laying, finishing, and forming nosings, reedings, skirtings, etc.

243.23 Sanitary Fittings:

(a) (Type indicated) Unit: No.

(b) Etc for other types

The unit of measurement shall be the number of fittings installed complete as specified.

The tendered rate for bathroom fitting shall also include full compensation for supply, fitting, plumbing fittings and all other installation associated costs.

243.24 Taps Valves:

(a) (Type indicated) Unit: No.

(b) Etc for other types

The unit of measurement shall be the number of fittings installed complete as specified.

The tendered rate for taps, valves fitting shall also include full compensation for supply, fitting, plumbing fittings and all other installation associated costs.

243.25 Fire Appliances:

(a) (Type indicated) Unit: No.

The unit of measurement shall be the number of appliances installed complete as specified.

The tendered rate for taps, valves fitting shall also include full compensation for supply, fitting, plumbing fittings and all other installation associated costs.

243.26 Mirrors:

(a) (Type indicated) Unit: No.

The unit of measurement shall be the number. of fittings installed complete as specified.

The tendered rate for mirrors shall also include full compensation for supply, door furniture and all other installation associated costs.

243.27 Paintwork:

(a) (Description and application areas indicated) Unit: m^2

The unit of measurement shall be the square metre of each type of paintwork, calculated from the leading dimensions of the buildings.

The tendered sums shall include full compensation for the supply of all materials, for transport, storage, all equipment and labour, all temporary work and safety precautions, replacement of defective work, protection of completed work and clean-up after completion

243.28 Structural Concrete:

(a) Foundation (Mass Concrete) Unit: m^3.

(b) Reinforced Concrete Unit: m^3.

(c) Floor Slabs (plastic float finish) Unit: m^3.

(d) Roof Slabs (plastic float finish) Unit: m^3.

The tendered rates shall include full compensation excavation, and backfilling, for blinding layers, erecting and dismantling formwork, concrete, steel reinforcement (including 120kg high tensile steel per cubic meter of concrete where the amount of steel is not indicated on the drawings) as well as labour etc., to complete the concrete work as shown on the drawings in addition to the operations and materials specified in this clause.

243.29 Miscellaneous work:

(b) Plumbing Unit: No.

(b) Ironmongery Unit: No.

The tendered rates shall include full compensation for the supply of all materials, for transport, storage, all equipment and labour, all temporary work and safety precautions, replacement of defective work, protection of completed work and clean-up after completion.

PV SYNTHETIC MULTI-PURPOSE SPORTS FIELD

CONTENTS

PV 01 TOLERANCES AND STANDARDS

The Contractor shall work within the dimensional tolerances and requirements of the South African Hockey Association, Federation of International Hockey (handbook of requirements 1992 or latest revision) and relevant BSS and SANS standards.

PV 02 SURFACE LEVELS

The surface shall have thorough draining and shall be laid flat or have a uniform cross-fall not exceeding 1% in the transverse direction and 0,5% in the longitudinal direction. Any localised bumps or hollows shall be such that when a 3 m long straight edge is placed in any position on the surface the gap between the straight edge and the surface shall at no point be greater than 6 mm.

PV 03 DENSIFICATION

The Contractor shall demonstrate that the proposed construction of the base and subbase is adequate to ensure the stability of the finished surface such that it shall not move outside the tolerance levels over a period of 25 years.

PV 05 SYNTHETIC SURFACE SYSTEM

The Contractor will provide full specifications of a sand-filled synthetic surface system of 20 mm tuft layout on a shock pad on unbounded stone or an alternative, all of which shall be laid in accordance with the manufacturer's specifications.

The installation of the synthetic surface system shall take place under the supervision of an experienced technician.

The Contractor shall guarantee that the permeability of the synthetic surface system shall be such that there will be no ponding under conditions of normal wear and tear and maintenance, as well as under the rainfall conditions that it was designed for.

The Contractor shall guarantee that the sand-fill in the carpet shall remain in place under all normal windy conditions prevalent in the area.

PV 06 FIELD LINES

The field shall be marked out in white in accordance with the requirements of the South African Hockey Federation for international matches. In addition, the fields shall be marked with lines for basketball (blue) and netball (yellow).

PV 07 SAND-FILLING

The Contractor shall provide specifications for sand-filling. All sand-filling shall be done by an experienced technician in a manner so as not to damage the system.

PV 08 JOINTING AND SEAMING

The Contractor shall provide full details and locations of all jointing and seaming.

PV 09 PITCH SURROUND

Precast concrete curbs suitably set on and haunched in concrete shall retain the perimeter of the synthetic surface and any paths. The surrounding area shall either be brick or concrete slab paving or an acceptable alternative.

PV 10 CARE AND MAINTENANCE

The Contractor shall train ground staff of the Employer in the care and maintenance of the field and shall provide three copies of a comprehensive service and maintenance manual for the care of the facilities.

PV 12 LANDSCAPING

The Contractor is to allow for the topsoiling, grading and seeding of the surrounds to the Works and for the reinstatement of all access routes, cable trenches, services.

PV 13 AS-BUILT DRAWINGS

The Contractor shall provide three paper and one film copy of the Works as built, showing clearly all services, subservice drains and inspection points.

PV 14 EQUIPMENT

The Contractor is to allow for the provision of the equipment listed below. The Contractor shall include catalogue references and photographs of the items he proposes.

1 drag brush with fittings for tractor use

PV 15 SUPERVISION

The Employer reserves the right to appoint a consultant to monitor and ensure compliance with the submitted design specifications. The Contractor is to ensure that full details are submitted to enable such monitoring.

PV 16 WARRANTY

The Contractor will have to provide an unconditional five-year guarantee on all aspects of workmanship as well as on the synthetic playing surface.

PV 17 MEASUREMENT AND PAYMENT

PV.01 Supply and laying of shock pad **Unit: m²**

The unit of measurement shall be the square metre of finally installed shock pad surface.

The tendered rates shall include full compensation for all materials and labour to provide a fully installed and operational shock pad.

PV.02 Supplying, laying and jointing synthetic carpet including sand-filling **Unit: m²**

The unit of measurement shall be the square metre of finally installed synthetic carpet.

The tendered rates shall include full compensation for all materials, finishes, labour and other requirements as specified to provide a fully installed and operational synthetic carpet, including sand.

PV.03 Setting out for and installation of all line markings including starter marks **Unit: sum**

The tendered sum shall include full compensation for all materials, finishes, labour and other requirements as specified to provide fully installed and operational line markings as specified.

PV.04 Returning to site on two occasions within six weeks of substantial completion to brush and top-dress the surface **Unit: sum**

The tendered sum shall include full compensation for all materials, finishes, labour and other requirements as specified to return to Site on two occasions to brush and top-dress the surface in accordance with the manufacturer's requirements and as specified.

PV.05 Providing material samples for testing to the test house or laboratory **Unit: sum**

The tendered sum shall include full compensation for all materials, finishes, labour and other requirements as specified to provide samples for testing as specified.

PV.07 Portable surface-mounted tennis sets and frames **Unit: No.**

The unit of measurement shall be the number of portable surface-mounted tennis sets and frames, including posts, net frames, referee chair and all other items as specified.

The tendered rates shall include full compensation for all materials, finishes, labour and other requirements as specified to provide a fully installed and operational tennis set.

PV.09 Drag brush with fittings for tractor use **Unit: No.**

The unit of measurement shall be the number of drag brushes.

The tendered rates shall include full compensation for all materials, finishes, labour and other requirements as specified to provide a fully installed and operational drag brush, including fittings for tractor use.

PV.10 Self-propelled brush suitable for use on the pitch surface **Unit: No.**

The unit of measurement shall be the number of self-propelled brushes that are suitable for use on the pitch surface.

The tendered rates shall include full compensation for all materials, finishes, labour and other requirements as specified to provide a fully installed and operational self-propelled brush.

PL MANUALLY OPERATED CHAIN HOISTS

CONTENTS

PL 01 SCOPE

This Particular Specification covers the supply, delivery, installation, testing and commissioning of manually operated chain hoists. It consists of two parts, viz a Standard Specification and a Detail Specification, both of which are applicable to this specific project. In the case of discrepancies between the two, the latter Specification shall have precedence.

PL 02 STANDARDS

PL 02.1 NATIONAL AND INTERNATIONAL STANDARDS

The latest edition, including all amendments to date, of the Tender of the following particular national and international Specification, Publications and Codes of Practice shall be read in conjunction with this Specification and shall be deemed to form part thereof:

SABS 1592 : Short-link steel chain (close-tolerance) for lifting appliances

SABS 1594 : Manually operated chain blocks

SABS 1595 : Forged steel lifting hooks with point and eye for use with steel chains of strength grade M(4), S(6), T(8) and V(10)

SABS 1596 : Drop forged eyebolts and eyenuts for general lifting purposes

PL 03 STANDARD REQUIREMENTS FOR MANUAL CHAIN HOISTS

PL 03.1 HOIST UNIT

The Contractor shall supply, install, test and commission manually operated chain hoists which shall be supplied complete in all respects including all safety hooks, chains, hoists, trolleys and buffers.

The hoists shall be slung from a manually propelled trolley on a horizontal I-beam that will act as the load bearing structural member.

The hoists shall be installed in the positions as indicated in the Drawings and specified in the Detail Specification.

The hoist unit shall be provided with the correct length of chain for the lifting height specified in the Detail Specification.

PL 03.2 HOISTING UNIT TROLLEY

A manually propelled trolley shall be supplied with each chain hoist.

The trolley unit shall be sized to fit on the I-section hoisting beam as supplied under this Contract.

The trolleys shall be designed in such a way as to facilitate easy removal thereof for maintenance purposes.

The trolleys shall be provided with safety catches to prevent them from falling, should a wheel break.

PL 03.3 SAFETY HOOKS

Safety hooks shall be supplied on the free end of each chain. The hook shall have a safety factor of 6, and shall be supplied complete with spring-loaded safety clip or hinged plate closing the opening of the hook and preventing the unhooking of slings when slack.

PL 03.4 CABLE SLINGS

Two cable slings, each of 3,5 m length shall be provided per chain hoist. The capacity of each sling shall be the same or higher than the safe working load of the hoist. These cables shall be of high quality and obtained from well-known manufacturers.

PL 04 CORROSION PROTECTION

The Contractor shall take cognisance of the environment in which the hoist will operate and shall ensure that the chain hoists are suitably corrosion protected. The hoist unit body, carriage, hook and all other parts not exposed to friction wear shall be painted.

PL 05 TESTING AND COMMISSIONING

The hoists supplied shall be tested and commissioned as detailed below.

PL 05.1 TESTS TO BE PERFORMED ON SITE

The test shall include the overloading of the chain hoists with a lifting load of 125% of its maximum lifting capacity. This test shall include lifting the test load to its maximum lifting height and moving it from one end of the load carrying beam to the other. The test load shall be fastened to the hoist using one of the slings. This test must be performed twice, using a different sling each time.

PL 05.2 TEST CONDITIONS

All tests will be performed in situ. The Contractor shall be responsible for supplying the required test load and all other testing equipment that might be required.

The Contractor shall be responsible for replacing any component or part of the hoist or the complete hoist should the hoist fail the test.

PL 06 MEASUREMENT AND PAYMENT

PL.01 Supply and delivery of chain hoists ..... Unit: number

The unit of measurement shall be the number of chain hoists supplied and delivered.

The tendered rates shall include full compensation for the design, manufacture, corrosion protection, pre-delivery testing, transport for delivery to site and off-loading, including all labour and handling of the chain hoists and cable slings.

PL.02 Installation, testing and commissioning of chain hoists ..... Unit: number

The unit of measurement shall be the number of chain hoists installed, tested and commissioned.

The tendered rate shall include full compensation for site handling and positioning of equipment including the fastening of the equipment in its designated position. The tendered rates shall also include full compensation for all materials, labour and consumables required to render a fully installed and functional unit. The site testing and commissioning of the hoists shall also be included in the tendered rates.

PL 07 DETAIL SPECIFICATION OF INSTALLATION

PL 07.1 DESCRIPTION OF INSTALLATION

One manually operated chain hoist shall be supplied, delivered, installed, tested and commissioned under this Contract and will be installed in the
This chain hoist will be used to lift pump units or other heavy equipment out of the pump room.

PL 07.2 CHAIN HOIST DETAIL

The hoist to be installed shall be a manually operated hoist mounted on a trolley. This trolley shall be free running for travel along the load carrying beam. The chain hoist and trolley will be mounted on the I-section beam provided under this Contract. The chain hoist shall have a lifting capacity of 1 ton and a minimum lifting height of 4 m.

Two cable slings with length equal to 3,5 m and a lifting capacity of not less than the specified lifting capacity of the hoist (1 ton), shall be provided with this chain hoist.

ELECTRICAL WORKS

PART B: SECTION 1: GENERAL SPECIFICATION

CONTENTS

1.1 REGULATIONS, FACTORIES ACT AND BY-LAWS

The work shall be carried out strictly in accordance with:

(a) the latest issue of "SANS 10142 : Code of Practice for the Wiring of Premises" hereafter called the "Wiring Code".

(b) the "Occupational Health and Safety Act" of 1993 as amended to date and hereafter called the "Act".

(c) the By-Laws and any special requirements of the local Supply Authority.

(d) the local Fire Office Regulations.

In addition, the work is to be of high standard and to the satisfaction of the Engineer.

1.2 NOTICES AND FEES

The Contractor shall give all notices required by and pay all necessary fees, including any inspection fees, which may be due to the local Supply Authority.

At submittal of the official account, the net amount plus 5% handling cost of the fee charged by the Supply Authority for connection of the installation to the supply mains, will be refunded to the Contractor by the Employer.

1.3 SCHEDULE OF FITTINGS

In all instances where schedules of light, socket outlet and power points are attached or included on the drawings, these schedules are to be regarded as forming part of the specifications.

1.4 QUALITY OF MATERIALS

Only materials of first-class quality shall be used and all materials shall be subject to the approval of the Employer and/or representative.

Wherever applicable the material is to comply with the relevant South African Bureau of Standards specifications, or to British Standard Specifications, where no SABS specifications exist.

Materials wherever possible, must be regional Manufacture.

1.5 CONDUIT AND ACCESSORIES

Unless otherwise stated under Section two of this Specification and except where other methods of installation are specified for certain circuits, the installation shall be secured in conduit throughout. Open wiring will not be allowed in roof spaces.

For light and socket outlet circuits, the conduit used shall have an external diameter of 20 mm. In all other instances the size of conduit shall be in accordance with the "Wiring Code" for the specified number and size of conductors, unless otherwise directed in the schedules or indicated on the drawings.

Except where agreed to, or otherwise specified or indicated on the drawings, all conduit to points shall be run via the ceiling slab or roof space.

Whether conduit shall be galvanized or black enamelled is specified under Section 2 of this Specification. However, in damp situations and where exposed to weather, the conduit, accessories and fittings shall be galvanized in all cases.

Mechanical and electrical continuity must be maintained throughout the installation, but conduit shall not be relied upon alone for earth continuity.

Conduit and conduit fittings must be thoroughly inspected for defects before installation, and all sharp edges and burrs removed.

Running joints are to be avoided as far as possible and conduit is to be set to the required angles; normal bends will not be acceptable except as may be permitted in larger diameters.

All conduit fittings except couplings shall be of the inspection type. Where cast metal conduit accessories are used, these shall be of malleable iron. Zinc base fittings will not be allowed.

Bushes shall be of brass only.

Bushes and locknuts are to be used where conduit enters switch boxes. Draw boxes are to be provided in accordance with the "Wiring Code: and wherever necessary to facilitate easy wiring.

As an alternative to the screwed conduit type of installation, as specified above, unscrewed conduit with Cheney type conduit fittings will also be acceptable to the Employer. The use of this alternative system is, however, subject to the following conditions: -

(a) The unscrewed conduit shall be manufactured of mild steel having a minimum thickness of 0,9 mm (20 gauge) and shall be in accordance with SANS 10142. Conduit manufactured of lighter gauge material, i.e. 0,7 mm (22 gauge) will not be permitted.

(b) Bending and setting of unscrewed conduits must be done with special benders and apparatus manufactured for this purpose and which are obtainable from the suppliers of the Cheney system. Damage to the conduit resulting from the use of incorrect bending apparatus or methods, must on indication by the Employer's inspectorate staff, be completely removed and rectified and any wiring already drawn into such damaged conduits must also be completely renewed at the Contractor's expense.

(c) Tenderers must ensure that general approval of the proposed conduit system to be used is obtained from the local electricity supply authority prior to the submission of their tender. Under no circumstances will consideration be given by the Employer to any claim submitted by the Contractor which may result from a lack of knowledge in regard to the supply authority's requirements.

(d) Conduit and accessories used for flame-proof installations and for suspension of lightning fittings as well as all load bearing conduit shall in all instances be of the screwed type.

1.6 CONDUIT IN ROOF SPACES

Conduit in roof spaces shall be installed parallel or at right angles to the roof members and shall be secured at intervals not exceeding 1,5 m by means of saddles screwed to the roof timbers.

Nails or crampets will not be allowed.

Under flat roofs, in false ceilings or where there is less than 0,9m of clearance, or should the ceilings be insulated with glass wool or other insulating material, the conduit shall be installed in such a manner as to allow for all wiring to be executed from below the ceilings.

Conduit runs from distribution boards shall, where possible, terminate in fabricated sheet steel draw boxes installed directly above or in close proximity to the boards.

1.7 SURFACE MOUNTED CONDUIT

Wherever possible, the conduit installation is to be concealed in the building work; however, where unavoidable or otherwise specified under Section 2 of this Specification, conduits installed on the surface must be plumbed or levelled and only straight lengths shall be used.

The use of inspection bends is to be avoided and instead the conduit shall be set uniformly and inspection couplings used where necessary.

No threads will be permitted to show when the conduit installation is complete, except where running couplings have been employed.

Running couplings are only to be used where unavoidable, and shall be fitted with a sliced coupling as a locknut.

Conduit is to be run on approved spacer saddles rigidly secured to the walls.

Alternatively, fittings, tees, boxes, couplings etc. are to be cut into the surface to allow the conduit to fit flush against the surface. Conduit is to be bedded into any wall irregularities to avoid gaps between the surface and conduit.

Crossing of conduits is to be avoided, however, should it be necessary, purpose-made boxes are to be provided at the junction. The finish of the boxes and positioning shall be in keeping with the general layout.

Where several conduits are installed side by side, they shall be evenly spaced and grouped under one purpose-made saddle.

Distribution boards, draw boxes, industrial switches and socket outlets etc., shall be neatly recessed into the surface to avoid double sets.

In situations where there are no ceilings the conduits are to be run along the wall plates and tie beams.

Only approved plugging materials such as aluminium inserts, fibre plugs, plastic plugs, etc., and round-head screws shall be used for fixing saddles, switches, socket outlets etc., to walls. Wood plugs and plugging in joints in brick walls are not acceptable.

1.8 CONDUIT IN CONCRETE SLABS

In order not to delay building operations the Contractor must ensure that all conduits and other electrical equipment which are to be cast in the concrete columns and slabs are installed in good time.

The Contractor shall have a representative in attendance at all times when the casting of concrete takes place.

Draw boxes, expansion joint boxes and round conduit boxes are to be provided where necessary. Sharp bends of any nature will not be allowed in concrete slabs.

Ceiling boxes shall consist of the standard type box with extension ring (50 mm deep).

Draw and/or inspection boxes shall be grouped under one common cover plate, and must preferably be installed in passages or male lavatories.

All boxes, etc., are to be securely fixed to the shuttering to prevent displacement when concrete is cast. The conduit shall be supported and secured at regular intervals and installed as close as possible and to the neutral axis of concrete slabs and/or beams.

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

1.9 FLEXIBLE CONNECTIONS FOR CONNECTIONS TO STOVES, MACHINES ETC.

Flexible tubing connections shall be of the plastic sheathed galvanized steel type.

Other types may only be used subject to the prior approval of the Employer's site Electrical Representative.

Connectors for coupling onto the flexible tubing shall be of the gland or screw-in types, manufactured of either brass or cadium or zinc plated mild steel, and the connectors after having been fixed onto the tubing, shall be durable and mechanically sound.

NOTE : Aluminium and zinc alloy connectors will not be acceptable.

1.10 WIRING

Except where otherwise specified in Section 2 of the Specification, wiring shall be carried out in conduit throughout. Only one circuit per conduit shall be permitted.

No wiring shall be drawn into conduit until the conduit installation has been completed and all conduit ends provided with bushes. All conduit to be clear of moisture and debris before wiring is commenced.

Unless otherwise directed in Section 2 of the Specification or indicated on the drawings, all wiring for lighting circuits is to be carried out with 2,5mm² conductors with a 1,5mm² earth conductors and for the socket outlet circuits the wiring shall consist of 4,0mm² conductors with a 2,5mm² earth conductors. In all other instances the number and size of cables drawn into any conduit shall be as specified or shown on the drawings. Sizes and numbers of cables not specified must be determined in accordance with the "Wiring Code".

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 600/1000 V grade cable to SANS 10142.

Where cable ends connect onto switches, fittings, etc., the end strands must be soldered or neatly and tightly twisted together and firmly secured. Cutting away of wire strands of any cable will not be allowed.

1.11 SWITCHES AND SOCKET OUTLETS

All switches and switch-socket outlet combination units shall conform to the Employer's Quality Specifications.

None other than 16 A 3-pin sockets are to be used, unless other special purpose types are distinctly specified or shown on the drawings.

All light switches shall be installed at 1400mm above finished floor level and 450mm for all socket outlets unless otherwise stated in the Schedule of socket outlet points. Special power points shall also be installed as directed in the schedules which form part of this Specification, or alternatively the heights of outlet points may be indicated on the drawings.

1.12 SWITCHGEAR

Switchgear, which includes circuit breakers, iron-clad switches, interlocked switch-socket outlet units, contactors, time switches, etc., is to be in accordance with the Employer's Quality Specifications and shall be equal and similar in quality to such brands as may be specified. All switches shall be Heineman (CBI), Merlin Gerin or other approved brand.

For uniform appearance of switchboards, only one approved make of each of the different classes of switchgear shall be used throughout the installations.

Unless otherwise specified elsewhere in this document the minimum fault level of all switches shall be 5KA

1.13 LOW VOLTAGE DISTRIBUTION BOARDS, SWITCHBOARDS AND CONTROL PANELS SWITCHGEAR

1.13.1 GENERAL

This specification provides for the design, manufacture, delivery, installation, testing and commissioning of low and medium voltage distribution boards for voltages up to 660V AC and 500V DC.

Low voltage distribution boards, switchboards and control panels shall be provided and installed as indicated on the drawings and as specified in the specification and schedules.

Distribution and switchboards offered must comply with these specifications, the drawings and schedules and shall comply with the relevant parts of SABS 1180 (Electrical Distribution Boards).

As it is not intended to penalise a Sub-Contractor on account of distribution boards offered, it is essential that the costs of all distribution boards be indicated in the Schedules in order to facilitate the determination of costs of alternatives.

The Sub-Contractor shall note the dimensions of the rooms or openings in which the panels will be mounted and also the dimensions of the access routes and doors. Panels shall be so constructed that they may be taken through the doors after doors have been placed in position.

The Sub-Contractor shall level, fix all distribution boards to the satisfaction of the Engineer.

The Sub-Contractor shall note sizes and positions of cable trenches and vertical shafts and shall include in his tender all supporting steel work to straddle trenches and vertical shafts to support distribution boards securely.

1.13.2 STANDARDS AND PROTECTION

Equipment shall be in accordance with the applicable SABS specifications and Codes and with this Specification.

Selection of materials, finishes, equipment, etc shall also be based on the conditions where the boards and equipment are to the installed, e.g. corrosive, hot, wet, damp, dusty, etc.

Boards, equipment and materials which are exposed to sunlight shall be coated with a UV resistant surface finish.

1.13.3 CONSTRUCTION AND FINISHES

1.13.3.1 General

The type of board (i.e. flush, surface, floor standing) and position is described in detail in the drawings and/or in the Schedules of Particulars.

Boards shall be constructed as indicated on the relevant general arrangement drawings, if applicable.

All boards shall be installed at the specified height, with the top edge of the tray not exceeding 2000mm above finished floor level. Distribution boards shall be supplied with doors with latch locks. The face plates must be supplied with two din locks and 50mm2 pad locks with two keys.

Lifting eyes shall be provided on large boards and shall be manufactured in modular sections so that they may be easily transported and then assembled in position on site.

Cables and conduit entry to be as indicated on drawings or as required by their locations.

Glanding and terminating cubicles and busbar chambers are to have screwed or bolted covers. Quick release covers will not be acceptable.

The gauge of the metal shall be suitable for the size of board and construction employed. Suitable bracing shall be employed to ensure adequate stiffness of panels, etc.

Barriers running the full height and depth of each board shall be provided between adjacent panels.

1.13.3.2 Gland Plates for Cables

A suitable gland plate shall be provided in the cable glanding compartment of each tier of the board.

Gland plates shall be bolted down in sections not wider than 600mm and have a minimum thickness of 3mm. Any gland plate shall be removable without interfering with the adjoining gland plates.

Gland plates shall be a minimum of 400mm from cable terminals.

Where cable gland plates are drilled or punched on site for cable entry, the gland plates shall be straightened if deformed during these operations.

Gland plates must be positioned to suit cable entry and termination.

A cabling through or duct shall be provided from the glanding compartment to each cubicle or piece of equipment to allow for the running of the cables, both power and control.

All wiring, connections, instruments and other equipment shall be mounted inside the board and not on the outside, unless otherwise specified. Wood or artificial wood products shall not be used inside switchboards as mounting for terminals or partitions. Sidanyo, Delaron, or equal not less than 6mm thick, or other materials as prescribed or approved by the Engineer shall be used.

Space for 30% future expansion on MCCB's and CFS units and 50% future expansion on contactors, time switches and isolators shall be allowed on all boards in addition to any spare accommodation indicated on the diagrams unless otherwise specified.

1.13.3.3 Free standing Boards

Free standing boards shall be of the free-standing pedestal type with or without doors as specified and shall be so designed as to enable the boards to be extended without undue difficulty.

Boards shall comply with BS 5486: 1977 (Factory Built Assemblies of Low Voltage Switchgear).

The boards shall be constructed of minimum 1,6mm sheet steel suitably stiffened and reinforced by a 2mm sheet metal framework and shall be complete with all equipment, internal wiring and labelling.

1.13.3.4 Flush and Surface mounted Boards

Both flush and surface mounted boards shall consist of an architrave frame which shall carry the chassis for equipment, panel and door and a bonding tray onto which the architrave frame shall be secured.

Distribution boards shall comply with SABS 1180: Part I and II as applicable.

Bonding trays for flush mounted boards shall be designed to be built into the wall, shall have expanded metal spot welded to the rear and sufficient metal straps on the sides and shall be strong enough to carry the weight of the wall above it.

The tray shall be galvanised.

1.13.3.5 Weatherproof Construction

Weatherproof construction shall be effected by double turn construction of the architraves with flanged doors and bolt on panels.

1.13.3.6 Extendibility

The boards shall be extendible and have an initial spare cubicle capacity of 10% or as specified on the drawings.

1.13.3.7 Standby Power Section

The section of a board accommodating circuits on a standby supply shall be mechanically and electrically separated from the normal section.

All panels associated with the standby section shall be clearly labelled and identified, and shall be painted as specified on the drawings.

Sufficient removable panels shall be provided to afford access to all equipment for maintenance, service and replacement purposes.

The back panels where specified shall be of similar construction to the front panels.

1.13.3.8 Clearances

Sufficient space shall be left inside panels for incoming and outgoing cable connections and for interconnections and control wiring, taking into account the sizes and quantities of cables and wires involved.

Equipment on boards may be installed butting. Undue cramping of equipment and wiring shall, however, not be permitted and the following minimum clearances must be maintained:

- Clearance of not less than 75mm between sides, top and bottom of architrave and any equipment mounted on the chassis.
- Clearance of not less than 75mm between rows of equipment (measured between terminals).

1.13.3.9 Doors

Doors shall be provided as required and prescribed. Where doors of sheet steel finished in the colour specified are required, they shall be manufactured of the same gauge material as the remainder of the panels.

Doors shall be suitably braced to ensure stiffness and shall have smooth, flat finish.

Door hinges shall be heavy duty and shall be constructed to permit easy removal of doors. Piano hinges are not acceptable.

Where hinges are used they shall preferably be concealed. If a surface mounted hinge is used it shall be chromium plated. Provision shall be made for adjustment of hinges to facilitate lining up of distorted doors.

Locks shall be 'Union' type and shall have master key facilities for the entire installation and separate key facilities for each board. Two individual keys shall be provided with each board and four master keys shall be provided for the entire installation.

Doors shall be fitted with approved handles and spring-loaded catches without locks where specified.

Doors shall be fitted with approved handles and square key locks where specified.

1.13.3.10 Removable panels

Panels of sheet steel, finished in the colour specified, shall be suitably finished, with machine-punched slots to allow for flush mounting of equipment.

1.13.3.11 Dust and Vermin Proofing

All boards shall be completely vermin proofed.

No holes other than those required for cable or conduit entry shall be allowed. Should extra holes be required for temporary installations, these holes shall be suitably blocked off on the removal of these temporary installations.

Where doors or removable covers are situated and are required to be dustproofed, they shall be dustproofed by means of a minimum 10mm thick non-perishable gasket, resistant to deterioration from heat, chemicals and moisture and capable of being compressed to half its original thickness.

- Where doors are flush fitting, gaskets shall be glued to the fixed flange.
- In the case of projecting doors, gaskets shall be glued to the door and not the associated framework.
- Similarly suitable gaskets shall be used wherever push-buttons, indicator lights, isolator handles, etc. pass through a door or panel.

Switchgear shall be vermin proof both in the service and isolated positions.

1.13.3.12 Ventilation

Boards fitted with heat generating equipment shall be arranged to prevent heat building up to a temperature which could damage any of the equipment or cabling on the board.

1.13.3.13 Painting and Protection

The paint finish of the boards on the interior and exterior shall be of a high quality and shall be suitable for exterior use.

1.13.3.14 Labelling

All statutory safety warning notices shall be in both English and Sesotho..

All boards shall be labelled as shown on the drawings and approved.

Black letters on white background shall be used for all normal labels and red letters on white or yellow background for danger notices.

The main isolating switch or switches shall be clearly labelled in accordance with the regulations.

Size and origin of supply cables and busbars shall be clearly labelled on all boards.

All grouped single, double and three pole circuit breakers on distribution boards shall be properly labelled, indicating number of circuits controlled.

All equipment situated inside the board, e.g. contactors, relays, fuses, timers and time switches shall be clearly marked, indicating function, circuit controlled and fuse rating.

The board designation label shall be fitted at the top centre of the board. Individual labels are to be fitted to each compartment door and corresponding fixed portion of rear panel (if accessible).

All circuit labels shall be the same size for boards or similar equipment supplied under this Contract.

Labels shall be white/black/white composition engraved traffolite secured by self tapping screws or channelling.

Letter size: Main label 20 mm, other labels 6 mm.

Labels on power cables shall be attached with approved type plastic adjustable clips.

The labels for power cables shall be provided with holes for the clips to pass through for fastening. Each power cable label shall be fastened with at least two clips.

A legend card, covered by removable 2mm thick transparent acrylic plastic ("PERSPEX") or equivalent panel, shall be installed on the inside of the door of the boards or cubicles and circuits shall be designated on this card.

Accessories

Any special door keys (in duplicate), special tools, slinging eye bolts and foundation bolts, shall be supplied with each board.

1.13.4 WIRING AND EQUIPMENT REQUIREMENTS

1.13.4.1 General

Switchgear, control gear, motor control gear, etc shall be positioned and installed as indicated on the relevant drawings or as approved.

The gear shall be installed so that it is positioned squarely on its supporting steelwork, i.e. "lined up" in both the vertical and horizontal planes.

All auxiliaries (relays, timers, etc) shall be mounted in the same cubicle as their associated motor starter.

All motor ammeters shall have a suitable overload scale to cater for motor starting currents. The motor full load value shall be indicated by a red line on the scale.

Each main incomer shall be equipped with ammeters, voltmeters and selector switches as specified on the drawings.

All equipment contained within the switchboards shall be designed to operate continuously at its maximum specified rating under the stated service and atmosphere conditions.

1.13.4.2 Interchangeability of Equipment

Similar and equivalent equipment and auxiliary equipment shall be identical and interchangeable in all respects. It shall be possible to replace any equipment with any similar and equivalent equipment under this Contract.

Where any specific type and make of equipment is used, the whole of this Contract shall be carried out with that specific make and type of equipment to ensure uniformity of appearance and complete interchangeability.

1.13.4.3 Busbars

Busbars shall be installed in all boards and may be installed either horizontally or vertically and in main boards shall be run in a separate compartment, isolated from the rest of the board.

All terminations onto busbars and interconnections shall be bolted with cadmium plated high tensile bolts, washers, spring washers and nuts.

Spacing of busbars shall be calculated in accordance with SABS 784 as amended in relevant SANS specifications, bur shall not be less than 50mm.

Busbars shall be mounted on substantial porcelain or other approved insulators. Bare conductors must be so spaced that with all clamps, lugs and lead offs in position, the spacing between any conductor and earth shall not be less than 40mm.

Connections to the busbars must be effected by means of the correct clamps or lugs with soldered connections or with connections crimped with the correct equipment.

Busbars shall each be identified by means of 100mm long painted (or other approved) phase colouring bands spaced not more than 300mm apart.

The following colours shall be used:

Number of Phases	Phase Colour	Neutral Colour	Earth Colour	Special Purpose Colour
1	Red	Black	Green/Yellow	Orange
3	Red, White, Blue	Black	Green/Yellow	Orange

Where busbars are mounted horizontally the longer dimension shall be in the vertical plane. The busbars shall be designed to withstand the mechanical and thermal stresses of any possible short circuit that could occur at that point in the system.

Rating of busbars shall not exceed 1.55m A/mm2 for copper and 1,0A/mm2 for aluminium.

A solid copper earth bar with sufficient ways for all the earth conductors and 50% spare space shall be provided in an easily accessible position near the cable gland tray.

Where small leads are connected directly onto the busbars. such as voltmeters, fuses, etc, they shall be provided with a 20 ampere fuse mounted at the busbar and a 2 ampere fuse at the item of equipment.

Busbar chambers and droppers shall be segregated from each other. Also busbars shall be completely screened from any other compartment by removable bolted covers. Furthermore, the busbar supports shall divide the busbar chamber into discrete sections.

All busbar contact surfaces shall be tinned.

All bracing and other insulating material shall be non hydroscopic.

Droppers from the busbars to the terminals of fuses or isolators must be of adequate section for the maximum rating of the isolator irrespective of the circuit rating. Colour coding will be as for main busbars. All droppers shall be fully insulated.

1.13.4.4 Wiring

All internal wiring to the boards shall be carried out in PVC insulated to SABS 150 having a minimum of 7 strands per conductor, 660/1000 volt graded and colour coded to BS 158.

All terminals used shall be in accordance with the relevant clause of this specification.

All wiring shall be neatly grouped and laced. Wiring shall not be run at random but shall follow board construction features as far as is possible.

Only wires of the same phase shall be grouped or bunched together.

No excessive bunching of wiring, which will impair the current carrying capacity will be accepted.

All wiring is to be kept free and away from any exposed terminals or other uninsulated current carrying parts.

No joints will be allowed in internal wiring, and all connections to busbars or earth bars shall be made with tinned copper cable lugs soldered or crimped to the ends of the conductors and bolted to busbars by means of cadmium plated high tensile steel bolts and nuts provided with spring washers.

Connections to terminals shall suit the connectors used, but in any case terminal clamp screws shall not bear directly on the conductor.

Crimp lugs or ferrules shall be used on all conductors exceeding 10mm2.

Wiring of any one cubicle shall not run through other cubicles unless the wiring is run in conduit or ducting.

Wires shall be clearly marked at all termination points in accordance with the numbering of the wiring diagram, by means of numbered ferrules, or other approved method.

When the board main switch is switched off, no live incoming or other wiring shall be accessible. The incoming terminals must be screened. Where connections are taken from the incoming side of the main switch, they shall be covered by a screen marked "isolate Feeder before Removing Screen". If any circuits are energised from other sources, clear warning notices to that effect shall be fined and such terminals shall be clearly marked.

Control circuit wiring shall be run in PVC trunking where feasible and elsewhere in a strapped harness with sufficient slack at panel doors. PVC trunking with slotted sides shall be used.

Where control circuits are interlocked for sequence control the interlocking circuits shall be made through auxiliary contacts on the circuit isolator to prevent live feed back in panels that are isolated.

1.13.4.5 Earthing

All boards shall be fitted with earth bars.

Free standing boards shall be fitted with a continuous full length earth busbar.

All sections of the board and all equipment on it shall be earthed.

Hinged doors having electrical equipment mounted on them shall be earthed to the board by means of a flexible earth strap.

1.13.4.6 Terminals

Terminal assemblies shall consist of a metal mounting rail onto which terminal modules are fixed.

For cables up to and including 10mm2, clamp type terminals may be provided, but the type where the clamp screws bear directly on the conductor will not be accepted.

For conductors exceeding 10mm2, terminal modules suitable for crimping lugs or ferrules shall be used.

Terminal modules shall have rigid insulating barriers between poles to provide an adequate creepage path for use at 440V between adjacent poles for 380V application.

The terminals of the modules shall be large enough to accommodate the cable sizes specified.

All terminals shall be clearly marked in accordance with the working drawings and wiring diagrams and as approved.

Additional spare terminals shall also be provided as specified or indicated on the drawings for the purpose of looping additional remote circuits, with a minimum of 20%.

1.13.4.7 Workshop Drawings

Workshop drawings indicating the following shall be approved by the Engineer before manufacture commences:
Boards General

(a) Front, side and back elevations of the boards
(b) Typical sections through the boards
(c) Construction details
(d) Dimensions and construction details of board
(e) Colour of board sections
(f) Placing of switchgear on boards
(g) Detail and position of legend card holder
(h) Details and position of schematic drawing holder
(i) Wording, position, size and colours of name strips and notices
(j) Assembly and holding down details of each board
(k) Full schematic wiring diagrams showing terminal wire and component numbers and circuit designations.

Busbars

(a) Current rating

(b) Fault current rating

(c) Positions and spacings of busbars and access to busbars

(d) Dimensions of busbars

(e) Details, positions and spacing of supports

(f) Type of material of busbars and supports

(g) Busbar identification

Switchgear

(a) Minimum fault capacity of switchgear

(b) Type and manufacture of switchgear used

(c) Current and voltage transformer ratio and V A ratings

As Built Drawings and Manuals

1. Instruction manual shall be complete with all relevant drawings to enable the switchgear, relays and other equipment to be dismantled and serviced, including:

(a) Descriptive pamphlets for each contactor, switch, isolator, fuse, fuse switch, timer, relay etc installed.

(b) Names and addresses of suppliers and manufacturers of the equipment installed.

(c) Type test data for equipment installed.

One print of the drawing relevant to a board shall be placed in a plastic holder in the board or, where specified, mounted framed behind glass on a wall near the board.

1.13.4.8 Installation and Erection

The boards shall be properly fixed to the floors or supporting steelwork.

The Sub-Contractor shall note sizes and positions of cable trenches and vertical shafts and shall include in his tender all supporting steelwork to straddle trenches and vertical shafts to support boards securely.

Steelwork supporting the switchgear shall be installed and positioned as indicated on the relevant drawings or as approved. The steelwork shall be painted as specified before the gear is installed. No gear shall be installed until the steelwork has been formally inspected and approved by the Engineer.

The prices for the erection of distribution boards shall include the making off and terminating of all cables and wires unless these are separately indicated for pricing.

The boards shall be properly earthed to the substation and/or building earthing system.

When aluminium core cables are used, suitable tinned copper or aluminium lugs with Densal paste shall be used for the terminations.

The costs for the supply and delivery of the erection tools, materials, equipment and consumables shall form part of the price for the erection of the boards.

All board finishes shall be made good to the satisfaction of the Engineer before final handover.

1.13.4.9 Inspections, Tests and Commissioning

Each board and its components shall be subjected at the Manufacturer's works to the routine tests, called for in the appropriate SABS and BS Specifications and this Specification.

The following tests shall be performed on all circuits:

(a) Full operational tests of opening and closing each circuit breaker and the contactor from their respective protection relays and control devices inclusive of sequence controls where required.

(b) Pressure tests between phases and between phases and earth.

(c) Primary injection test of all protective relays.

(d) Secondary injection test of motor overload devices.

(e) Pressure test of all secondary wiring at 2kV for one minute.

(f) Polarity tests of current.

1.14 WORKMANSHIP AND STAFF

All artisans employed on the service must be in possession of a Wireman's Certificate of Registration. Apprentices and Improvers, not in possession of this Certificate cannot be employed on the service without the prior approval of the Employer.

The workmanship shall be of the highest grade and to the satisfaction of the Employer and/or his representative.

All inferior work shall, on indication by the Employer's Inspecting Officers, immediately be removed and rectified by and at the expense of the Electrical Contractor.

1.15 EARTHING OF INSTALLATION

The type of main earthing must be as required by the supply authority, if other than the Employer, and in any event as directed by the Employer's Representative, who may require additional earthing to meet test standards.

Installations shall be effectively earthed in accordance with the "Wiring Code" and to the requirements of the supply authority.

All hot and cold water and waste pipes are to be effectively bonded by means of 12,5mm x 1,60mm solid or perforated copper tape (not wire), clamped by means of brass bolts and nuts. The tape is to be fixed to walls by means of rounded brass screws at intervals not exceeding 150mm.

1.16 MOUNTING AND POSITIONING OF LIGHT FITTINGS

The Electrical Contractor is to note that in the case of board and acoustic tile ceilings, i.e. as opposed to concrete slabs, close co-operation 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 drawings must be adhered to as far as possible, but the exact positions must be confirmed with the Employer’s Representative.

Fluorescent fittings installed against concrete ceilings shall be screwed to the outlet boxes and in addition 2 x 6 mm expansion or other approved type fixing bolts are to be provided. The bolts are to be 3/4 of the length of the fittings apart.

Fluorescent fittings to be mounted on board ceilings shall be secured by means of two 40 mm x No. 10 round head screws and washers. The fittings shall also be bonded to the circuit conduit by means of locknuts and brass bushes. The fixing screws are to be placed 3/4 of the length of the fitting apart.

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 brandering or joints by means of two 40 mm x No. 8 round head screws.

Before any light luminaires are ordered by the Contractor, the makes and types of these luminaires must be approved by the Employer.

1.17 VARIATIONS IN EXTENT OF CONTRACT

The Employer reserves the right to instruct the Contractor to carry out variations to the contract or in accordance with the prices quoted by the Contractor in the Price Schedule for Variations or Bill of Quantities, whichever is applicable.

For variations not provided for in the Price Schedule, or Bill of Quantities, the Employer may call on the Contractor to submit a separate written quotation.

Labour and material shall be based on items in the price schedule of the Contract, and no payment will be made for the transport of labour and material to and from the service.

The Employer, however, reserves the right to execute any alterations or additions that may be necessary with its own staff.

ELECTRICAL WORKS

PART B: SECTION 2: SUPPLEMENTARY SPECIFICATION

CONTENTS

2.1 GENERAL

The installation shall be suitable for operation in ROLELEATHUNYA, with a maximum atmospheric temperature of about 40□C and a minimum temperature of about -10□C and an altitude of about 1500M above sea level.

2.2 SUPPLY

The construction comprise of; sports field, change rooms and a guard house and will be supplied from a new 100kVA transformer.

The contractor will be required to install all cabling and switch gear from the transformer to the above facilities.

2.3 SCOPE OF WORKS

The scope of the electrical works covers the supply, delivery, off-loading, storage, installation, commissioning, testing, handing over and free maintenance for the period stated in the tender document of all specified equipment and materials for the electrical installations as required for the additions stated above.

The onus is on the tenderer to ascertain any local conditions or peculiarities which might affect the contract, and which are not shown on the drawings.

The scope of works is summarized as follows:-

a) Lighting, power and distribution thereof in all new buildings as per drawings.
b) Supply and installation of all Low Voltage main cabling between kiosks and to various DB points in all buildings as shown on drawings.
c) Supply and installation of all kiosks for the LV reticulations system.
d) Provision of lighting protection installation in all new facilities as per layout drawings and according to the specification.

2.4 NATURE OF CONTRACT

This contract shall form part of the main contract, and the Electrical Contractor shall enter into a contract with the main contractor.

2.5 CABLES

This clause covers the supply, delivery, installation and connection of all low tension cables as specified in the schedules and as indicated on the drawings.

2.5.1 GENERAL

The storage, transport, handling and laying of underground cables shall be done according to approved and accepted methods. The contractor shall ensure that he has sufficient and suitable equipment as well as adequate labour at his disposal, thereby preventing damage to the cables at all times.

Provisional lengths of cables only are indicated in the Schedule for Cables for the purpose of tendering. The onus is however, on the contractor to measure the actual lengths of cable required before ordering. All measurements are only to be done after any possible alterations to cable routes or positions of substations etc., have been made by the Engineer. Reasonable allowances have been made to the provisional lengths in the Schedule for Cables for joints, cable ends, circuits etc. but payments shall only be made for actual lengths of cable installed. Excess cable shall not be considered for take-over.

2.5.2 INSTALLATION OF CABLES

Cables must be layed in servitude positions as indicated on the drawings and cable trenches within the electricity servitude shall be 750mm deep for low tension cables. Trenches shall be 300mm wide for single or double cables.

In the event more than two cables are laid in one trench, the trench shall be proportionately increased in width over the whole length of the trench so that the cables are spaced not less than 150mm apart. The bottom and sides of the trenches shall be even and free from any object that may damage the cable.

The contractor shall provide and supply all materials necessary to cover trenches so that no injury to the public is caused. Further, all precautions are to be made to prevent damage and subsidence to buildings, roads, sewerage or any other property on the site.

Cables may not be covered before inspection by the Consulting Engineer and/or Works Inspector for approval failing which the Contractor may be required to open the trenches at a later time for inspection at own costs. Cable drums are to be adequately supported on adequate jacks or on drum trailers when cables are being rolled off, thereby reducing any possible twisting, tension or other damage being inflicted upon the cable.

Cables trenched in hard or soft rock are to be laid on a 150mm thick layer of soil and then covered with another 150mm thick layer of soil before the trench is completely filled. (The above-mentioned soil is to be of approved sand or soft soil).

Each cable end must be connected by way of the earth continuity conductor and/or cable armouring, (where applicable), local earth bar, other earth wires, switch gear etc.

The cables must be laid following the routes indicated on the drawings and the servitude dimensions are to be strictly adhered to. Where necessary, revised routes shall be determined on site in conjunction with the Engineer/Representative.

At each indicated position where cables pass below buildings, streets, pitch fibre pipes or rigid PVC pipe sleeves will be supplied through which the cables can be installed. The sleeves will be unbroken and will extend from sidewalk to sidewalk and will also extend past each curb.

Where cable routes and other services cross over (e.g. Post Office cables) the cable is to be protected and laid to the satisfaction of the other service. A 50mm thick concrete block shall however extend 300mm on either side of the cables.

The contractor shall give special attention to cables being pulled through pipes and channels to prevent such cables from being stretched, twisted or scoured. All such pipes and channels shall be properly sealed in an approved manner after all cables have been installed.

Approved cast iron recessed in concrete cable markers or other approved **cable markers** are to be installed above ground level at points of entry into buildings, at changes of direction, at cable joints and on straight runs at intervals not exceeding 50m or where shown on the relevant drawings. An engraved (not stamp) stainless steel plate reading 'ELECTRIC CABLE' and an arrow indicating direction of the cable route shall be grouted into the top. Exact positions of cable markers shall be confirmed on site. The cable marker shall be installed in the centre of the cable trench. Where excavations are done in the vicinity of existing cables or where existing cables are to be exposed only labourers may be used who are competent and familiar with this type of work.

Such excavations may only be done with the use of hand tools and only shovels may be used within 300mm of the existing cables.

Backfilling of the trenches shall be done in layers of 150mm and each layer shall be thoroughly compacted before the following layer is filled in.

In order to protect the cable the contractor shall install a 150mm wide standard plastic warning tape. The marker tape shall be approximately 300mm above the cable and shall run the full length of the cable. The words 'DANGER – CABLE UNDER' or a similar warning symbol shall appear on the tape at least at 1000m intervals throughout the entire length. An additional 50mm layer of ground shall be placed over the tape before the final backfilling is thrown in.

2.5.3 CABLE JOINTS AND CABLE ENDS

The number of cable joints must be kept to a minimum and these shall only be permitted if the length of the cable is longer than that provided on a new drum. All joints and the termination of the ends of underground cables shall be done by competent cable jointers in terms of approved and accepted practice. Joints and ends must be done in strict accordance with the manufacturer's requirements and specification. In all instances where joints are carried out, a hole of sufficient size must be made in order that the joint can be properly made.

The ground beneath the cable joints must be firmly compacted and leveled to prevent sagging of the joints.

If cut cables cannot immediately be terminated, the cable ends must immediately be sealed off.

In all cases ends of PVC low tension cables must be finished off with approved cable glands specifically designed for this purpose.

2.5.4 TESTING OF CABLES

Following completion of the installation of the cables for each section, the insulation resistance shall be tested with an approved "meggar" type instrument. This test shall performed at a terminal voltage of 625 V for LT cables. The results of the test shall be witnessed by, and be to the satisfaction of the Engineer/Representative and the representative of the Client.

The tenderer shall also test and ensure that, at all points where cables are connected, the phase colours and phase rotations are correct. This Test shall be done with an approved phase rotation meter and shall be witnessed by, and be to the satisfaction of the Engineer/Representative.

2.5.5 DRAWINGS

The contractor shall complete "as built" drawing after the installation to indicate the exact positions of the cable routes, joints etc. These details are to be indicated on a site plan.

All important and necessary dimensions shall also be clearly indicated on the drawing so that the drawing may, in future, be used to locate the positions of the cables, joints etc. The drawing must be handed over to the Engineer/Representative for approval as soon as the cables have been installed.

2.5.6 LT CABLES

The tenderer shall install the LT cable systems as indicated on the drawings and schedules.
All LT cables shall be of the multi-core PVC SWA PVC type with stranded copper conductors in accordance with SANS 150/1957 as amended.

2.5.7 SUPPLY CABLES

Low voltage Distribution Cables

The details of the low voltage distribution system are provided on the plans and in the schedules. All low voltage cables shall be supplied with armoured sealed copper conductors, PVC insulated steel wire armoured and PVC sheathed.

The supply cables from the Main Distribution Kiosk shall be installed in a trench in the ground and 75/110 mm sleeves and connected via bottom entry tails to the sub-distribution board located in the other classrooms and toilets, as shown on the respective drawings.

All low voltage cables terminations in distribution boards shall be terminated with “Pratley” glands and holes for glands shall be cut with whole saws of the correct size to allow for proper lightening of the gland on the switch board frames.

Although cables have been specified and lengths included in the schedule, it should be noted that all cable sizes are subject to change and no cables shall be ordered without the approval of the Engineer.

2.6 CABLE LENGTHS

For tender purposes the cable lengths shall be as indicated in the schedule of cables. The contractor must measure the cable lengths on site after all routes have been approved by the Engineer/Representative before the cables are ordered, and the contract price shall be adjusted to the actual cable lengths.

2.7 FIXING OF CABLES

Where cables run along walls, ceilings, etc., they shall be secured on cable trays, or as specifically specified. In all cases expanding type fixing systems shall be used for fixing the equipment to the walls and on no account will wood plugs, etc., be accepted. Whilst setting out the positions of the cable supports the contractor shall bear in mind the importance attached to the minimum bending radius of the cables.

Cable trays shall be 200mm wide and shall be manufactured from perforated rolled steel with a minimum thickness of 1,2mm.

The trays shall have an upstand of at least 19mm on either side and shall be hot dip galvanized to SANS 787. Trays shall be installed with all the required bends, T-junctions etc.

2.8 CABLE SLEEVES

The contractor shall be responsible for the supply, delivery and installation of all the sleeves as indicated on the drawings, and as given in the schedule for sleeves.
90□ Bends will not be permitted this shall be overcome by the use of two 45□ slow bends.

2.9 LOW VOLTAGE DISTRIBUTION BOARDS

The scope of this portion of the works will be the supply, delivery, off-loading, possible storage, placing into position, erecting, testing and commissioning of all low voltage boards required for the project. All boards have been detailed on the attached drawings and tenderers should price in accordance with the requirements. Before any board is manufactured, the *Sub-Contractor* shall obtain approval from the *Engineer* to proceed with manufacture of that particular board.

Supply and install the distribution boards in the position shown on the drawings.

One spare 25mm dia. and three spare 20mm dia. Conduits must be supplied from all distribution boards to roof spaces.

Three sets of factory drawings on all distribution boards must be submitted for inspection before manufacture of the distribution boards commence.

Distribution boards of the new buildings must be wall mounted and must have doors, which must be Padlockable.

The current capacity of busbars may not exceed 1,6 A/mm².

Openings into distribution boards must tie up with the installation.

The distribution boards must be placed in such a way that the Builder can build them into the walls where applicable. Special provision must be made that the distribution board tray is not damaged while being built in.

All distribution boards must be installed level.

Apparatus and requirements by the Supply Authority are not indicated on the distribution board diagrams and schedules. It is expected of the Electrical Contractor to install all such apparatus, accessories and systems as may be required by the Supply Authority, as part of the electrical contract price.

A neutral bar associated with each bank of MCB's must be positioned below each bank of MCB's and must be wired in the same sequence as the MCB's. Not more than one conductor per connector will be accepted.

Only hydraulic-magnetic operated MCB's must be used if the new micro ranges are not used and shall be of Heineman (CBI), Merlin Gerin or other approved type..

All circuit breakers must have a minimum fault current rating of 5 kA including the distribution main.

Busbar stubs must be provided where more than one conductor terminates on equipment.

Earth conductors must be fastened with two screws and shoes to earth bars.

In all cases, boards must be large enough or supplied with suitable ventilation louvers to ensure that the temperature within the board under full load conditions, does not exceed the maximum temperature allowed so as to ensure correct tripping of all breakers and correct operation of all equipment in the board.

2.10 SURFACE INSTALLATION

Surface conduit installations will only be permitted in the ceiling spaces and in all cases conduits are to be suitably fixed to the roof structures.

2.11 WIRING

All wiring to outlet points shall be by means of PVC insulated conductors in conduit or channels. Only one circuit per conduit will be permitted. In all cases bare earth wire shall be installed with all circuits and connected to metal boxes to ensure earth continuity.

2.12 SOCKET OUTLETS

All socket outlets shall be of the 3-pin 16 A 220V/250V outlets from Crabtree or other approved type with shuttered live and neutral sockets operated by the earth socket.

All the circuits for socket outlets shall be supplied with 2.5mm² PVC insulated stranded copper wire and 2,5mm² bare copper earth wire.

Type A (Normal)

Socket outlets shall be flush type 3-pin 16 A 220V/250V single phase single socket with a switch for mounting in a 100 x 100 x 50mm galvanized box and must be in accordance with SANS specification 1514 Part 1 of 1990 as amended.

Type B (Normal)

Socket outlets shall be flush type 3-pin 16 A 220V/250V single phase double sockets with a switch for mounting in a 100 x 100 x 50mm galvanized box and must be in accordance with SANS specification 1514 Part 1 of 1990 as amended.

Type C (Normal)

Socket outlets shall be 3-pin 16 A 220V/250V single phase single sockets with a switch for mounting in power skirting and must be in accordance to SABS specification 1514 Part 1 of 1990 as amended

Type D (Non-Standard)

Socket outlets shall be of the non-standard, single socket type as supplied by Crabtree or other approved type with red base and with a flat earth pin in the 12 o'clock position for mounting in power skirting and must be in accordance to SANS specification 1514 Part 1 of 1990 as amended. The coverplates shall be high grade red baked enamel paint.

Type E (Non-Standard)

Socket outlets shall be of the non-standard single socket type as supplied by Crabtree or other approved type with red base and with a flat earthpin in the 12 o'clock position for mounting in a 100 x 100 x 50mm galvanised box and must be in accordance to SABS specification 1514 Part 1 of 1990, as amended. The coverplates shall be high grade red baked enamel paint. This shall be single phase double socket type outlet.

TYPE F (Non-Standard)

Socket outlets shall be of the non-standard double socket type as supplied by Grabtree or other approved type with red base and flat earthpins in the 1200k position for mounting in 100 x 100x 50mm galvanised box and must be according to SANS 1514 part 1 of 1990 as amended.

2.13 SWITCHES

All switches shall be of the 16 A 220V/250V rating from Crabtree or other approved type and shall be installed 1400mm above finished floor level.

2.14 COVER PLATES

All cover plates shall be manufactured of metal with high grade ivory/white baked enamel paint and emergency outlet points shall be finished with red baked enamel paint on cover plates and the cover plates on the power skirting shall match the colour of the power skirting. These shall comply to the SANS 1084 requirements as amended from time to time.

2.15 HOSE-PROOF SWITCHES & SOCKET OUTLETS

All hose-proof switches and sockets as indicated on the drawings must comply to the SANS requirements and standards. The switch box must be manufactured from cast iron or aluminium or fibre glass material with the necessary amount of screwed inlet points. The 16 A switch and/or socket must be mounted on the inside of a recessed wall box with a slide or hinged front cover for single or double outlet points.

2.16 LIGHT LUMINAIRES

The contractor shall allow for the supply, delivery and installation of all light luminaires as specified, and indicated on the drawings and in the schedules.

N.B. All fluorescent luminaires shall comply with SANS 1119 as amended and shall bear the mark of the SANS and be fitted with telescopic lamp holders.

Luminaires fed from emergency power outlet points shall have red indication of emergency power supply.
Tenderers shall allow for all luminaires listed in the Schedules and shown on the drawings.
Reference must be made to the Schedule of Luminaires for a detail description of the light fittings.

When the term “similar” or “equivalent” is not used in the specification, Tenderers shall have no choice but shall install the specific Luminaires as specified.

All luminaries shall be complete with lamps, indicator lamps, ballasts, chokes, control gear and all other accessories required to make the luminaries fully operative.

All luminaries shall be equipped with an earth terminal and shall be properly earthed.

The Contractor shall be responsible for the purchasing, taking delivery, storing, installation, aiming, adjustment, testing and commissioning of all luminaries specified including all necessary mounting accessories, bracket, poles, stirrups, base plates, etc. and including any necessary excavation and backfilling.

The internal wiring shall consist of flexible stranded copper conductors of not less than 0.5mm² with suitable heat-resisting insulation to SANS 529. A terminal block shall be fitted to each luminaire.

Luminaires shall not cause radio or television interference in accordance with Posts and Telecommunications requirements.

Luminaires shall be designed to prevent excessive temperatures and components and materials shall be selected so that they are not adversely affected by the operating temperature. All components whether used for installation or fitting of the luminaires shall be corrosion resistant.

The voltage rating and lamp wattage shall be clearly and indelibly marked on control gear. Ballasts shall be power factor corrected to at least 0,85 lagging and shall have a minimum circuit efficiency of 0,85. Capacitors shall comply with SANS 1250: 1979. Starters shall comply with NS 3772 as amended.

The control gear must be electronic Class A2 or if electromagnetic, then starters must be mounted inside the luminaire. The lamp cover shall be fastened with vandal proof screws and no starter holes must be visible on the body of the luminaire. Noise level reports, prepared by an accredited laboratory, shall be submitted for approval to the Engineer on request.

The wattage and type of lamp suitable for use in the luminaire shall be clearly marked on the base of the luminaire close to the lamp holder. For incandescent luminaries, the maximum wattage of the lamp shall apply.

The contractor shall submit details of the luminaires, including photometric data, to the Engineer for approval on request.

The contractor is to note that in the case of board and acoustic tile ceilings, i.e. as opposed to concrete slabs, close co-operation with the Building Contractor is necessary to ensure that as far as possible, the luminaires are symmetrically positioned with regard to the ceiling pattern.

Where luminaries are mounted on ceilings consisting of panes, care has to be taken that the work is performed symmetrically. Conduit work above false ceilings shall be fully coordinated in level, plan and sequence of installation with the Building and Ceilings Contractor, the Air Conditioning Contractor and any other Contractor installing services in the false ceilings.

Fluorescent fittings installed against concrete shall be screwed to the outlet boxes and in addition 2 x 6.35 mm expansion or other approved type fixing bolts are to be provided. The bolts are to be spaced $^{3}/_{4}$ of the length of the fitting part.

Fluorescent fittings to be mounted on board ceilings shall be secured on brandering (additional to that used for ceiling construction if necessary) using two wood screws with round heads of a size that will provide secure fixing. 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.

Incandescent fittings are to be screwed directly to outlet boxes in concrete slabs. Against board ceilings, the fittings shall be secured to the brandering or joints by means of Mo 38, 1mm x 4,88mm round head screws.

Luminaires narrower than 225mm shall be fixed at the outlet point and at two further positions. Luminaires wider than 225mm shall have four fixings exclusive of the outlet point.

Conduits shall be screwed directly into all weatherproof luminaries and other outside lights.No outlet boxes are permitted. The conduit shall be installed in such a way that it falls from the wall to the luminaries at an angle.

The bases of all luminaries shall be installed after the first coat of paint has been applied. The luminaries shall then be left until the painting has been finished, after which the Contractor shall complete the installation and adjusting of the luminaries.

All luminaires shall be fixed and suspended in accordance with the manufacturer’s requirements and as specified.

Incandescent lamp luminaires shall be rated IP54 V better in compliance with SANS 1222 as amended and shall be fully corrosion resistant.

Incandescent lamps shall comply with SANS 56.

2.17 SPECIAL PURPOSE POINTS

All special purpose points shall be wired according to the schedules. Solid conduit shall be used and where necessary, ended off with "Kopex" or other approved flexible tubing. Special precautions shall be taken to ensure good earth continuity throughout the whole installation and connection of electrical equipment.

2.17.1 GEYSER INSTALLATION

The supply, installation and plumbing work shall be the responsibility of the Main Contractor.

The electrical contractor must electrically connect all water heaters as specified and listed in the Schedule of Power Points.

The Conduit from the switch board to the water heaters shall terminate in a draw box with a 30 Amp double pole isolator within 1m of the water heater terminals. The connection from the draw box shall be PVC insulated flexible conduit earth resisting conductors and a separate earth conductor.

The flexible conduit must not be longer than 600mm.

Each water heater shall be connected to a separate circuit with 4mm² PVC insulated conductors and 1 x 2,5mm² earth conductor in a 20mm diameter conduit.

The electrical contractor must liaise with the plumbing contractor with regard to the method of mounting the water heater, water inlet and outlet, drainage valve as well as the electrical connection.

2.17.2 AIR-CONDITION INSTALLATION

The Conduit from the switch board to the air conditioner units shall terminate in a draw box with a 30 Amp double or four pole isolator within 1m of the out door unit. The connection from the draw box shall be PVC insulated flexible conduit earth resisting conductors and a separate earth conductor.

Each of the units shall be connected to a separate circuit with 4mm² PVC insulated conductors and 1 x 2,5mm² earth conductor in a 20mm diameter conduit.

2.17.3 STOVE

Supply and install stove outlet point which shall be wired with 4 x 6 mm^2 PVC covered conductors plus 1 x 4 mm^2 earth conductor in a 25 mm diameter conduit and end in a 60A three pole isolator 1200 mm AFFL. From the isolator the stove shall be fully coupled with a 25 mm diameter PVC encased flexible “KOPEX” tube.

2.18 FLEXIBLE CONDUIT

"Kopex" or other approved flexible tubing will be used to connect moveable appliances complete with approved connectors, etc. Earth conductors as specified shall be installed together with PVC conductors in flexible tubing to ensure earth continuity.

2.19 TELEPHONES

2.19.1 GENERAL

The new installation consists of telephone outlet points by means of 25mm conduits to the draw boxes, which in turn are connected to the Telkom distribution boards.

2.19.2 TELKOM DISTRIBUTION BOARDS AND DRAW BOXES

Under this contract distribution boards and draw boxes must be supplied and installed where shown on the drawings and as per schedule of telephone outletpoints.

2.19.3 DISTRIBUTION AND OUTLETS

All telephone conduits and draw boxes must be supplied and installed as shown.

The installation of the conduits must be done in such a way that telephone cables must be easily drawn in and all bends must be such that cables with a minimum bending radius of 65mm may easily be drawn in. All conduits must terminate in bushes and must be furnished with draw wires. All outlet boxes must be galvanized flush mounted boxes with dimensions of 100 x 100mm x 50mm deep with coverplates, installed 500mm above floor level unless indicated to the contrary in the schedules of telephone outletpoints.

2.20 EARTHING

The contractor shall be responsible for the effective earthing of the LT system as well as for the earthing of all non-current carrying metal parts of equipment. This shall be done to the satisfaction of the Engineer/Representative.

2.20.1 EARTHING OF DISTRIBUTION BOARDS

2.20.2 EARTH CONDUCTORS

As is evident from the schedules of cables a separate copper earth conductor shall be installed with each length of LT cable.

This conductor is to be connected to the distribution boards at the earth bar as stated in the Clause above.

2.21 EXPANSION JOINTS

At building expansion joints, all the conduits must be provided with conduit expansion joints with a positive earth wire connection.

2.22 CONDUIT

The general requirements regarding the conduit installation shall be as set out in this document. It should be noted that it is a specific requirement of this contract that all conduits used shall be PVC type.

2.23 INSPECTION ON SITE

As much information as possible has been given, but in view of the nature of this service, tenderers are advised to visit the site and thoroughly acquaint themselves with the nature and extent of the work to be done. Tenderers shall make allowance for items obviously intended and necessary for the proper completion of the work, although not specifically mentioned. The tenderers must liaise with the electrical engineer to visit the site and acquaint themselves with the nature and extent of the installation of the new equipment.

2.24 TESTING OF THE INSTALLATION

After completion of the installation, the contractor shall perform such acceptance tests as may be prescribed by the Engineer/Representative at the time and as required by the supply authority.

The necessary test equipment must be made available by the contractor for this purpose.

2.25 CERTIFICATE OF COMPLIANCE OF THE ELECTRICAL INSTALLATION

Before any inspection or handover of the electrical installation or part thereof takes place the electrical contractor will present a Certificate of Compliance of the electrical installation or part of the installation to be handed over as defined in the regulations of the Occupational Health and Safety Act of 1993 of Republic of South Africa as amended.

2.26 LIGHTNING PROTECTION AND EARTHING

This item covers the extension of a complete lightning conductor system and shall comply in all aspects with the requirements set in the SANS Users' Code 03 of 1985 (as amended).

IT IS A SPECIFIC REQUIREMENT OF THIS CONTRACT THAT THIS PART OF THE INSTALLATION SHALL BE DONE BY SPECIALISTS WHO ARE CONVERSANT WITH THIS TYPE OF WORK.

2.26.1 GENERAL

The terms Contract, Works, Works or Installation shall mean the Sub-contract works as specified in this contract.

The Sub-contractor shall carry out the complete sub-contract works as indicated in and in accordance with the specification and drawings and shall provide and install all items necessary for the proper functioning of the installation, even though such items may not specifically be referred to in the specification and drawings.

The terminology in this section has the same meaning as in SANS 03 (as amended).

All materials and equipment used in the installation shall be of recent design and manufacture and of the best quality available and shall, wherever possible, carry the latest mark of the South African Bureau of Standards.

The Electrical Sub-Contractor shall make allowance for all scaffolding which he may require for the execution of his work.

2.26.2 DRAWINGS

2.26.2.1 <u>Contract Drawings</u>

The drawings accompanying this specification are as stipulated in part hereof. The working drawings of the Building Contract shall, however, consist of:

(a) The electrical drawings
(b) The Architect's drawings
(c) The Structural Engineer's drawings, as applicable
(d) The Engineer's drawings of other disciplines, as applicable
(e) The drawings of other service installations that are relevant for co-ordination and installation purposes.
(f) The installation drawings of other sub-contractors, where applicable.

All drawings and layouts shall be regarded as diagrammatic and all positions and dimensions shown on drawings shall be verified on site. The Sub-contractor shall check with the Builder before putting work in hand on any section of the work, that he is in possession of the latest drawings and should any discrepancy be found between the Sub-contractor's drawings as issued by the Engineer and those in possession of the Builder, the matter shall be referred to the Engineer for clarification. No extra costs will be allowed for alterations or making good resulting from lack of verification.

2.26.2.2 <u>Shop Drawings for Approval</u>

A complete set of all shop drawings shall be submitted to the Engineer for approval and to demonstrate compliance with the sub-contract specification.

These drawings shall indicate the complete design of the proposed installation, including the method and materials employed in effecting earth terminations, down conductor systems, air terminations, etc.

Approval of shop drawings by the Engineer does not relieve the Sub-contractor of his responsibility for compliance with the specification, nor does it relieve him of his responsibility for errors or omissions in shop drawings.

2.26.3 SITE SURVEY

The Tenderer shall survey the premises at his cost prior to submitting his tender to establish, in particular, the soil resistivity and, in general, any other prevailing conditions so as to include in his tender for the entire installation.

2.26.4 TESTS AND INSPECTIONS

(a) The Sub-contractor shall arrange for all necessary installation tests and inspections required.

(b) The Sub-contractor shall attend with the Engineer all site/equipment inspections and tests and shall advise the Engineer in good time of the proposed completion of works in order that these may be inspected prior to installation. All tests and inspections by the Engineer shall be to his satisfaction.

(c) A permanent testing point shall be provided between each down conductor and its associated earth conductor, consisting of a recessed 100 x 100mm conduit box and coverplate engraved “Lightning Protection Test Point”.

(d) The following test records shall be submitted to the Engineer:

(i) Earth resistance at each test point, duly recorded on as-built drawings.
(ii) Earth continuity of each trench.
(iii) Earth resistance of main substation earth bar and clean earth bar also recorded on as-built drawings.
(iv) Final test certificate.

2.26.5 COMPONENTS

2.26.5.1 Conductors

Where conductors are required, they shall comply with the requirements as prescribed herein after.

The conductors shall consist of 35mm PVC bare Copper stranded conductors from the earth electrode to the test link and shall be protected from subterranean level to the test link by way of a 25mm diameter PVC conduit which shall be built into the wall as per detail drawing accompanying this specification.

The test link shall be connected to abovementioned conductor in a surface mounted 100 x 50 x 50mm box with a blind coverplate 2500mm above ground level.

2.26.5.2 Earthing Electrodes

Earthing electrodes shall be of the expandable vertical 16mm diameter copper bar type consisting of copper (for soft ground only) or copper covered steel or phosphor bronze. Where use is made of the copper covered steel bars the two metals shall be provided with an interlocking crystal connection between the metals in order to prevent moisture penetration. Where it is necessary to connect two metals together, a non-ferriferous, corrosion proof connecting piece shall be used to prevent moisture penetration in the joint.

Earthing electrodes shall be installed in positions as indicated on the drawings and shall be at least 1200mm long.

All trenching, drilling, blasting and backfilling, etc. will be by the Sub-contractor at his cost. Due care shall be taken to ensure that no clashes occur in respect of other external services. Should the Tenderer wish to exclude this item for any reason, this shall be specifically stated in his Tender, including the exact extent of works to be effected by others. The Sub-contractor shall still be responsible for the co-ordination in respect of other external services.

The Sub-contractor shall allow for the painting of all air termination conductors fixed to the roof and the applicable colour to match the respective roof finish.

2.26.5.3 Alternative Conductor Material

Although this document in various places refers to aluminium or alloy conductors, the tenderer is at liberty to use alternative conductor material however, in all cases the cross-sectional area of the alternative conductors shall not be smaller than the specified values. Also the prescriptions regarding connections to non-similar material shall be adjusted accordingly.

2.27 Photo-electric Units

External lighting for each of the buildings shall be separately controlled by photo-electric daylight control units. All photo-electric units shall be fully in accordance with the NRS 025.

A contactor operated by the photo-electric units shall be used for all lighting circuits. In addition a by-pass switch shall be installed to allow the switching on of the lights at anytime.

Positions of the photo-electric units shall be selected and finalized on site by the successful tenderer and shall be so as to avoid interference from external lighting sources such as traffic lighting, area lighting etc. Positions shall also be so as to avoid unnecessary activation at day time.

1.28 HIGH MAST LIGHT (FUTURE INSTALLATION)

2.28.1 GENERAL

This item is for the supply, delivery, erection and commissioning of area lighting systems. The masts will be be installed at positions indicated on drawings and to be confirmed on the site after tender award and in coordination with the Civil Engineer.

2.28.2 LIGHT LUMINAIRES

The luminaires shall be a wide beam flood light with a 1000W Meta Hallide lamp specifically suitable for 30m high mast sports field lighting, such as supplied by Beka, the Projectolux 1KW complete with the lamp and integral control equipment. The luminaire shall conform to SANS60598-2-5.

The contractor shall submit a statement from the manufacturer that the luminaire offered is ideally suited for this application and a sample of the luminaire to be used shall be submitted for written approval from the Engineer.

Three (3) of these luminaries are to be installed per light mast. The installation shall be to the supplier's specification with respect to mounting angle. The intention being that each mast shall cover a quarter of the sports filed.

The Contractor shall obtain the aiming / mounting angle from the manufacturer.

The final installation and mounting of the luminaries are to be executed in the presence of the Engineer and to his satisfaction.

2.28.3 FOUNDATION

The mast is to be mounted on a steel reinforced concrete foundation shall supplied and erected by the contractor as per the mast supplier's design drawings. The mast foundation shall contain a 100mm diameter cable sleeve. This sleeve shall allow cable access from 1m below ground level to within the mast through the mast base plate.

It is important to take the positioning of the luminaire and access door into account when positioning the concrete foundation.

The design and the dimensions of the concrete foundation depend on the type of mast, mast height, wind velocity, number and type of luminaries and the soil conditions.

Design drawings for the foundation are to be obtained from the mast manufacturer timeously and submitted to the Engineer for approval. The design parameters shall be submitted with the foundation design, including the name and contact details of the designer who takes full responsibility for the design. Such a certificate to be submitted by the foundation designer before the foundation drawings will be considered for approval.

The construction of the foundation shall be in accordance with accepted constructed practice. Note that the foundation design must take in to account the soil type, pressure and formation. The contractor is thus responsible for soil tests and to ensure that the foundation is adequate. The designer of the foundation shall specify that the specific soil conditions have been taken into consideration.

Notwithstanding the Engineer's approval, the responsibility for the erection of the foundation and its operating performance lies solely with the construction. Should the Engineer decide to call in the services of an expert to certify the foundations, this cost shall be for the Contractor's account.

A standard concrete cube sample is to be taken when the foundation is laid for testing. It is recommended that the concrete mixture reaches a strength of 40 mPa in 28 days.

A mechanical vibrating tool shall be used to ensure that no air pockets are formed during the casting of the foundation.

The foundation shall reach a height of 400mm above ground level.

No mast shall be erected until the result of the cubes is approved by the Engineer.

No mast shall be erected within 21 days of the foundation being laid.

2.28.4 FOUNDATION BOLTS

Foundation bolts and a baseplate for the correct positioning of the mast are to be supplied with the mast. The bolts shall be finished using the hot-dip galvanizing process.

Each foundation bolt shall be provided with two nuts and two flats washers, with the base plate resting on the lower washer and nut. The upper washer and nut shall keep the mast in the position, while the lower nuts facilitate levelling of the mast.

M39 Bolts, or as specified by the manufacturer, are to be used. The quality and pitch circle diameter (PCD) shall be determined by the size and the loading of the mast.

THE MAST

2.28.5 Only galvanized octagonal and tapered mast as supplied by Lighting Structures or Structa Technologies or Sectional Poles will be accepted.

The Mast shall be 30m in length as per the quantities of the Bill. It shall be manufactured in shorter sections from high tensile steel with a minimum thickness of 4mm.

Each section is to be cut, pressed and welded together using continuous full strength staggered butt-weld, to form a 12-sided, continuously tapering shaft. Site slip-joints are to be used to fit the sections together on site so that no additional welding on site is required.

The mast, when fully equipped with trailing cable(s), raising and lowering equipment and all the luminaries, must be designed in accordance with SANS0225 to withstand a wind velocity appropriate to the site, with a mean return period of 50 years and terrain category 2 class B. The deflection of the mast top shall not exceed 2.5% of the mast height when subjected to two thirds of the maximum wind velocity. The mast shall not be erected without a letter of approval from the manufacturer.

After erection the mast shall be straight and vertical to the Engineer's satisfaction. The maximum out-of-plumb that will be allowed is 1%, i.e. 400mm.

2.28.5.1 Mast finish

The mast and ancillary equipment shall be hot-dipped galvanized to SANS 121 1501461.

2.28.5.2 Base plate and gussets

The size and material thickness of the base plate and gusset shall be dependant on the height of the mast and the number and type of luminaries installed on the luminaire ring. Holes are to be provided for passage of the foundation bolts.

The material used shall be carefully inspected for laminations and other inclusions while it is being flame-cut. An ultra-sonic crack analyses on the base plate is required. The base plate shall be welded to the base section of the mast.

Gussets are required to disperse the high stress concentrations between the bottom of the mast and the base plate

2.28.5.3 Raising and Lowering Accessories

The raising and lowering accessories must, in complete safety, facilitate the raising and lowering of the top half of the mast equipment with luminaire cluster for maintenance purposes by means of sting and polyester ropes

2.28.6 MAST DISTRIBUTION BOARD

A totally enclosed fibreglass power distribution board shall be mounted in an easily accessible position in the base compartment of the mast. The board shall be provided with a front cover plate with only the operating toggles of isolator and circuit breakers protruding. The Distribution Board shall be accessible by slightly tilting the top half of the mast. A 100mm safety clip must be provided for this purpose.

The board shall be supplied by the supplier of the mast and shall not be self equipped by the Contractor. The distribution board shall be equipped as follows:

(a) One 5-pin three phase, neutral and earth socket outlet for connection for the supply cable to the luminaries protected by the circuit breakers (see (c) below). The socket shall be mounted, facing upwards.

(b) One 20 A triple pole (5kA) curve 1 (orange handle) main circuit breaker.

(c) Three 10A (5kA) single pole, curve 1 (orange handle) moulded case circuit breakers for the luminaries.

(d) One three pole contactor switched by as isolator switch.

(e) One 5A (5 kA) single pole circuit breaker for supply to the contactor.

(f) One 6 way neutral bar

(g) One 6 way earth bar.

(h) Space for three additional single pole circuit breakers.

(i) 4 x Surge arresters.

A 12mm diameter earthing terminal shall be welded to the mast structure adjacent to the distribution board. Incoming cables are to be earthed to this stud.

2.28.7 CABLES AND CABLE CONNECTIONS

A 4mm 5 core (separate earth/neutral) flexible neoprene mains supply trailing cable shall be provided; one end of the cable shall be terminated in a 5 pin plug, with the matching socket outlet on the electrical board installed at the base of the mast; the other end of the cable shall be terminated in a terminal block installed in a weatherproof aluminium junction box on the luminaire head ring. The 5-pin plug shall be mounted, facing upwards to ensure that the plug is not damaged should the lights be lowered with the cable still plugged in. The junction box shall be fitted with earth and neutral bars and the required number and size of cable glands.

2.28.8 SURGE ARRESTORS

The tenderer must allow for the supply and installation of four (4) heavy duty 250 V surge arrestors, which shall be installed in the distribution board and connection to the DB earthing via 35mm²stranded copper. This item includes any miscellaneous material required for the complete installation of the surge arrestors.

2.28.9 EARTHING

Prior to the installation of the foundation two earth electrodes shall be installed. These electrodes shall be driven into the ground vertically to a minimum depth of 1500mm below the bottom of the foundation excavation, 2m from the mast on opposite sides.

These electrodes are to be connected by a 70mm² BCEW running along the bottom perimeter of the foundation excavation (securely bonded to the foundation steel reinforcing) and through the foundation into the mast centre.

The earth conductor shall be connected to the mast foot and the distribution board. The Engineer shall inspect the earthing installation prior to the concrete being cast. After installation of the earth conductor and spikes the earth resistance shall be measured which shall not exceed 10 0hm.

The earth resistance measurement shall be done in the presence of the Engineer.

2.28.10 COMMISSIONING AND TESTING

Over and above the supply and erection of the complete the tenderer shall also allow for the testing and commissioning of all installed equipment.

These tests include among others the necessary light level and earthing tests.

Under no circumstances will a mast be accepted which is not completely straight.

2.29 MAINTENANCE REQUIREMENTS

The free maintenance period of 12 months from handover is as detailed in the contract conditions and contract preliminaries.

2.30 LOAD BALANCING

The tenderers attention is drawn to the fact that it is imperative that the load should be evenly distributed over the three phases. Although the distribution boards may be factory wired, the onus is still on the Electrical Sub-Contractor to ensure that this requirement is met.

2.31 ITEMS FOR APPROVAL

Where this specification refers to a specific brand name or "similar and equivalent" or "Other approved type" and alternative equipment is offered in lieu of that specified, then written approval must be obtained from the Engineer before such equipment is installed.

The right is reserved to reject any equipment which does not, in the opinion of the Engineer, conform to specification or which is of an inferior grade. Should such equipment be rejected, the Electrical Sub-Contractor shall at his own expense provide for alternative equipment and tenderers are thus warned to ensure that all equipment offered is in strict accordance with the requirements of this specification.

In certain cases the Electrical Sub-Contractor may be required to submit samples and where necessary, tests will be performed to establish the quality of the material offered.

2.32 CONTRACT ADMINISTRATION, COMPLETION, TESTING AND COM-MISSIONING

2.32.1 QUALITY CONTROL DURING THE EXECUTION OF THE CONTRACT

Day by day inspections of the Works shall be carried out by the Electrical Sub-Contractor or his authorised representative to ensure that all work is executed in accordance with the drawings, specifications and regulations. These inspections will be monitored by the Engineer.

If the quality of the installation suffers due to a lack of supervision, then the Engineer will appoint a site agent to ensure that a high standard of workmanship is maintained. The full cost of such a step shall be for the Electrical Sub-Contractor account.

2.32.2 STANDARD OF WORKMANSHIP

All installation work in this contract is to be executed by qualified electricians and cable jointers in accordance with modern techniques. The Engineer shall have the right to reject any work which does not meet with his approval or which is not in accordance with standard practice.

2.32.3 MAINTENANCE OF AS-BUILT DRAWINGS

During execution of the contract the Electrical Sub-Contractor shall update the drawings daily with all the relevant information.

At the end of the contract and prior to handover being accepted, the Electrical Sub-Contractor shall prepare as-built drawings of the installation. These drawings shall be a set of the latest drawings issued by the Engineer on which the Electrical Sub-Contractor shall highlight all changes. The Electrical Sub-Contractor shall take great care to ensure that all underground services are shown in the correct places.

The Electrical Sub-Contractor shall also issue three (3) sets of any other drawings, wiring diagrams, service and instruction manuals for equipment supplied by him and these will have to be acceptable to the Engineer prior to handover being approved.

2.32.4 PRELIMINARY TESTING OF MAJOR EQUIPMENT

All items of major equipment are, where feasible, to be factory tested prior to delivery to site, and results of such tests, in a format to be agreed in advance, are to be produced before the equipment is delivered.

All such tests are to be in accordance with the relevant codes of practice, and with any other requirements as set out in this document.

2.32.5 COMPLETION OF INSTALLATION

Before the commencement of any test or commissioning procedures, the Electrical Sub-Contractor is to ensure that all nuts and bolts are securely fastened, and that paintwork on all items supplied has been touched up where damage has occurred.

2.32.6 INSPECTION AND TESTING

On completion of the entire installation or any particular section thereof, as may be decided by the Engineer, tests shall be carried out in full accordance with the current edition of the "Code of Practice for the Wiring of Premises", in the presence of the Engineer.

The Electrical Sub-Contractor should note that, where applicable, at least the following tests must be carried out: -
Insulation test.
Continuity test
Loop Line Earth Impedance test
Polarity test
Earth Leakage Circuit Breaker test
Earth termination test.
Any further tests as deemed necessary by the Engineer.

All instrumentation necessary for testing shall be provided by the Electrical Sub-Contractor.

The results of the above tests must be clearly recorded, signed and handed to the Engineer together with a Certificate of Compliance and any other form or forms as required by the Client.

2.32.7 DOCUMENTATION

The following documentation is required and shall be provided by the Electrical Sub-Contractor:-

* Set of schematic wiring and function diagrams.

* Operating and maintenance instructions on equipment.

* Guarantees ceded to the Client.
* Test reports and certificates.

Once the Engineer has inspected the complete installation and satisfied himself that all testing has been completed and the contract is complete in all respects, will he issue a letter to the Client stating that first delivery has been taken. Once the retention period has expired, the installation shall be inspected for final delivery.

2.32.8 LABELING

All switchgear and equipment installed in the switchboards, plus isolator boxes, cables, socket outlets, switch, etc., shall be clearly labelled as indicated elsewhere in this specification and schedules.

2.32.9 TRAINING OF INSTITUTIONAL STAFF

Where applicable, allowance is to be made by the Electrical Sub-Contractor for the training of Institutional Staff in the setting up and operation of the various items of equipment supplied under the contract, such as the alarm system.

2.32.10 TESTING AND COMMISSIONING DOCUMENTATION

On completion of the testing and commissioning, the following documents shall be compiled and presented to the Engineer.

(a) A Certificate of Compliance and other form/s as required by the Engineer.

(b) Drawings of the installation marked up "As Built" as described elsewhere.

(c) Completed set of test and commissioning sheets.

ELECTRICAL WORKS

PART B: SECTION 3: SCHEDULES

CONTENTS

3.1 GENERAL

This section of the specification forms part of and must be read in conjunction with the general and supplementary specification, as well as the drawings.

3.2 SCHEDULE OF CABLES

3.2.1 NORMAL POWER

This is an installation reticulated from the new 100kVA transformer to the main kiosk and to the buildings' sub-kiosks.

From	To	Cable Size and Type	Length
100kVA Transformer	Kiosk 1	1 x 35mm^2 x 4 core PVC/PVC/SWA copper conductor cable + 25mm^2 bare Cu earth wire	50
Kiosk 1	Kiosk 2	1 x 25mm^2 x 4 core PVC/PVC/SWA Cu cable plus 1 + 16mm^2 bare Cu earth wire	120
Kiosk 1	DB - 2 (Guard House)	1 x 6mm^2 x 4 core PVC/PVC/SWA copper conductor + 4mm^2 bare copper earth wire	30
Kiosk 2	DB – 1 (Change Rooms)	1 x 16mm^2 x 4 core PVC/PVC/SWA copper conductor + 10mm^2 bare copper earth wire	40
Kiosk 1	HM Lights	Future Installation	-
Kiosk 2	HM Lights	Future Installation	-

3.3 SCHEDULE OF LIGHT FITTINGS

The light fittings and accessories are to be according to the quality specifications and shall be approved by the Engineer.

Type	Description
F1	1 x 28W T5 1200mm single open channel surface fluorescent luminaire or other approved
F2	2 x 28W T5 1200mm double open channel surface fluorescent luminaire or other approved
F4	3 x 36W T5 600mm tubes with single parabolic louvers or other approved
B	Surface mount fittings with 2 x 18w PL18 lamps and double ballasts and clear diffuser similar to BEKA type 52218.
D	8W LED Downlighter (Frosted Glass) 80mm complete with driver and cordset

Type	Description
DE	8W LED Downlighter (Frosted Glass) 80mm with battery back-up complete with driver and cordset
B4	1000W Metal Hallide wide beam Projectolux flood light fitting as supplied by Beka complete with lamp and control gear.

3.4 SUMMARY OF KIOSKS AND DISTRIBUTION BOARDS

The colour of the distribution boards and LV distribution kiosks shall be painted in “Avocado green” colour C37 of SANS 1091-1975.

Indicated is the probable fault level rating (kA) of the busbars. Refer to the Summary of Switchgear for the minimum fault level rating of specified equipment.

3.4.1. From 100kVA Transformer

Boards	Type	Panel	Fault Level kA
Main Kiosk 1	Floor mounted with doors	Normal Power	10
Kiosk 2	Floor mounted with doors	Normal Power	10

3.5 SCHEDULE OF DISTRIBUTION BOARDS AND KIOSKS

3.5.1 Main Kiosk 1

This is the new outdoor weatherproofed kiosk. The indicated fault current rating (kA) is the minimum value that the switchgear must comply with for connecting the busbar of the distribution board.

Normal Power

Main switch	:	1 x 100A 10KA three phase isolator
Supply to kiosk 2	:	1 x 20A 10kA three phase circuit breaker
Supply to DB-2	:	1 x 40A 10kA three phase circuit breaker
Spare (HM.1)	:	1 x 40A 10kA three phase circuit breaker
Spare (HM.2)	:	1 x 40A 10kA three phase circuit breaker
Spare	:	1 x 30A 10kA three phase circuit breaker
Spare	:	1 x 30A 10kA three phase circuit breaker

3.5.2 KIOSK 2

This is a new outdoor weather proof kiosk. The indicated fault current rating (kA) is the minimum value that the switchgear must comply with for connecting to the busbars of the distribution board.

Normal Power

Main switch	:	1 x 80A 10kA three phase isolator
Supply to DB - 1	:	1 x 60A 5kA three phase circuit breaker
Supply to Borehole	:	1 x 30A 5kA three phase circuit breaker
Spare (HM.3)	:	1 x 40A 10kA three phase circuit breaker
Spare (HM.4)	:	1 x 40A 10kA three phase circuit breaker
Spare	:	1 x 30A 10kA three phase circuit breaker
Spare	:	1 x 30A 10kA double pole circuit breaker

3.5.3 Distribution Board DB – 1 (Change Rooms)

A new flush mount DB complete with doors and equipment as detailed

Normal Power

Main switch	:	1 x 60A three phase isolator, 5KA
Lights	:	6 x 10A single phase 5kA circuit breaker
Spare	:	1 x 10A single phase 5kA circuit breaker
Plugs	:	1 x 60A,30mA earth leakage relays
	:	3 x 20A, single phase, 5KA circuit breakers
Spare	:	1 x 20A single phase 5kA circuit breaker
Special Power points	:	4 x 20A, double pole 5KA circuit breakers (Hand Dryers)
Special Power points	:	1 x 30A, double pole 5KA circuit breakers (Geyser)
Spare	:	1 x 20A double pole 5kA circuit breaker
Spare	:	1 x 30A double pole 5kA circuit breaker

3.5.4 Distribution Board DB – 2 (Guard House)

A new flush mount DB with doors Equipment as detailed below:

Normal Power

Main switch	:	1 x 40A 3phase, 5KA isolator
Lights	:	2 x 10A single phase 5kA circuit breaker
Spare	:	1 x 10A single phase 5kA circuit breaker
Plugs	:	1 x 60A, 30mA earth leakage relays
		: 1 x 20A single phase, 5KA circuit breakers
Spare	:	1 x 20A single phase, 5KA circuit breakers

3.6 SCHEDULE OF LIGHT CIRCUITS

3.6.1 CHANGE ROOMS: DB-1

Circuit No.	Fitting No.	Type of Fitting	Quan-tity	Load Each (W)	Load Total (W)	Switches	Luminaire Mounting
L1	1 - 4	F2	4	56	224	4 x1Lx1W	In Ceiling
L2	1 – 10	D	10	10	100	1 x 1Lx1W	In ceiling
L3	1 – 10	D	10	10	100	1 x1Lx1W	In ceiling
L4	1 - 6	D	6	10	60	1 x 1L x 1W	In ceiling
L5	1 2 - 7	D D	1 6	10	70	1 x 1L x 1W	In ceiling
L6	1 - 8	B	8	36	288	Day night switch	Against wall 2000mm above floor level.

3.6.2 GUARD HOUSE: DB-2

Circuit No.	Fitting No.	Type of Fitting	Quan-tity	Load Each (W)	Load Total (W)	Switches	Luminaire Mounting
L1	1	F2	1	56	56	1 x 1L x 1W	In Ceiling
L2	1 - 4	B	4	36	144	Day night switch	Against wall 2000mm above floor level.

3.7 SCHEDULE OF SOCKET OUTLET POINTS

3.7.1 CHANGE ROOMS: DB-1

Circuit No.	Socket Outlet No.	Type of Socket Outlet	Quantity	Load Each (W)	Load Total (W)	Mounting
P1	1- 4	A	4	500	2000	In wall 300mm AFFL
P2	1 – 2 3	A B	2 1	500 1000	2000	In wall 300mm AFFL
P3	1 - 4	A	1	500	1500	In wall 300mm AFFL

3.7.2 GUARD HOUSE: DB-2

Circuit No.	Socket Outlet No.	Type of Socket Outlet	Quantity	Load Each (W)	Load Total (W)	Mounting
P1	1 - 2	A	2	500	1000	In wall 300mm AFFL

3.8 SCHEDULE OF SPECIAL POWER POINTS

3.8.1 CHANGE ROOMS: DB-1

Circuit No.	Outlet No.	Equipment	Quantity	Load Each (W)	Load Total (W)	Mounting
SP.Geyser	1	Geyser	1	4000	4000	In ceiling
HD.1	1	Hand dryer	1	1500	1500	Flush in wall 1200mm AFFL
HD.2	1	Hand dryer	1	1500	1500	Flush in wall 1200mm AFFL
HD.3	1	Hand dryer	1	1500	1500	Flush in wall 1200mm AFFL
HD.4	1	Hand dryer	1	1500	1500	Flush in wall 1200mm AFFL
HD.5	1	Hand dryer	1	1500	1500	Flush in wall 1200mm AFFL

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

C3.8 DRAWINGS

LIST OF DRAWINGS PREPARED BY THE EMPLOYER

The following is the list of drawings prepared by the Employer and applicable to this Contract:

DRAWING NO.		**DESCRIPTION**
Bound in Document		
LIST OF DRAWINGS		
1109-CIV-DRG-100	:	Layout: Locality Plan and List of Drawings
1109-CIV-DRG-101	:	Layout: Site Layout
1109-CIV-DRG-102	:	Layout: Soccer field platform
1109-CIV-DRG-103	:	Details: Project Nameboard
1109-CIV-DRG-200	:	Layout: Water and Fence Layout
1109-CIV-DRG-201	:	Details: Water Details
1109-CIV-DRG-202	:	Details: JoJo Tank and Platform
1109-CIV-DRG-203	:	Details: Borehole connection
1109-CIV-DRG-400	:	Details: Soccer Pitch
1109-CIV-DRG-401	:	Details: Soccer goal posts
1109-CIV-DRG-501	:	Details: Clear-Vu Fence
1109-CIV-DRG-502	:	Details: Complete perimeter security single leaf sliding gate
1109-CIV-DRG-503	:	Details: Clear-Vu Fence and Pedestrian Gate

Note: Although, elsewhere in the Contract Document, drawings are referred to by their generic numbers only, the alphabetic suffix (if any) to a drawing number as given in this List of Drawings denotes the revision of the drawing that is applicable to this document.

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

PART C4 SITE INFORMATION

SITE INFORMATION

1 NATURE OF GROUND AND SUBSOIL CONDITIONS

Details of the ground condition shall be provided to the appointed Contractor

MOHOKARE LOCAL MUNICIPALITY

CONTRACT NO: SCM/MOH/13/2024

FOR

RE-ADVERT: APPOINTMENT OF A CONTRACTOR: CONSTRUCTION OF THE ROUXVILLE SPORTS GROUND (PHASE 1)

PART C5 APPENDICES

Appendix A : Occupational Health and Safety Specification and Baseline Risk Assessment

Appendix B : Tender Drawings

APPENDIX A

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION AND BASELINE RISK ASSESSMENT

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATIONS AND BASELINE RISK ASSESSMENT – CR 5(1)(A-B)

PROJECT:

MOHOKARE LOCAL MUNICIPALITY
CONSTRUCTION OF ROLELEATHUNYA SPORT GROUND PHASE 1

ATTACHMENT: MANDATORY AGREEMENT AND CONTRACTOR APPOINTMENT

(To be completed by Client and Contractor representatives)

COMPILED BY: ETIENNE CALITZ ISS CONSULT 17 APRIL 2024

INTRODUCTION

This “Health and Safety Specifications” document is governed by the Occupational Health and Safety Act (Act No 85 of 1993), hereinafter referred to as the Act, with specific reference to Construction Regulations 2014 Section 5

Included in these specifications is a set of rules to assist the principal contractor, contractors (sub-contractors) and the client in controlling and managing health and safety issues on the construction site, as stipulated in the Occupational Health and Safety Act (Act No 85 of 1993).

This specifications and rules do not relief the principal contractor, contractors (sub-contractors) or their employees from any legal obligation under the requirements of the “Basic Conditions of Employment Act”, the “Occupational Health and Safety Act” or the “Compensation for Occupational Injuries and Disease Act”.

The specifications and rules will apply for the duration of the project. Should the principal contractor or contractors (sub-contractors) not comply, it will be deemed as a breach of contract.

The principal contractor will carry full responsibility and accountability regarding the adherence to any health and safety issues when contractors (sub-contractors) are utilized to carry out any construction work on the project.

It must be noted that the client’s OHS Agent have the authority to stop any contractor from executing construction work which is not in accordance with the client’s health and safety specifications or legal obligations or which poses a threat to the health and safety of any person involved in or affected by the project activities.

CONTENTS

ABBREVIATIONS

OHS – Occupational Health and Safety

CR - Construction Regulations 2014

CHSO – Construction Health and Safety Officer

SACPCMP – The South African Council for the Project and Construction Management Professions.

REFERENCES

CR 8(5) – Construction Health and Safety Officer

CR 8(1) – Construction Manager

CR 8(7) – Construction Work Supervisor

1. SITE SAFETY FILE

The contractor must compile and submit a project- and site-specific health and safety file. The safety plan and file must be approved by the Client OHS Agent prior to and be implemented on site from commencement of the works and must be kept up to date until the completion of the project.

After completion of the project a consolidated copy of the file must be handed to the client. This must be digital copies in the form of scanned documents and as per list provided by the client's OHS Agent.

The contents of the file must include, but is not limited to, the following:

- Notification of Construction Work to Department of Labour
- Letter of Good Standing from Contractor's Workmen's Compensation Insurer
- Contractor Liability Insurance
- Copy of this Specification and Baseline risk assessment document
- Health and Safety Plan
- Environmental Management Plan
- Traffic and Pedestrian Management Plan
- Excavation Management Plan
- Occupational Health and Safety, Environmental and other Policies
- Risk Assessments (including ergonomics risk assessment)
- Safe Work Procedures / Method Statements
- DSTI documents
- Legal Appointments and Competency Certificates / CV's
- Inspection Checklists
- Emergency Preparedness
- Incident Reporting and Investigations
- Hazardous Chemicals
- Sub-contractor Management
- Toolbox talks - weekly
- Proof of Safety Induction
- Copies of Worker ID's
- Worker Medicals
- Copies of the Occupational Health and Safety Act and Construction Regulations.
- Internal Safety Meeting Minutes
- Internal and External Audit Reports

2. HEALTH AND SAFETY PLAN

The health and safety plan must be suitable, sufficiently documented, coherent and site specific, and after approval by the Client OHS Agent, it must be applied on site from date of commencement of and for the duration of the construction work.

It is also required that the plan be reviewed and updated as work progresses.

Take note that the risk assessment forms part of the health and safety plan to be implemented on site.

The plan must answer the questions what, how, why, when, where and who.

3. APPOINTMENTS

The legal appointments should include but not be limited to:

- Acceptance and commitment to OHS – Sec 16(1)
- Appointment of CEO assistant - Sect 16(2)
- Construction Manager – CR 8(1)
- Construction Work Supervisor – CR 8(7)
- Assistant Construction Work Supervisor – CR 8(8)
- Part-time Safety Officer – CR 8(5)
- Risk Assessor – CR 9(1)
- First Aider - GSR 3(4)
- Incident Investigator - GAR 9(2)
- Health and Safety Representative - Sect. 17(1)
- Electrical Machinery Operator/Inspector – CR 24*(e)*
- Fire Equipment Inspector – CR 27(h)
- Construction Vehicle Operators / Inspector – CR 23(1)*(d),(k)*
- Stacking Supervisor – CR 28(a)
- Excavation Supervisor – CR 13(1)

The Contractor must appoint a part-time Construction Health and Safety Officer, registered and in good standing with the SACPCMP, for the project.

A Candidate CHSO is only allowed if he/she is mentored by a fully registered person, who must be appointed as mentor by the candidate and who signs off all plans, safety audits and risk assessments. The mentor's appointment, CV and registrations must be included in the file.

The CHSO must at least visit site twice a month to perform inductions, inspections, audits, risk reviews, give general inhouse training and attend client audits.

The CHSO must compile a summary Occupational Health and Safety report to be tabled monthly during the Site Meetings and which will reflect Occupational Health and Safety up to the site meeting date.

Proof of competency (knowledge, training, experience and qualifications where required) in respect of the work or task being appointed for, must be attached to each appointment.

4. SITE SAFETY MEETINGS

The Contractor must have monthly safety meetings on site, of which minutes must be kept in the safety file.

The Construction Manager, Construction Health and Safety Officer, Construction Work Supervisor and representatives of the workers (Safety Representative and or CLO) must attend the meetings, together with representatives of all sub-contractors.

Minutes must be signed off by the Construction Manager and decisions must be implemented as decided by the members of the meeting.

If there are no sub-contractors, OHS must be included in the contractor's internal site meetings and proof must be available.

5. MONTHLY SAFETY AUDITS

The Contractor's CHSO must perform monthly internal audits which must include all contractors on site, of which the reports must be available on the day of the site meeting.

The Client's OHS Agent will perform required monthly audits and give feedback to be tabled during monthly site meetings.

The Contractor will receive the OHS report within 7 days after day of the audit and must give written feedback on all outstanding items to the Client's OHS Agent within 7 days of receipt.

6. SUB-CONTRACTOR MANAGEMENT

All sub-contractors must comply with OHS requirements and must submit an OHS file to the main contractor, for approval by the Contractor's CHSO, before commencement of work on site, which must be kept up to date until completion of their work.

Sub-contractors must be registered for Workmen's Compensation and submit a valid Letter of Good Standing before they must be allowed to commence work on site.

Mandatory Agreements Sec 37.2 and CR 7(1)(c)(v) appointments must be in place for every sub-contractor on site and include arrangements regarding PPE, supervision, first aid etc.

7. CONTINUOUS OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT

The Construction Manager is responsible to see that Occupational Health and Safety is implemented on site on a daily base and he must be assisted by the Construction Health and Safety Officer, Construction Work Supervisor and Safety Representative.

These responsibilities will include, but not be limited to, the following:

- Daily Site Task Instructions (DSTI's)
- PPE compliance
- Tool and other inspections
- Safe working procedures
- Ensuring all safety signs and barricading are in good condition.

The contractor must appoint a qualified and experienced Safety Representative to represent the workers on site and assist with the safety file and inspections.

The Safety Representative must be elected by the workers and must undergo training or already be in possession of a valid certificate issued by a legal training institution.

Occupational Health and Safety Act Sections 17-19 will apply as guideline for above.

Safety personnel on site must work closely with the CLO to ensure that all hazards regarding the construction work are communicated to the community. Proof required.

8. INCIDENT REPORTING AND INVESTIGATION

Incident reporting and investigations must be in accordance with Occupational Health and Safety Act Sec 24 and General Admin Regulations 8 and 9.

The Client's Occupational Health and Safety Agent must be notified immediately in the case of Sec 24, and within 24 hours in the case of Annexure 1 incidents.

All investigation documents must be completed in full, submitted to the client and kept for a duration of at least 3 years.

9. EMERGENCY PREPAREDNESS

First Aid:

NO work will be allowed on site without the presence of a qualified First Aider, appointed in writing. (One First Aider for each site or workplace.)

A fully equipped First Aid box, with Annexure 3 contents, must be kept in the site office and a dressing record must be used to indicate details of all first aid treatment.

Fire:

At least 2 x 9kg fire extinguishers must be on site. One kept in the site office and one close to the storage area.

All construction vehicles must be equipped with a fire extinguisher.

Workers must receive inhouse training on the use of firefighting equipment.

Hazardous Chemicals:

Chemicals to be stored in a well-ventilated area and storage and handling must comply with the Hazardous Chemical Substance Regulations.

MSDS sheets must be available for all chemicals used on site.

Site specific emergency contact numbers and evacuation procedures must be available, communicated and posted on the site office wall or notice board.

10. WORKER'S WELLBEING

All workers of the main contractor and sub-contractors must undergo medical screenings, done by an Occupational Medical Practitioner in the form of CR Annexure 3. - See GN 489 of June 2017: CR 2014 Guidelines, for the requirements regarding the health practitioner, under the definition of "medical certificate of fitness".

Copies of Medical Fitness Certificates must be kept in the safety file, but is confidential.

Recommendations regarding medical treatment must be adhered to.

General Safety Regulation 2A **Intoxication** must be enforced on site.

Toilets and eating facilities must be provided as per Occupational Health and Safety Act requirements. Facilities must be maintained.

Rubbish bins for bags, tins, cans etc must be provided on site and cleaned as per municipal requirements.

11. COSTING OF OCCUPATIONAL HEALTH AND SAFETY

It is the responsibility of the Principal Contractor to make sufficient provision for OHS requirements and the following should be taken into consideration:

- Training:
  - First Aider
  - Safety Representative
  - Fire Fighting
  - All Construction Vehicle Operator Certificates

- Equipment and PPE
  - Clothing- overalls
  - Safety Shoes
  - Hardhats
  - Gloves
  - Respiratory masks
  - Hearing protection
  - Goggles/safety glasses
  - Symbolic Safety Signs and Road Signs
  - First Aid equipment, kit and box.
  - Fire extinguishing equipment

- Chemical toilet facilities, toilet paper and handwash facilities

- Part-Time Health and Safety Officer
  Compiling of safety file
  Site visits, inspections and internal audits

- Medical fitness certificates for all employees – CR 7(8) before commencement of work.

- CoC for temporary electrical installations

- Sub-contractor compliance

12. GENERAL

For all other activities on site the requirements of the Occupational Health and Safety Act and Regulations, as well as all applicable Standards, will apply.

At the completion of the contract the Contractor must submit a consolidated Health and Safety file to the Client as per CR 7 (1)(e).

BASELINE RISK ASSESSMENT

Ref.	ACTIVITY	HAZARD	RISK	MEASURES REQUIRED
1.	**Site establishment**	Heavy lifting	Injuries and strains	Procedures Equipment Training PPE
		Manual activities	Injuries and strains	Procedures Equipment Training PPE
		Dust	Inhalation	Procedures PPE
		Snakes and spiders	Poisonous bites can cause death	Procedures Emergency plan
		Crane activity – placement of containers	Injuries or fatalities	Crane certificates Safe rigging procedures Supervision
		Temporary Electrical Installations	Fire Electrocution	CoC certificate
2.	**Offloading equipment and material**	Heavy lifting	Injuries strains	Procedures Equipment Training PPE
		Collapsing loads	Injuries crushing, strains, death.	Procedures Training PPE
		Unsafe stacking	Injuries	Safe stacking procedures
		Moving vehicles	Injuries crushing, strains, death.	Traffic Management Training
3.	**Excavation - Sport fields and courts**	Moving vehicles on and off site	Injuries crushing, strains, death.	Traffic Management Training
		Dust	Inhalation	Procedures PPE
		Noise	Hearing impairment	Procedures PPE
		Moving Plant -Excavator, grader, roller, watertruck, tippers etc	Injuries and death.	Traffic Management Operator and vehicle management Procedures Training

				Reflector vests
		Hitting underground existing services	Electrocution, drowning	Pilot holes Procedures Training
4.	**Back Filling and Layer work**	Dust	Inhalation	Procedures PPE
		Noise	Hearing impairment	Procedures PPE
		Moving Plant	Injuries and death.	Traffic Management Operator and vehicle management Procedures Training Reflector vests
		Pedestrians and children	Injuries crushing, strains, death.	Pedestrian and visitor management Barricading and fencing Site security
5.	**Excavation and installation of water pipes and irrigation system**	Hitting underground services	Electrocution, drowning	Pilot holes Procedures Training
		Manual excavation	Injuries	Handtool inspection Supervision Training PPE
		Machine excavation	Injuries	Plant inspection Supervision Training PPE
		Open trenches	Injuries	Barricading Signage Water pump
6.	**Laying of kikuyu grass**	Download from trucks, placement and manual handling	Ergonomic stressors and back injuries	Supervision Mechanical assistance Awareness training
7.	**Installation of 2.4m high Clear-Vu perimeter fence**	Unsafe handtools	Injuries	Inspections Training PPE
		Digging holes for fence poles	Injuries and strains	Safe tools Inspections Awareness training
		Concrete work and cement inhalation	Strains Respiratory illness	Awareness training PPE
		Ladder work	Falls and injuries	Safe ladders Inspections Training

		Concrete or Clear view panels	Cuts and injuries	Gloves
			Injuries and strains	Safe tools Inspections Awareness training
8.	**Cleaning site and reinstating access roads**	Vehicle movement	Injuries crushing, strains, death	Procedures Traffic Management Training
		Manual activity using handtools	Multiple minor injuries	Supervision Inspections PPE
9.	**De-establishment of site**	Heavy lifting	Injuries and strains	Procedures Equipment Training PPE
		Manual activities	Injuries and strains	Procedures Equipment Training PPE
		Crane activity – removal of containers	Injuries or fatalities	Crane certificates Safe rigging procedures. Supervision.
10.	**Sub-contractors**	Same hazards as main contractor	Same risks as main contractor	Main contractor to ensure sub-contractor adhere to all OHS requirements.
11.	**Presence of visitors and members the public**	Moving construction plant and equipment	Injuries crushing, strains, death	Procedures Traffic Management Training
		Dust	Inhalation	Procedures PPE
		Noise	Hearing impairment	Procedures PPE
		Collapsing structures	Injuries crushing, strains, death.	Procedures Equipment Training PPE
		Falling into openings on site	Injuries	Barricading
		Tripping and slipping	Injuries	Housekeeping

AGREEMENT WITH MANDATORY

In terms of Section 37 (1) and (2)

WRITTEN AGREEMENT ENTERED INTO AND BETWEEN

_____

(Herein after referred to as the “CLIENT”)

AND

_____

(Herein after referred to as the Contractor)

Each page as well as each change made must be initialled.

DEFINITION OF MANDATORY:

Includes an agent, a Contractor or Sub-Contractor for work, but without derogating from his status in his own right as an Employer or User.

SECTION 37 (1)

Whenever an employee does or omits to do any act which it would be an offence in terms of this Act for the employer or such employee or a user to do or omit to do, then, unless it is provided that:-

(a) in doing or omitting to do that act the employee was acting without the connivance of permission of the employer or any such user;

(b) it was not under any condition or in any circumstances within the scope of the authority of the employee to do or omit to do an act, whether lawful or unlawful, of the character of the act or omissions charged, and

(c) all reasonable steps were taken by the Employer or any such user to prevent any act or omission of the kind in question.

The employer or any such user himself shall be presumed to have done or omitted to do that Act, and shall be liable to be convicted and sentenced in respect thereof; and the fact that he issued instructions forbidding any act or omissions of the kind in question shall not, in itself, be accepted as sufficient proof that he took all reasonable steps to prevent the act or omission.

SECTION 37 (2)

The provision of subsection (1) shall *mutates mutandis* apply in the case of a mandatory of employer or user, except if the parties have agreed in writing to the arrangements and procedures between them to ensure compliance by the mandatory with the provisions of this Act.

ACCEPTANCE BY MANDATORY

In terms of Section 37 (2) of the OHS Act 85 of 1993, I _____

representing _____responsible for carrying out

(Contractor Company Name)

_____ at _____

(describe activity) (contract/site name)

undertake to ensure that the requirements and provisions of the OHS Act and Construction Regulations, as well as Client OHS Specifications, are complied with.

SIGNATURES:

_____ _____

Contractor Representative Date

_____ _____

Client Representative Date

APPOINTMENT
CONSTRUCTION REGULATION 5 (1)(k)

In terms of the above-mentioned regulation:
The Contractor must submit the following for approval before commencement of any construction work and shall commence with activities only after approval:

1. Letter of Good Standing with Compensation Insurer.CR. 5(1)(j)
2. Health and Safety File with Health and Safety Plan.CR 5(l)
3. Required appointment letters of relevant responsible persons with proof of competency.CR 8
4. Risk assessment of anticipated activities to be performed on this project. CR 9

I,_____(full names) representing

_____(Client), appoint:

_____ (Contractor

company name) to carry out the following work:_____

_____

on project:_____

SIGNATURE:_____ DATE: _____
Client representative

ACCEPTANCE

I,_____ representing_____
(Contractor company name)

accept this appointment. I am familiar with Occupational Health and Safety Act and Construction Regulations as well as the associated duties and responsibilities of this appointment.

SIGNATURE:_____ DATE: _____
Contractor representative

APPENDIX B

TENDER DRAWINGS

MOHOKARE
LOCAL MUNICIPALITY

CONTRACT NO.: SCM/MOH/13/2024

ROUXVILLE/ROLELEATHUNYA:CONSTRUCTION OF SPORTS GROUND_PHASE 1

BOOK OF TENDER DRAWINGS

SEPTEMBER 2024

engineering ACES

see the RESULT

LIST OF DRAWINGS

1109-CIV-DRG-100	:	LAYOUT: LOCALITY AND LIST OF DRAWINGS
1109-CIV-DRG-101	:	LAYOUT: SITE
1109-CIV-DRG-102	:	DETAILS: PROJECT NAMEBOARD
1109-CIV-DRG-200	:	LAYOUT: WATER
1109-CIV-DRG-201	:	DETAILS: JOJO TANK AND PLATFORM
1109-CIV-DRG-202	:	DETAILS: WATER AND FENCE
1109-CIV-DRG-203	:	LAYOUT: BOREHOLE
1109-CIV-DRG-400	:	DETAILS: SOCCER PITCH
1109-CIV-DRG-401	:	DETAILS: SOCCER AND RUGBY GOAL POSTS
1109-CIV-DRG-501	:	DETAILS: CLEAR VU FENCE
1109-CIV-DRG-502	:	DETAILS: COMPLETE PERIMETER SECURITY SINGLE LEAF SLIDING GATE
1109-CIV-DRG-503	:	DETAILS: CLEAR VU FENCE & PEDESTRIAN GATE

Drawing signed for approval held at Engineering Aces offices

DRAWN: M HAYAT-NAQVI	TENDER DRAWINGS	
DESIGNED: TA MARAIS		DATE
CHECKED: T LITABE	T A MARAIS (PAD 21015)	
APPROVED: T MARAIS	SCALE: AS SHOWN	

AMMENDMENTS

REV	DATE	DESCRIPTION	APPROVED
T0	26/09/2024	RE-TENDER DRAWING	T MARAIS

CONSULTANT

engineering ACES

see the RESULT

CLIENT

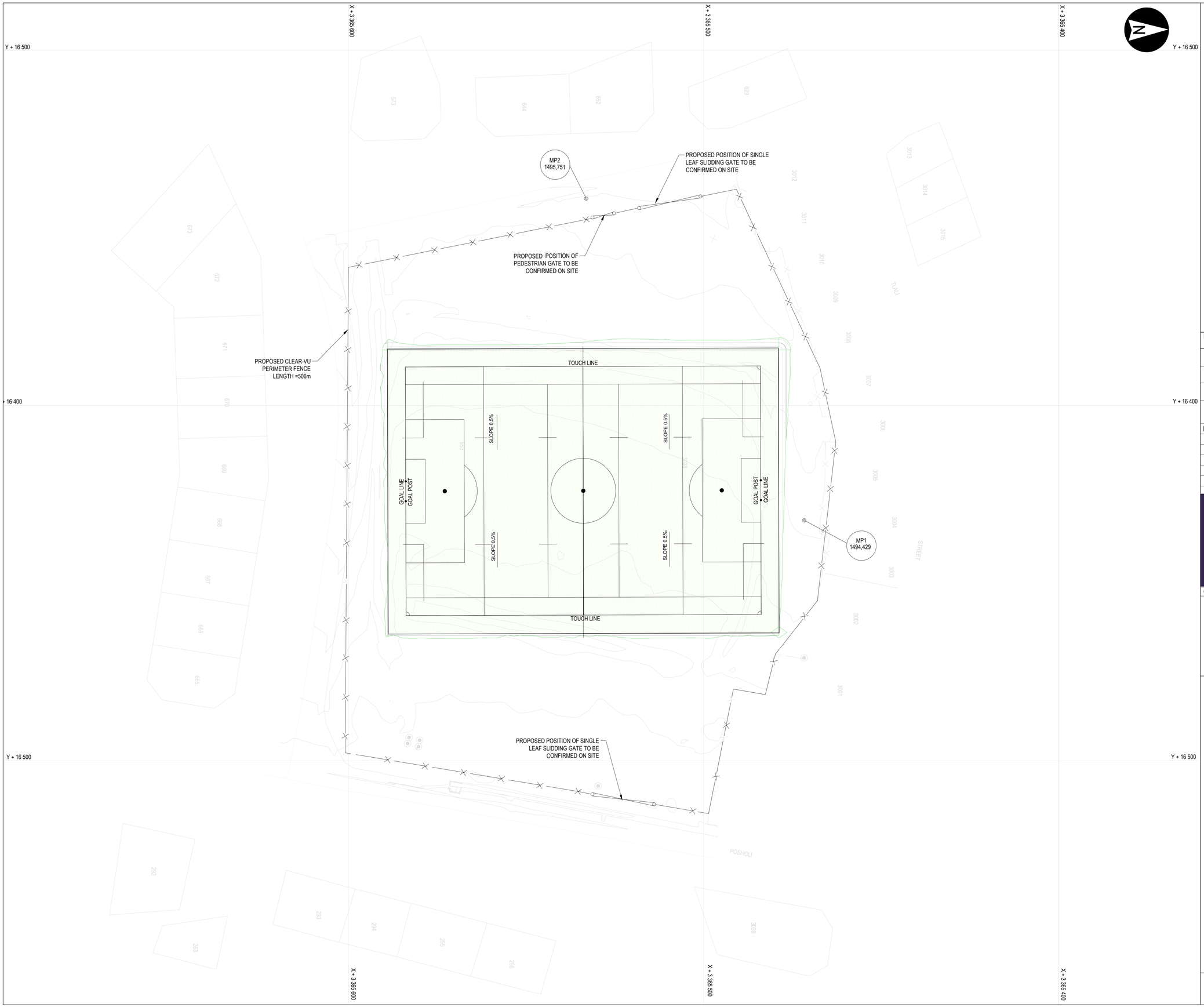
MOHOKARE LOCAL MUNICIPALITY

MOHOKARE LOCAL MUNICIPALITY

CONSTRUCTION OF SPORTS GROUND_PHASE 1

LAYOUT:
LOCALITY PLAN

DRAWING NO.	REVISION
1109-CIV-DRG-100	T0



Drawing signed for approval held at Engineering Aces offices

DRAWN: M HAYAT-NAQVI	TENDER DRAWINGS		
DESIGNED: N QWABE		DATE	
CHECKED: SS MNTAMBO	OS MOTHIBI Pr Tech Eng-2015070157		
APPROVED: OS MOTHIBI	SCALE: 1:500		

AMMENDMENTS

REV	DATE	DESCRIPTION	APPROVED
T0	26/09/2024	RE-TENDER DRAWING	OS MOTHIBI

CONSULTANT

engineering ACES — see the RESULT

CLIENT

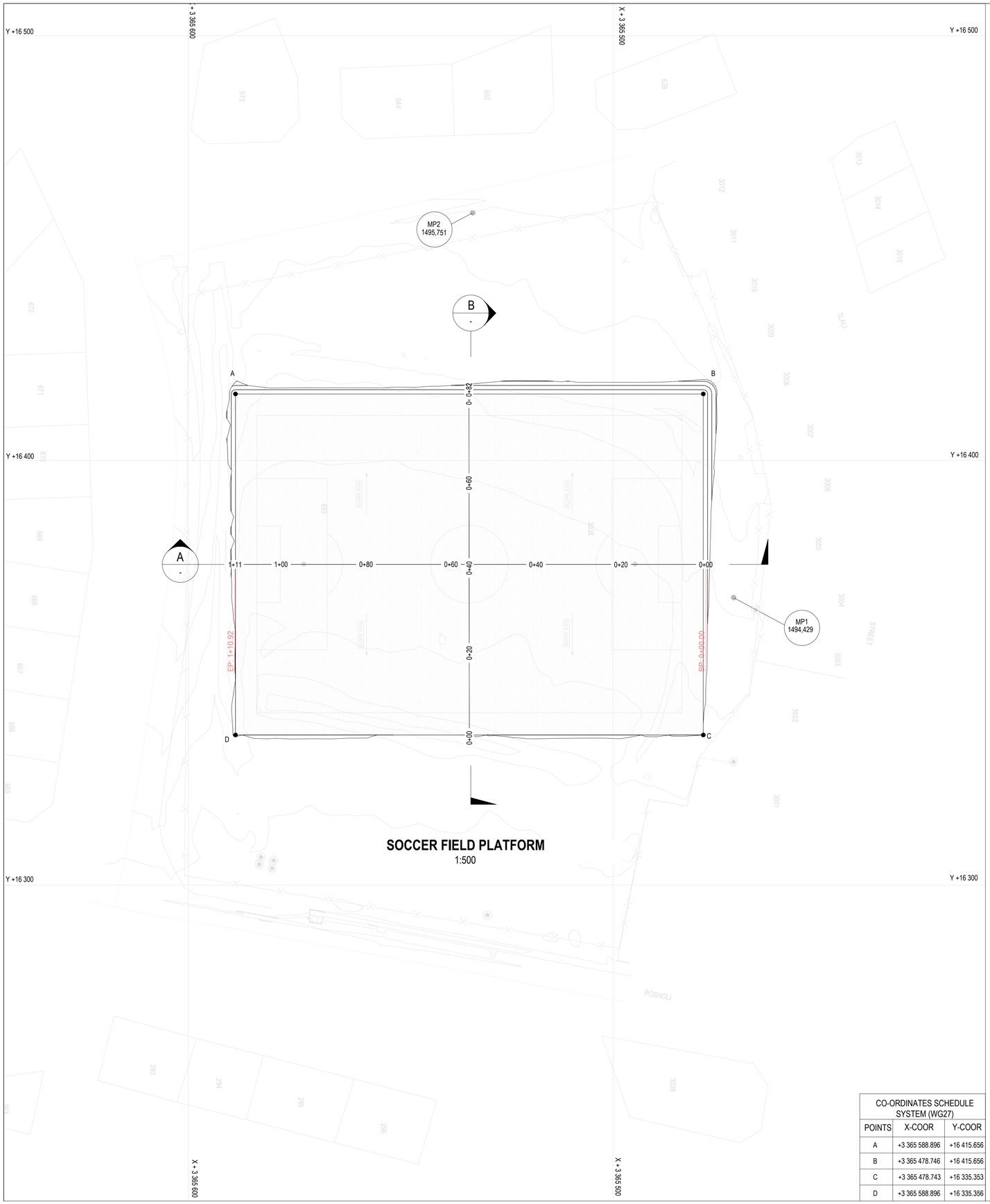
MOHOKARE LOCAL MUNICIPALITY

MOHOKARE LOCAL MUNICIPALITY

ROUXVILLE/ROLELEATHUNYA CONSTRUCTION OF SPORTS GROUND_PHASE 1

LAYOUT:SITE

DRAWING NO.	REVISION
1109-CIV-DRG-101	T0



SOCCER FIELD PLATFORM
1:500

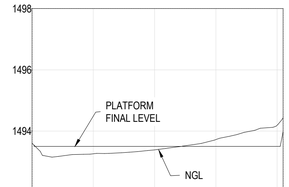
CO-ORDINATES SCHEDULE SYSTEM (WG27)		
POINTS	X-COOR	Y-COOR
A	+3 365 588.896	+16 415.656
B	+3 365 478.746	+16 415.656
C	+3 365 478.743	+16 335.353
D	+3 365 588.896	+16 335.356

SOCCER FIELD PLATFORM

HORIZONTAL LINE

SCALE VERT 1:100
SCALE HOR 1:1000

DATUM : 1492 m



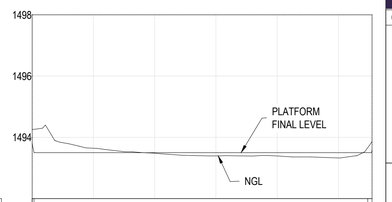
VERTICAL PROFILE GRADES					
PLATFORM LEVEL	1493.500	1493.500	1493.500	1493.500	
GROUND LEVELS ON CL	1493.261	1493.389	1493.726	1494.194	
DISTANCE (km)	0.000	0.020	0.040	0.060	0.080
CUT / FILL		-0.239	-0.111	0.226	0.694

SECTION B
1:1000
-

VERTICAL LINE

SCALE VERT 1:100
SCALE HOR 1:1000

DATUM : 1492 m



VERTICAL PROFILE GRADES						
PLATFORM LEVEL	1493.500	1493.500	1493.500	1493.500	1493.500	1493.584
GROUND LEVELS ON CL	1493.643	1493.480	1493.394	1493.393	1493.326	1493.667
DISTANCE (km)	0.020	0.040	0.060	0.080	0.100	0.111
CUT / FILL	0.143	-0.020	-0.106	-0.107	-0.174	-0.176

SECTION A
1:1000
-

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DRAWN:	M HAYAT-NAQVI	TENDER DRAWINGS	
DESIGNED:	N QWABE		DATE
CHECKED:	SS MNTAMBO	OS MOTHIBI Pr Tech Eng-2015070157	
APPROVED:	OS MOTHIBI	SCALE: AS SHOWN	

AMMENDMENTS

REV	DATE	DESCRIPTION	APPROVED
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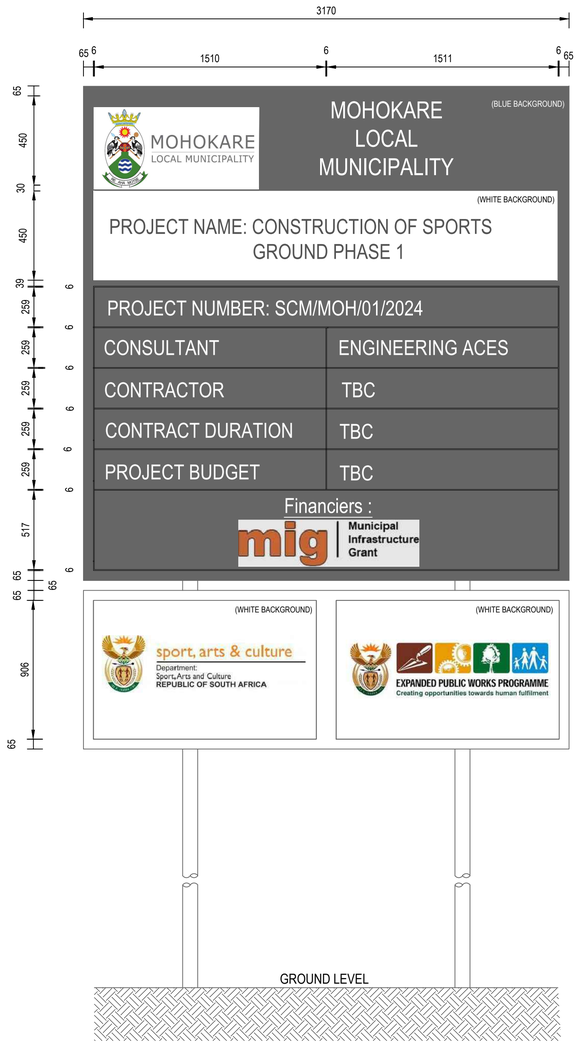
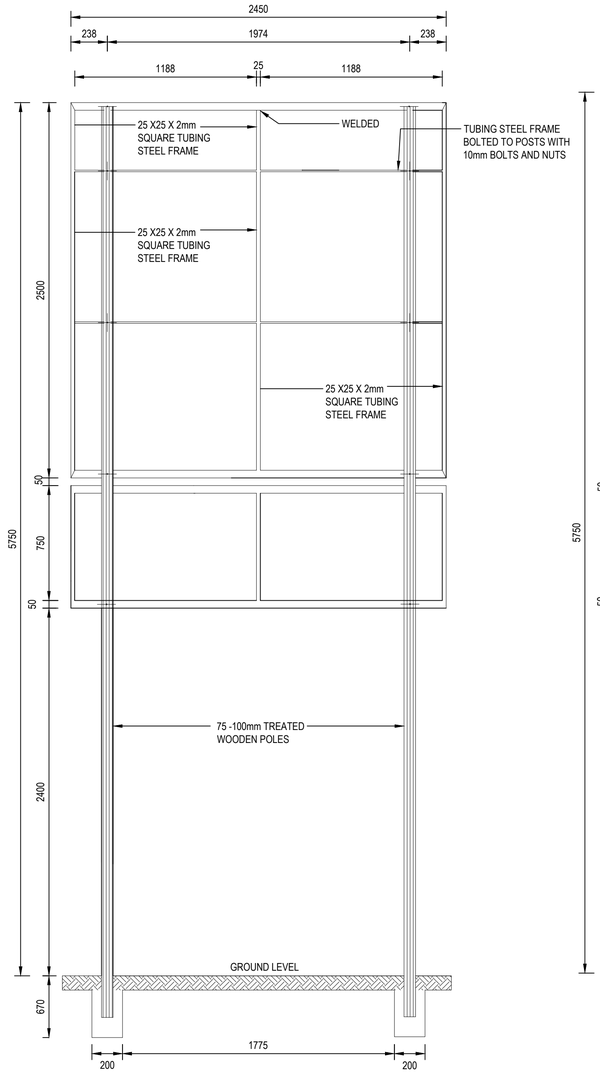
ROUXVILLE/ROLELEATHUNYA
CONSTRUCTION OF SPORTS
GROUND_PHASE 1

LAYOUT:
SOCCER FIELD PLATFORM

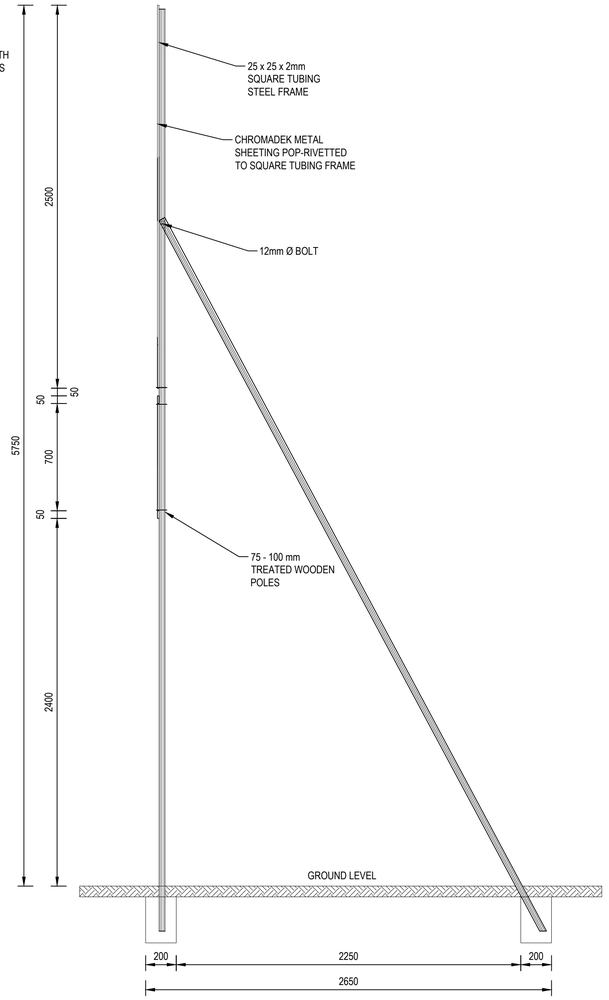
DRAWING NO.	REVISION
1109-CIV-DRG-102	T0



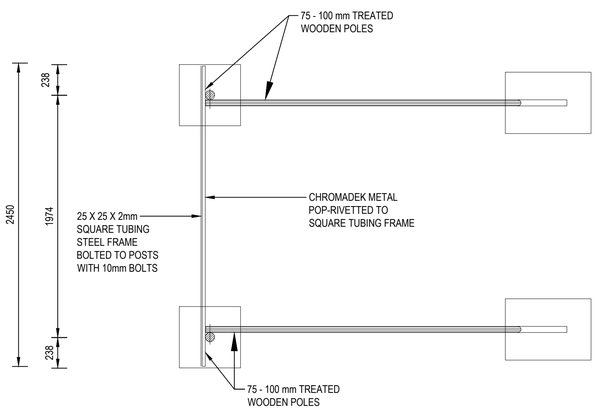
FRONT ELEVATION
SCALE 1:20



BACK ELEVATION
SCALE 1:20



SIDE ELEVATION
SCALE 1:20



PLAN
SCALE 1:10

NOTES:

1. CHROMADEK METAL SHEETING (RUST-RESISTANT METAL)
   SPRAY-PAINTED TO THE CUSTOMER'S SPECIFICATIONS WITH AUTOMOTIVE QUALITY DUCO PAINT.
   THIS IS POP-RIVETTED TO A TUBULAR STEEL FRAMEWORK WHICH HAS UNISTRUT MOUNTINGS. (WELDED TO FRAMEWORK)
2. MOUNTING:
   90mm GATE&& FENCE STEEL POLES.
   (LENGTH & QUANTITY TO BE DETERMINED BY SIGN SIZE)
3. WORDING:
   HIGH PERFORMANCE 5 TO 7 YEAR OUTDOOR QUALITY VINYL.
4. LOGO'S
   UV RESISTANT FULL COLOUR THERMAL PRINT ONTO A HIGH PERFOMANCE OUTDOOR GRADE VINYL SUBSTRATE.
   OR
   HIGH PERFORMANCE 5 TO 7 YEAR OUTDOOR QUALITY VINYL APPLICATED DIRECTLY TO THE PREPARED CHROMADEK.(IF LOGO CONSISTS OF FLAT COLOURS)
5. THE POSITION OF WHERE THE BOARD IS TO BE ERECTED MUST BE APPROVED BY THE ENGINEER AND THE CLIENT.
6. THE BOARD MUST REMAIN UNTIL THE OF THE RETENTION PERIOD.

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DESIGNED:	N QWABE		DATE
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APPROVED:	OS MOTHIBI	SCALE:	

AMMENDMENTS

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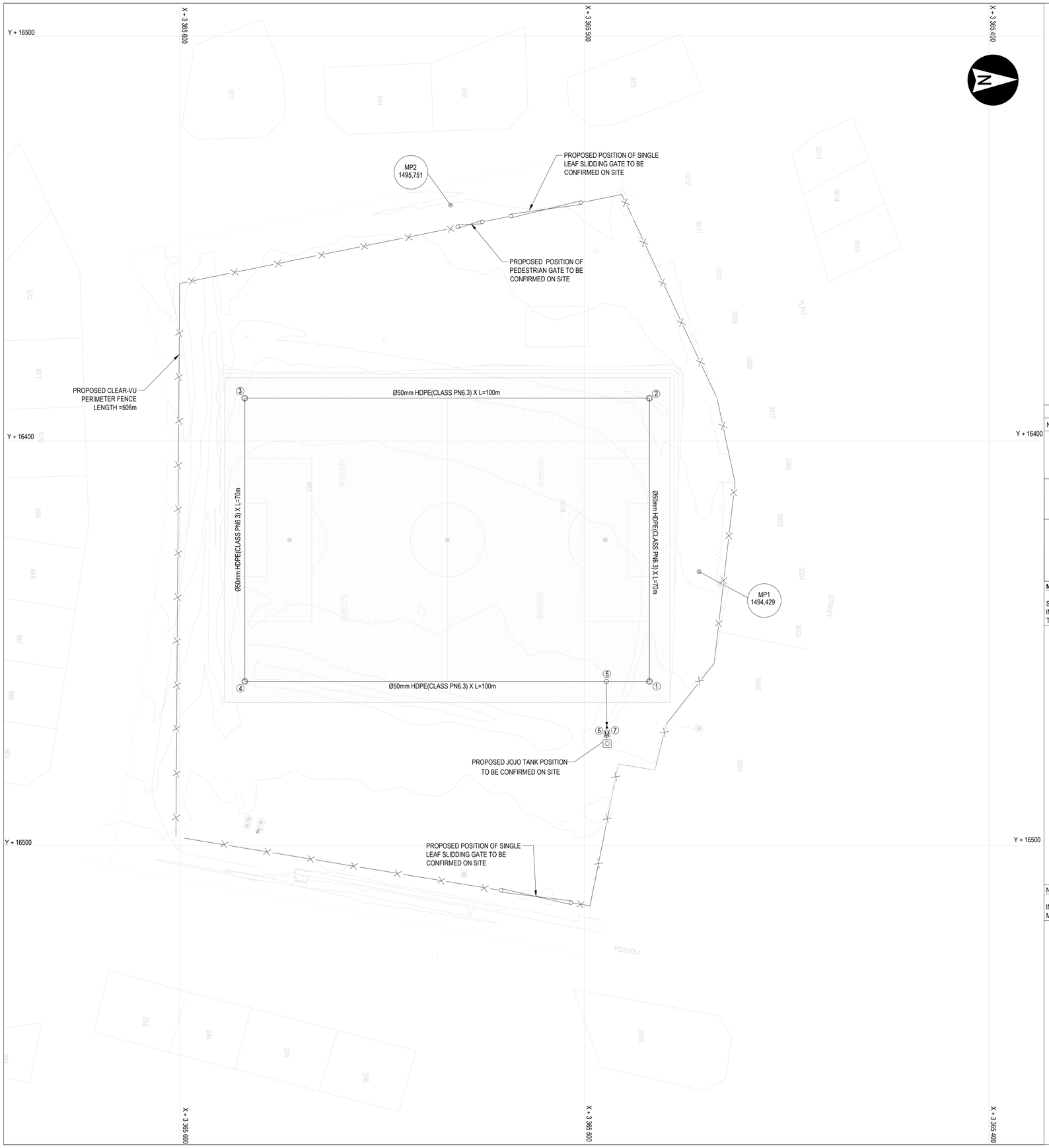
ROUXVILLE/ROLELEATHUNYA
CONSTRUCTION OF SPORTS GROUND_PHASE 1

DETAILS:
PROJECT NAMEBOARD

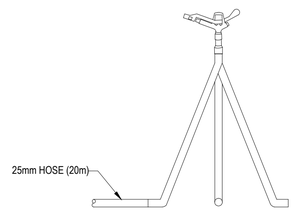
DRAWING NO.	REVISION
1109-CIV-DRG-103	T0



WATER AND IRRIGATION PIPE SCHEDULE		
NODE	CONFIGURATION	DESCRIPTION
1 2 3 4	50mm Ø 50mm Ø	Ø50mm HDPE(CLASS PN6.3) - 90° BEND WITH IRRIGATION CONNECTION POINT PER DETAIL A
5	50mm Ø 50mm Ø 50mm Ø	50mm X 50mm Ø HDPE CLASS PN6.3 TEE
6 7	M	1 x 50mm Ø GATE VALVE 32mm Ø HDPE CLASS PN6.3 WATER METER

NOTE:

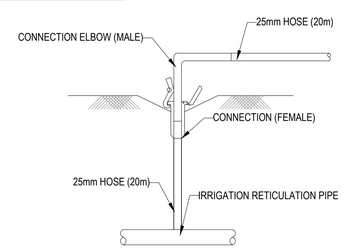
SUPPLY 4 x 1" RAINBIRD 70CH (OR SIMILAR APPROVED) IMPACT MOVABLE SPRINKLERS ON STANDARD GALVANISED TRIPOD STAND WITH 20m CONNECTION HOSE



TYPICAL IMPACT SPRINKLER DETAIL
1:10

NOTE:

INSTALLATION AS PER MANUFACTURERS SPECIFICATION



DETAIL A: IRRIGATION CONNECTION POINT
1:10

LEGEND:

- PROPOSED Ø 50mm HDPE
- PROPOSED Ø 32mm HDPE
- GATE VALVE
- WATER METER CHAMBER

NOTES :

1. REMOVE ALL TOPSOIL AND LEVEL EARTH PLATFORM TO CORRECT SITE DEVELOPMENT LEVEL WITH PARTICULAR EMPHASIS ON NATURAL SUB-SOIL DRAINAGE.
2. RIP AND COMPACT IN-SITU EARTH TO 93% MODIFIED AASHTO.
3. THE FIELD MUST BE CLEARLY MARKED WITH LINES THAT ARE WIDER THAN 120mm.
4. A SUITABLE MARKING INDICATING THE CENTER OF THE FIELD IS SURROUNDED BY A CIRCLE WITH A RADIUS OF 500mm .

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DESIGNED: N QWABE	OS MOTHIBI Pr Tech Eng-2015070157	DATE	
CHECKED: SS MNTAMBO			
APPROVED: OS MOTHIBI	SCALE: AS SHOWN		

AMMENDMENTS

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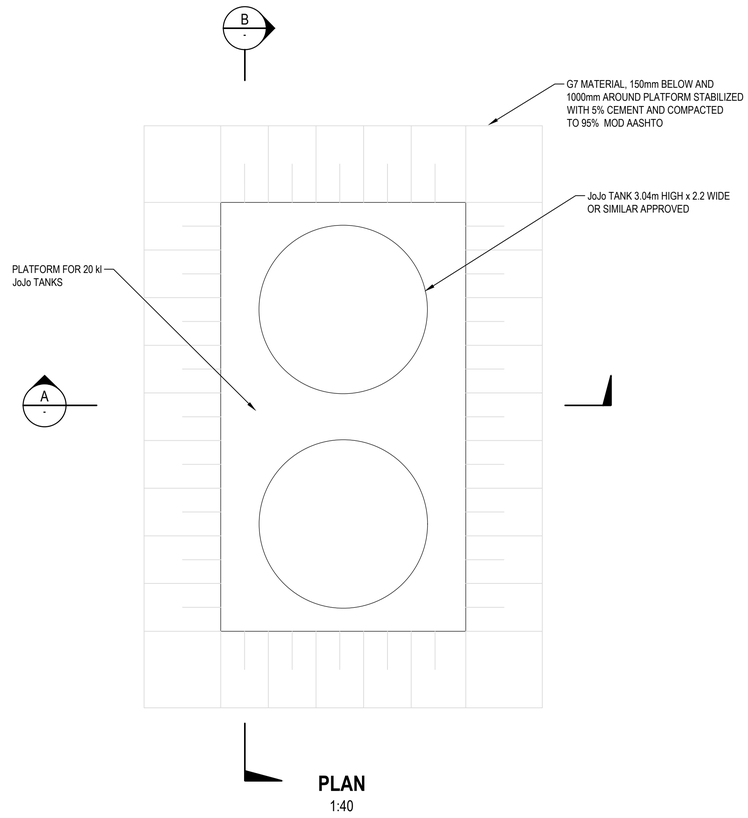
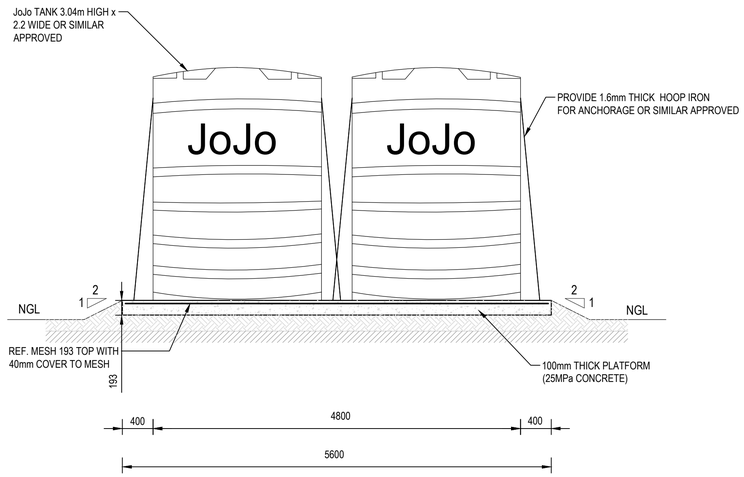
ROUXVILLE/ROLELEATHUNYA CONSTRUCTION OF SPORTS GROUND_PHASE 1

DETAILS:
WATER LAYOUT AND PROPOSED FENCE

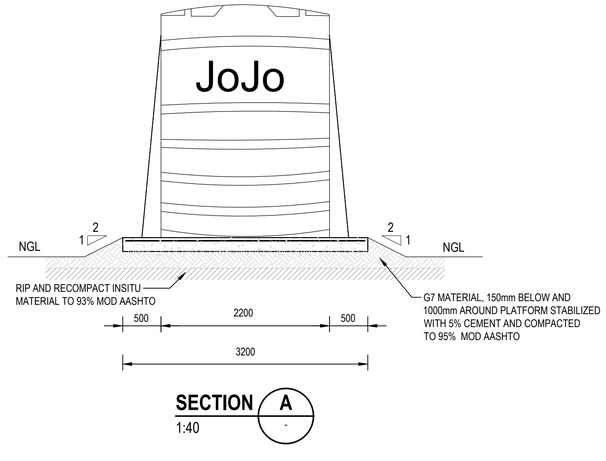
DRAWING NO.	REVISION
1109-CIV-DRG-200	T0



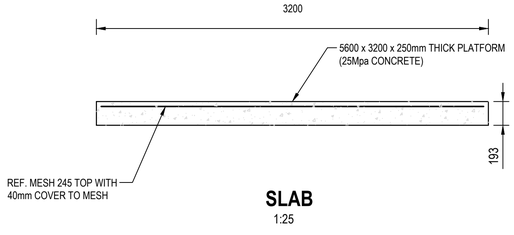
PLAN
1:40



SECTION B
1:40



SECTION A
1:40



SLAB
1:25

NOTES:

1. CONCRETE MIX DESIGN, FORMWORK STRIPPING TIMES AND CURING PROCEDURES TO BE APPROVED BY ENGINEER BEFORE COMMENCING WITH CONSTRUCTION OF ANY CONCRETE WORK.
2. CONTRACTOR TO CHECK ALL DIMENSIONS AND LEVELS ON SITE AND REPORT ANY DISCREPANCIES TO THE ENGINEER
3. ALL MATERIALS USED FOR THE BACKFILLING TO BE TESTED BY THE CONTRACTOR FOR APPROVAL BY THE ENGINEER , UNLESS OTHERWISE SHOWN.

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DESIGNED: N QWABE		DATE
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APPROVED: OS MOTHIBI	SCALE: 1:20	

AMMENDMENTS

REV	DATE	DESCRIPTION	APPROVED
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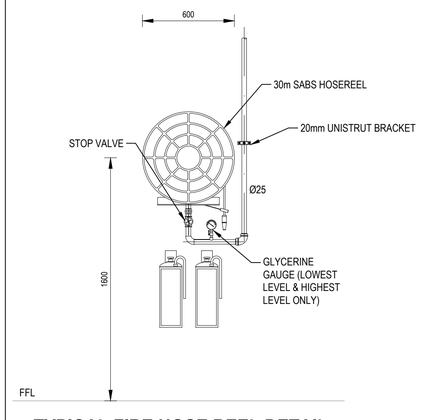
ROUXVILLE/ROLELEATHUNYA CONSTRUCTION OF SPORTS GROUND_PHASE 1

LAYOUT: JOJO TANK PLATFORM LAYOUT & SECTIONS

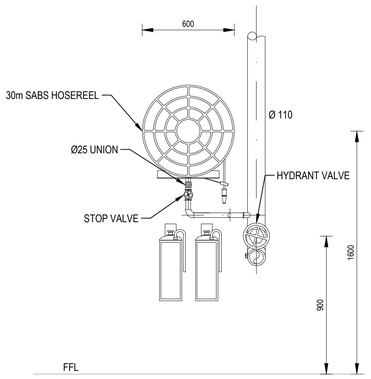
DRAWING NO.	REVISION
1109-CIV-DRG-201	T0

FITTINGS AND SPECIALS

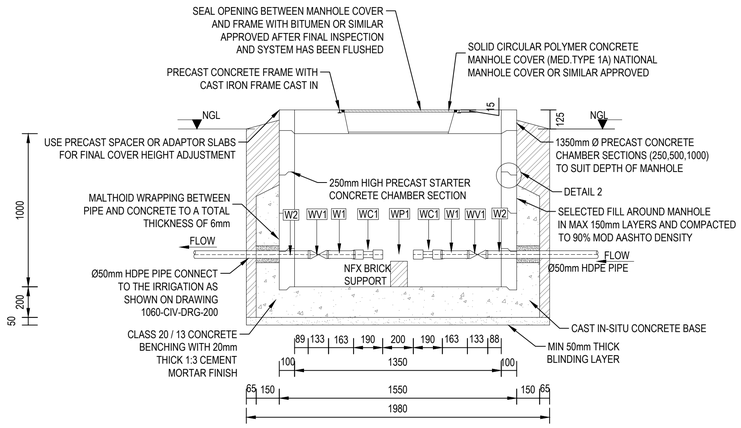
REF.	NO.	DESCRIPTION
W1	3	DN 50mm HDPE STRAIGHT MALE THREADED (LENGTH=165mm)
W2	2	DN 50mm HDPE STRAIGHT MALE THREADED CONNECT TO THE IRRIGATION SYSTEM
VALVES		
WV1	2	DN50mm BALL VALVE PVC THREADED
PUMP		
WP1	1	2.2KW CENTRIFUGAL PRESSURE BOOSTING PUMP FOR DOMESTIC USE
COUPLING		
WC1	1	DN 50mm COUPLING COMPRESSION



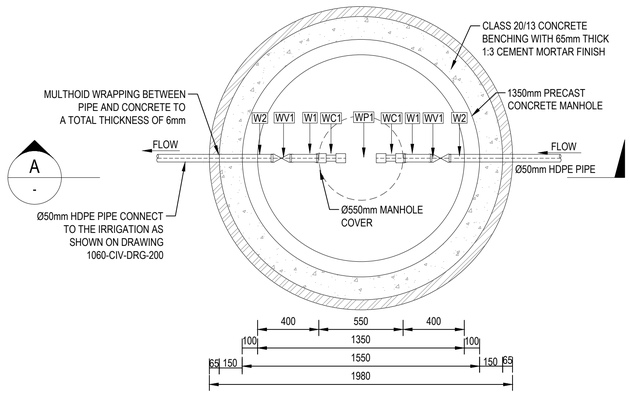
TYPICAL FIRE HOSE REEL DETAIL
SCALE : 1:20



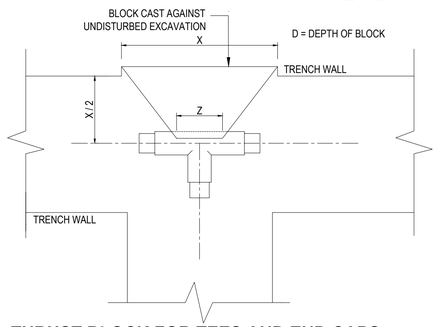
TYPICAL FIRE HOSE REEL & HYDRANT DETAIL
SCALE :1:20



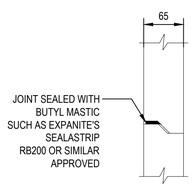
SECTION A
1:20



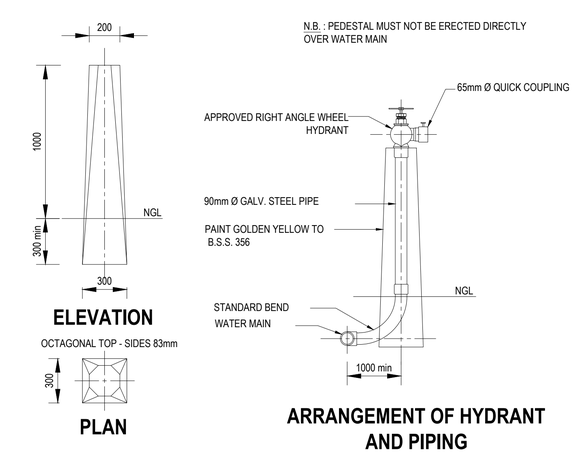
PLAN VIEW - JOJO TANK BOOSTER PUMP CHAMBER
SCALE 1 : 20



THRUST BLOCK FOR TEES AND END CAPS
NTS



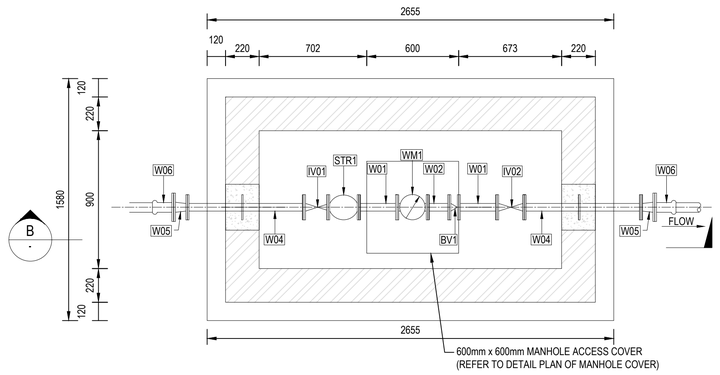
SHAFT / CHAMBER SEALING JOINT
DETAIL 2
1:5



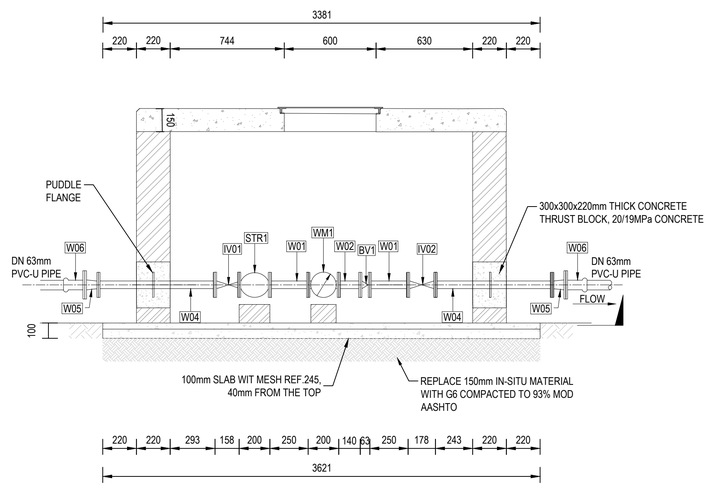
CONCRETE PEDESTAL

ARRANGEMENT OF HYDRANT AND PIPING

VALVE HYDRANT FOR HYDRANT STAND POST
NTS



VALVE AND WATER METER CHAMBER
1:20



SECTION B
1:20

FITTINGS AND SPECIALS

REF.	NO.	DESCRIPTION
W01	2	DN 50mm MILD STEEL FLANGED STRAIGHT (LENGTH = 250mm)
W02	1	DN 50mm MILD STEEL FLANGED STRAIGHT (LENGTH = 140mm)
W04	2	DN 50mm MILD STEEL FLANGED STRAIGHT WITH PUDDLE FLANGE (LENGTH = 761mm)
W05	1	DN 63mm REDUCER TO DN50mm (LENGTH = 90)
W06	2	DN 50mm STEEL FLANGED ADAPTOR
STR1	1	DN 50mm STRAINER
VALVES AND METERS		
REF.	NO.	DESCRIPTION
BV1	1	DN 50mm FLANGED SWING CHECK VALVE WITH COUNTER WEIGHT
IV01	1	DN 50mm RSV GATE VALVE (LENGTH = 158mm)
IV02	1	DN 50mm RSV GATE VALVE (LENGTH = 178mm)
WM1	1	WATER METER

TABLE 1

PIPE DIAMETER	X (mm)	DEPTH OF BLOCK	Z (mm)
200	1300	800	350
150	1000	600	275
100	630	400	200
75	500	300	150
50	325	200	100

NOTES:

1. TABLE 1 TO BE USED WHEN ALLOWABLE BEARING PRESSURE IS 40KPa OR MORE AND TEST PRESSURE HEAD IN PIPELINE IS 195mm OR LESS.
2. ALL DIMENSIONS IN "mm" UNLESS WHERE OTHERWISE INDICATED.
3. THE GRADE FOR CONCRETE & STRENGTH @ 28 DAYS
   ROOF SLAB CLASS 25/19
   FLOOR SLAB CLASS 25/19

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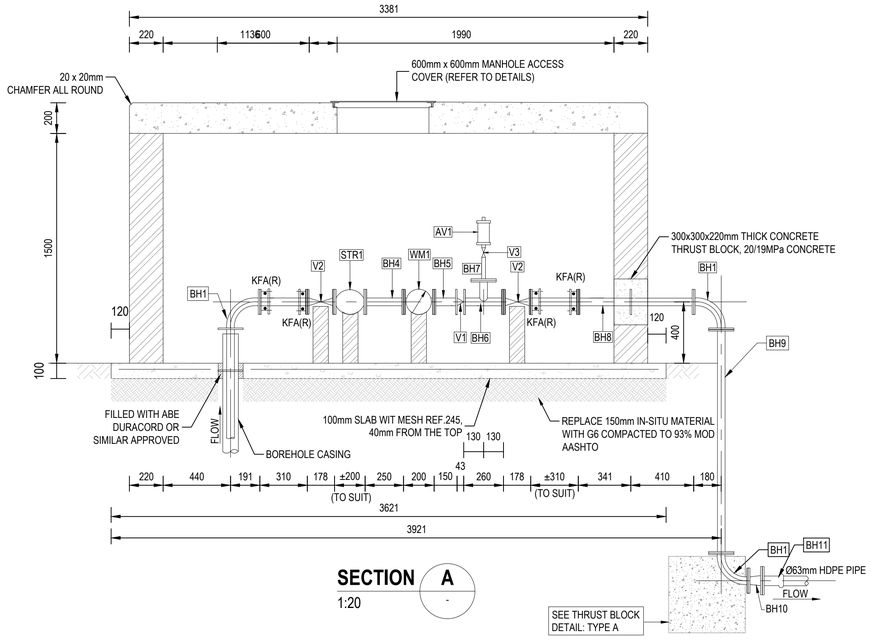
ROUXVILLE/ROLELEATHUNYA CONSTRUCTION OF SPORTS GROUND_PHASE 1

TYPICAL:
WATER DETAILS

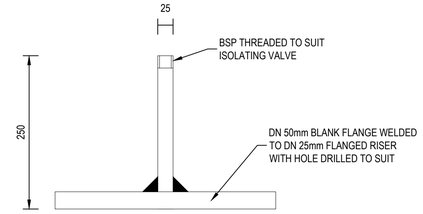
DRAWING NO.	REVISION
1109-CIV-DRG-202	T0

FITTINGS AND SPECIALS (PN 10)

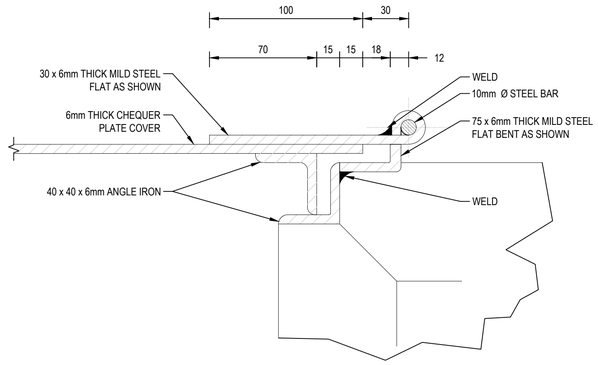
REF.	NO.	DESCRIPTION
BH1	3	DN 50mm x 90° MILD STEEL FLANGED MEDIUM RADIUS BEND
BH2	1	DN 20mm BRASS SAMPLING TAP
BH3	1	DN 50mm MILD STEEL FLANGED STRAIGHT PIECE (LENGTH=341mm)
BH4	1	DN 50mm MILD STEEL FLANGED STRAIGHT PIECE (LENGTH=250mm)
BH5	1	DN 50mm MILD STEEL FLANGED STRAIGHT PIECE (LENGTH=150mm)
BH6	1	DN 50mm MILD STEEL FLANGED EQUAL TEE
BH7	1	DN 25mm MILD STEEL STRAIGHT, ONE END OF STRAIGHT FLANGED TO SUIT DN 50mm FLANGE, OTHER END WITH MALE BSP THREADS TO SUIT DN 25mm ISOLATING VALVE
BH8	1	DN 50mm MILD STEEL FLANGED STRAIGHT PIECE (LENGTH=753mm)
BH9	1	DN 50mm MILD STEEL FLANGED STRAIGHT PIECE (LENGTH=1460mm)
BH10	1	DN 50 x 65mm MILD STEEL FLANGED REDUCER
BH11	1	DN 63 x 65mm PVC-u FLANGED ADAPTOR
		VALVES (PN 10)
V1	1	DN 50mm WAFER TYPE NON-RETURN VALVE
V2	1	DN 50mm RSV GATE VALVE
V3	1	DN 25mm ISOLATING VALVE (BSP FEMALE THREADED ENDS)
AV1	1	DN 25mm PN 10 BSP THREADED (FEMALE) "ARI" AIR VALVE
		WATER METER (PN 10)
WM1	1	DN 50mm WATER METER
		COUPLING (PN 10)
KFA(R)	2	DN 50mm KLAMFLEX FLANGED ADAPTOR (RESTRAINED)
		STRAINER (PN 10)
STR1	1	DN 50mm STRAINER



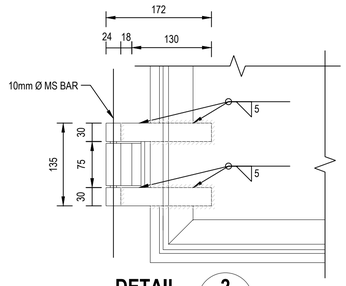
SECTION A
1:20
-



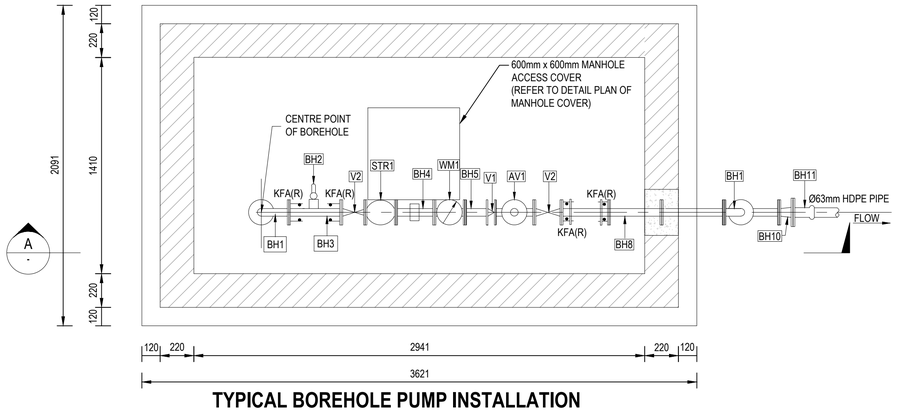
RISER DETAIL REF BH
1:5



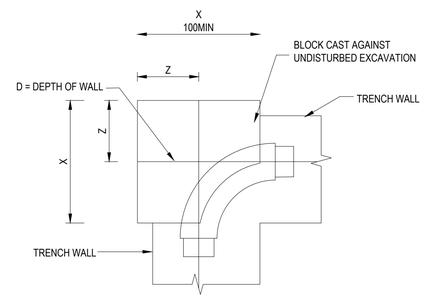
DETAIL 1
1:2
-



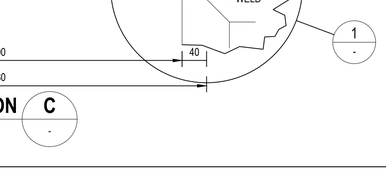
DETAIL 2
1:5
-



TYPICAL BOREHOLE PUMP INSTALLATION
SCALE 1:20

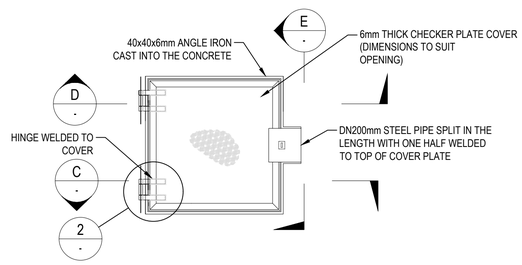


TYPE A: THRUST BLOCK FOR 90° BEND
NTS

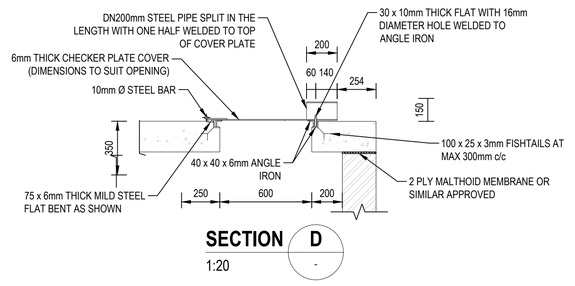


SECTION E
1:5
-

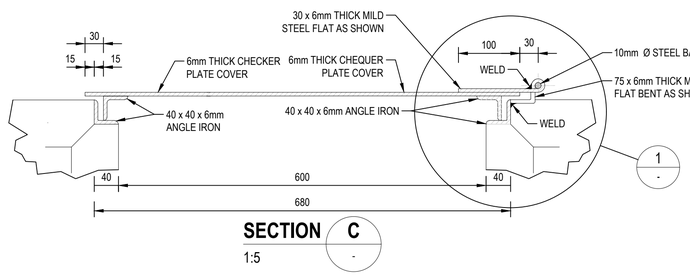
TABLE 1							
PIPE NOMINAL	DEPTH OF BLOCK	MAXIMUM TESTING PRESSURE					
		900 kPa		1350 kPa		1800 kPa	
(mm)	D (mm)	X (mm)	A (m²)	X (mm)	A (m²)	X (mm)	A (m²)
150	600	400	0,23	600	0,34	750	0,46
90&100	400	250	0,10	400	0,15	500	0,20
75	300	200	0,06	300	0,09	400	0,12
50	200	150	0,03	200	0,04	250	0,05



DETAIL PLAN OF MANHOLE COVER
1:20



SECTION D
1:20
-



SECTION C
1:5
-

NOTES:

1. TABLE 1 IS VALID FOR 100kPa EARTH BEARING PRESSURE
- X-DIMENSION MAY BE REDUCED FOR HIGHER EARTH BEARING PRESSURES.
- Z- SHALL BE THE MINIMUM OF X/2 OR W/2.
- HALF OF THE DEPTH OF THE BLOCK SHALL BE BELOW THE PIPE AXIS.
- KEEP COUPLINGS AND FLANGES 25mm CLEAR FROM CONCRETE.

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DESIGNED:	N QWABE		DATE
CHECKED:	SS MNTAMBO	OS MOTHIBI Pr Tech Eng-2015070157	
APPROVED:	OS MOTHIBI	SCALE: AS SHOWN	

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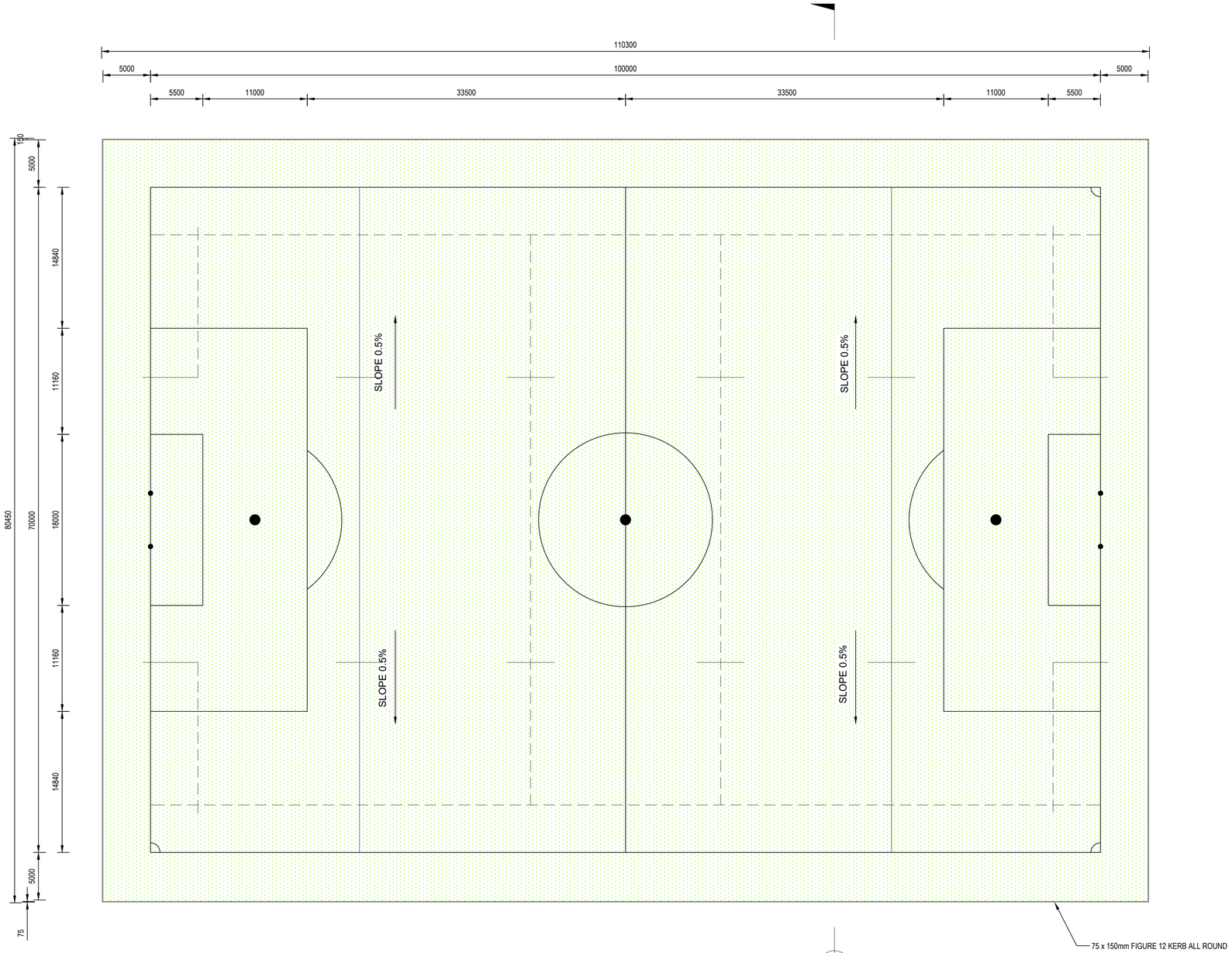
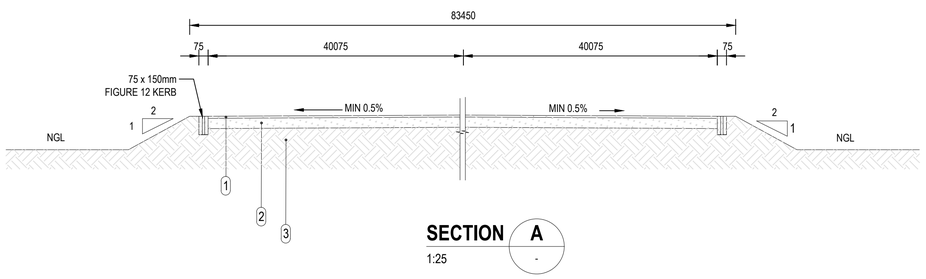
ROUXVILLE/ROLELEATHUNYA CONSTRUCTION OF SPORTS GROUND_PHASE 1

DETAILS:
BOREHOLE PUMP HOUSE CONNECTION

DRAWING NO.	REVISION
1109-CIV-DRG-203	T0



SOCCER PITCH PLAN VIEW
SCALE 1:250



SECTION A
1:25

SOCCER PITCH LAYERS DESIGN		
1	COVER	: 15mm SIEVED TOP SOIL OVER GRASS
2	GRASS	: 100mm THICK FERTILISED WEED FREE TOP SOIL SLIGHTLY COMPACTED AND GRASSED WITH KIKUYU GRASS
3	IN-SITU	: RIP AND RECOMPACT IN-SITU EARTH TO 93% MODIFIED AASHTO

NOTES :

1. REMOVE ALL TOPSOIL AND LEVEL EARTH PLATFORM TO CORRECT SITE DEVELOPMENT LEVEL WITH PARTICULAR EMPHASIS ON NATURAL SUB-SOIL DRAINAGE.
2. RIP AND COMPACT IN-SITU EARTH TO 93% MODIFIED AASHTO.
3. THE FIELD MUST BE CLEARLY MARKED WITH LINES THAT ARE WIDER THAN 120mm.
4. A SUITABLE MARKING INDICATING THE CENTER OF THE FIELD IS SURROUNDED BY A CIRCLE WITH A RADIUS OF 500mm .

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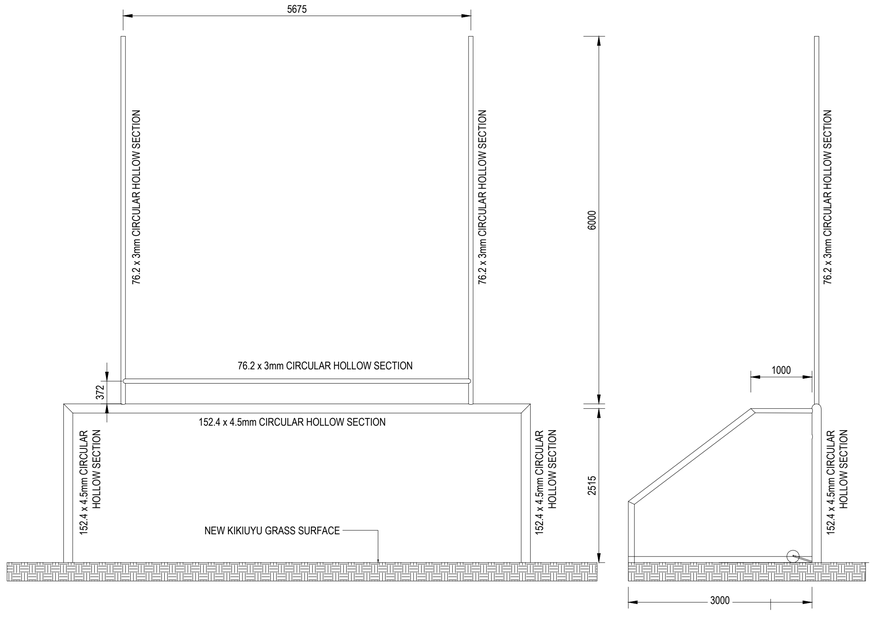
ROUXVILLE/ROLELEATHUNYA CONSTRUCTION OF SPORTS GROUND_PHASE 1

DETAILS:
SOCCER PITCH

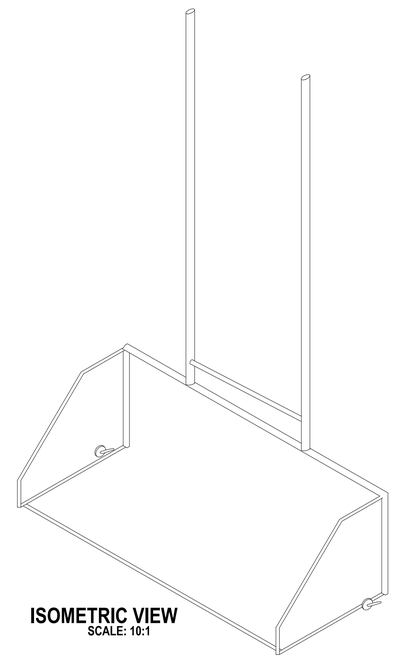
DRAWING NO.
1109-CIV-DRG-400

REVISION
T0



ELEVATION
SCALE: 20:1

SIDE ELEVATION
SCALE: 20:1



ISOMETRIC VIEW
SCALE: 10:1

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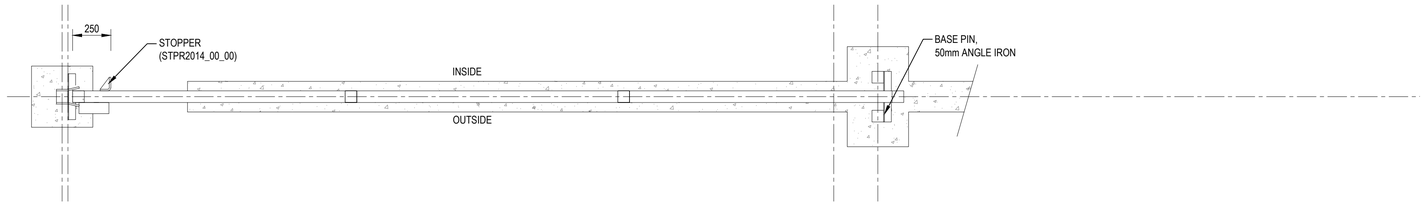
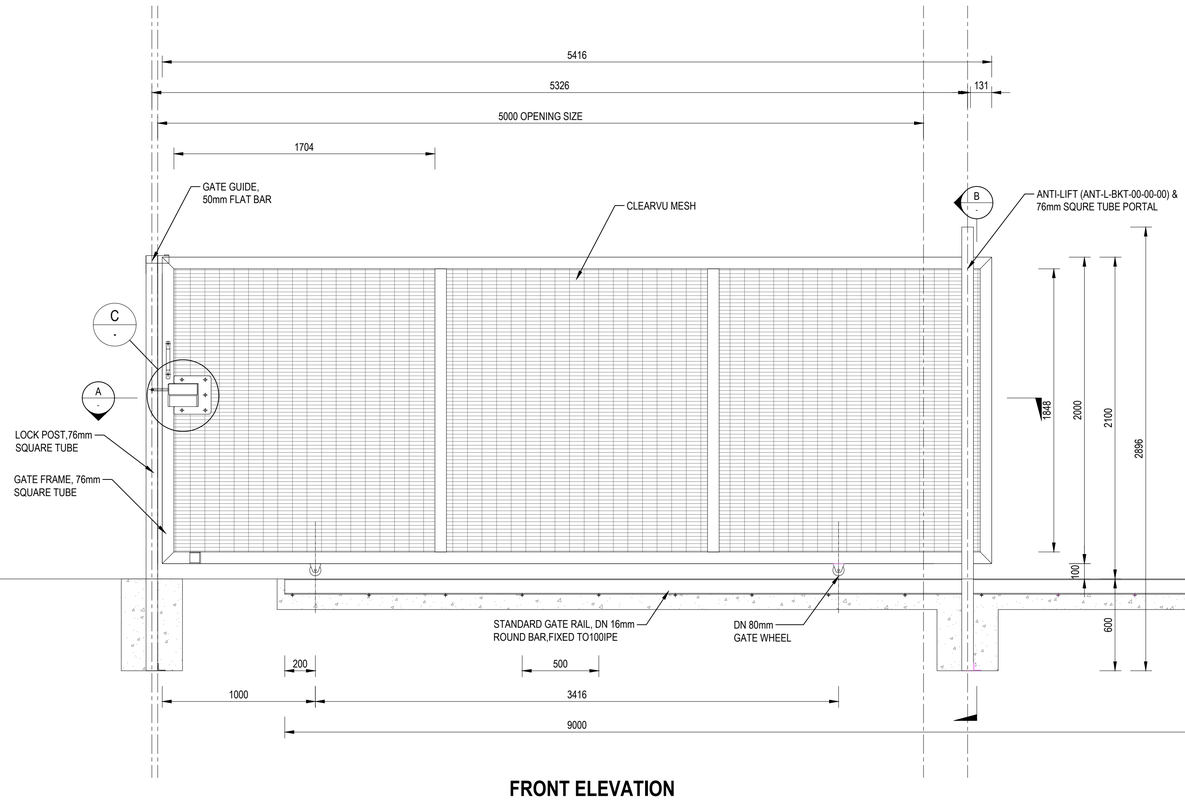
ROUXVILLE/ROLELEATHUNYA
CONSTRUCTION OF SPORTS GROUND_PHASE 1

DETAIL:SOCCER AND RUGBY GOAL POSTS

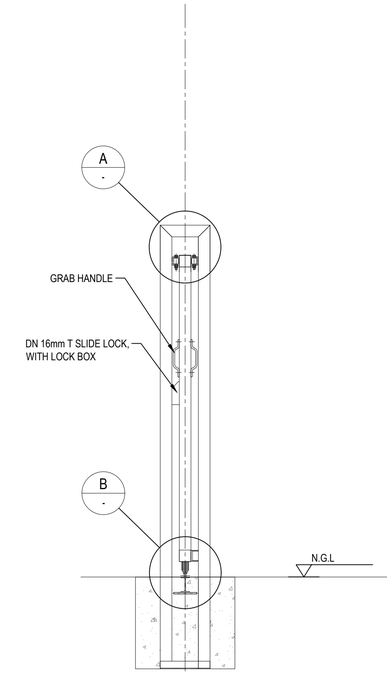
DRAWING NO.	REVISION
1109-CIV-DRG-401	T0



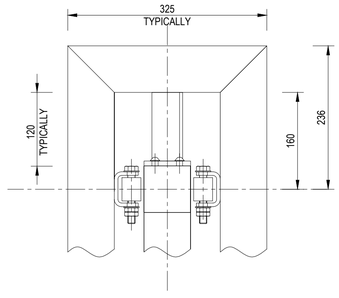
SECTION A
1:20



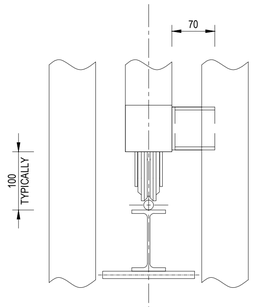
FRONT ELEVATION
1:20



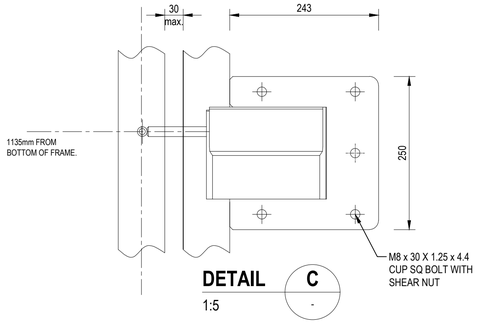
SECTION B
1:20



DETAIL A
1:5



DETAIL B
1:5



DETAIL C
1:5

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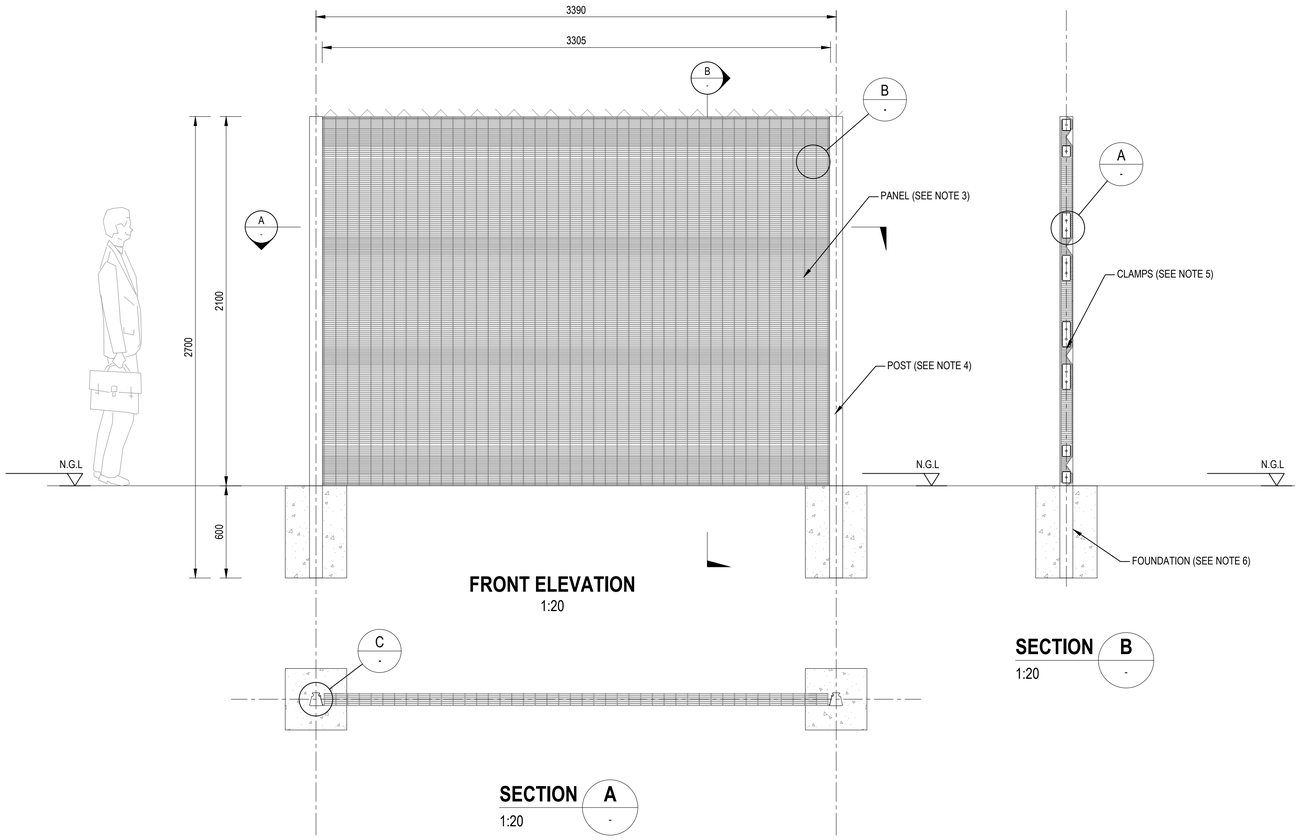
ROUXVILLE/ROLELEATHUNYA
CONSTRUCTION OF SPORTS
GROUND_PHASE 1

DETAILS:
COMPLETE PERIMETER SECURITY SINGLE
LEAF SLIDING GATE

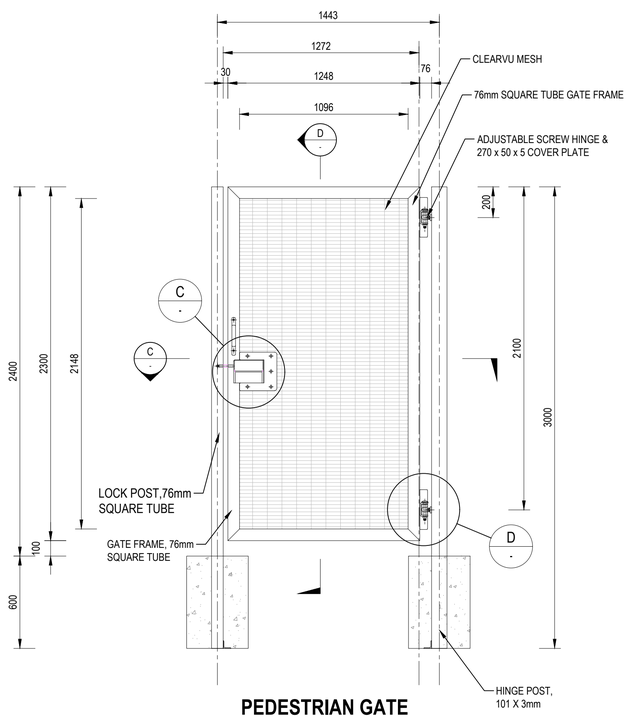
DRAWING NO.	REVISION
1109-CIV-DRG-501	T0



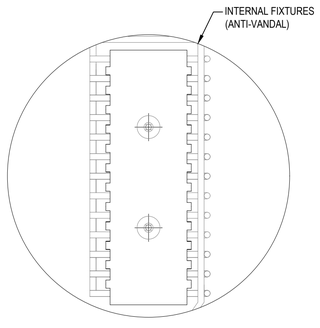
FRONT ELEVATION
1:20

SECTION B
1:20

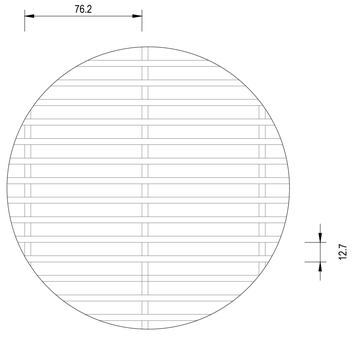
SECTION A
1:20



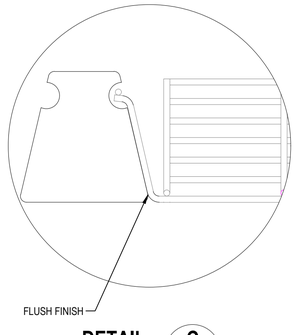
PEDESTRIAN GATE
FRONT ELEVATION
1:20



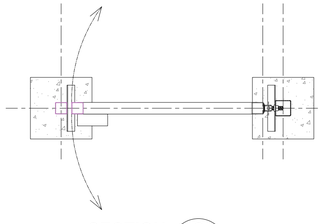
DETAIL A
1:2



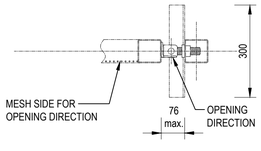
DETAIL B
1:2



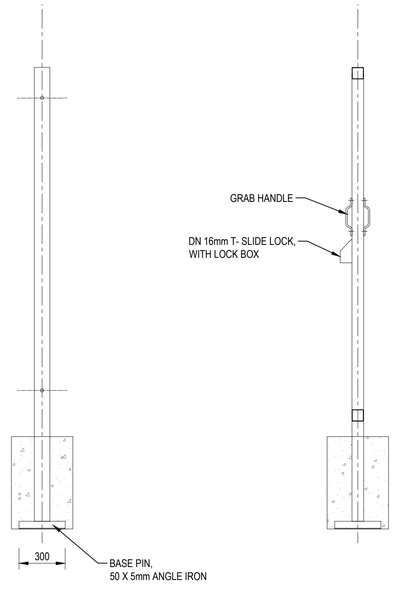
DETAIL C
1:2



SECTION C
1:20



DETAIL D
1:10



SECTION D
1:20

NOTES:

1. ALL CONSTRUCTION ARE IN ACCORDANCE WITH SANS 1200 STANDARDIZED SPECIFICATIONS AND THE RELEVANT PROJECT SPECIFICATIONS.
2. FOR FULL FENCE DETAILS PLEASE REFER TO THE SUPPLIER DRAWINGS AND SPECIFICATIONS (COMPLETE PERIMETER SECURITY)
3. CLEAR VU MESH PANELS 3305mm WIDE x 2400mm HIGH GALVANIZED DN 4mm WIRE WITH APERTURE SIZE (CENTERS) AT 76.2mm x 12.7mm. PANEL FORMATION : PANEL REINFORCED WITH 4 x 50mm DEEP "V" FORMATION HORIZONTAL RECESSED BANDS (RIGIDITY), 2 x 75mm 70° FLANGES ALONG SIDES (INTERNAL FIXTURES - ANTI VANDAL, ALLOWING FOR FLUSH POST AND PANEL FINISH, 48 LINE WIRE SECURE CONNECTION, LOCKING RECESS MECHANISM) AND 2 x 30° FLANGES ALONG TOP AND TOE. (ARROW - STRAIGHT EDGES, INTEGRATED ANGLE). COATING: MESH GALVANIZED, THEN MARINE FUSION BOND COATED.
4. COCHRAINE TAPER LOCKING POST 85mm x 45mm x 85mm, THEN SEALED WITH UV STABILIZED POLYMER CAP. COATING: HOT DIPPED GALVANIZED, THEN MARINE FUSION BOND COATED
5. 8 x SINGLE BOLT COMB CLAMPS. 8 x DOUBLE BOLT COMB CLAMPS. COATING : GALVANIZED , THEN MARINE FUSION BOND COATED.
6. 400 x 400 x 600mm CONCRETE FOUNDATION
7. SHARK TOOTH SPIKE ON TOP OF THE GATE AND FENCE
8. THE OPENING DIRECTION SHOULD BE CLEARLY INDICATED TO THE SUPPLIER
9. THE CONCRETE STRENGTH TO BE 25MPa

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AMMENDMENTS

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ROUXVILLE/ROLELEATHUNYA
CONSTRUCTION OF SPORTS
GROUND_PHASE 1

DETAILS:
CLEAR VU FENCE & PEDESTRIAN
GATE

DRAWING NO.	REVISION
1109-CIV-DRG-502	T0