KING CETSHWAYO DISTRICT MUNICIPALITY
TENDER DOCUMENT

TENDER REFERENCE: KCDM/RBIG/01/2023

TENDER FOR MIDDLEDRIFT BULK AUGMENTATION: CIVIL & BUILDING WORKS FOR 10ML/DAY EXPANSION TO THE MIDDLEDRIFT WATER TREATMENT WORKS

CLOSING DATE & TIME:	**5th September 2023 @ 12h00**
COMPULSORY TENDER/SITE MEETING:	**10th August 2023 @ 12h00**

The Tender Document (which includes the Form of Offer and Acceptance) completed in all respects, plus any additional supporting documentation required, must be addressed to the Municipal Manager and submitted in a sealed envelope with the legal name and address of the Tenderer, the Tender No. and tender title as well as the closing date indicated on the envelope. The sealed envelope must be inserted into the Tender Box situated in the foyer of Prince Mangosuthu Buthelezi, Corner of Kruger Rand & Barbados Bay Road, CBD, Richards Bay before closing time. If the tender offer is too large to fit into the abovementioned Tender Box or the Box is full, please enquire at the reception counter as to where the SCM (Tender Office) is for alternative instructions. The onus remains with the Tenderer to ensure that the tender is placed in either the Tender Box or as alternatively instructed.

SERVICE PROVIDER'S DETAILS

Name of Service Provider:	
CSD Supplier Number	
KCDM Database Number	
Contact Person:	
E-mail Address:	
Telephone Number:	( )Code
Fax Number:	( )Code
Physical Address:	
Postal Address:	

NOTE:

The Service Provider shall be deemed to have satisfied himself/herself/themselves as to all the conditions and circumstances affecting this tender, including the physical aspects of working areas, and by the submission of a tender, will confirm acceptance of the conditions and circumstances applicable to any subsequent contract.

Enquiries relating to this tender must be directed as indicated below:

Tender Queries:	Technical Queries:
Contact Name: Mr. Zamo Mkhwanazi	**Contact Name:** Mr Nkanyiso Mdamba
Telephone: 035 – 799 2790	**Telephone:** 035 799 2500

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T1.1 Tender Notice and Invitation to Tender

KING CETSHWAYO DISTRICT MUNICIPALITY TENDER REFERENCE: KCDM/RBIG/01/2023

TENDER FOR MIDDLEDRIFT BULK AUGMENTATION: CIVIL & BUILDING WORKS FOR 10ML/DAY EXPANSION TO THE MIDDLEDRIFT WATER TREATMENT WORKS

Interested parties must collect tender documents from the SCM Unit at Prince Mangosuthu Buthelezi, Suite No. 8, Corner of Krugerrand & Barbados Bay Road, CBD, Richards Bay (035 799 2500), after a payment of R 10 572.90 Incl. VAT non-refundable, cash or EFT (First National Bank Limited FNB, King Cetshwayo District Municipality, Acc. 62943444125, Branch code 210554, Ref. Your company name and Tender ref. no, tender deposit should be paid at the rates hall at of the King Cetshwayo District Municipality or alternatively download & print the bid document from www.etenders.gov.za. The King Cetshwayo District Municipality will strive to achieve targeted procurement in accordance with Preferential Procurement Policy Framework Act Regulation 2010227**. Tenderer should have a CIDB contractor grading of 8 CE or Higher.**

Any tender submitted by a person(s) who is in the service of the state or if that person(s) is not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state or who is an advisor or consultant contracted with the Municipality shall not be considered in terms of regulation 44 of the Municipal Supply Chain Regulations. National Treasury has introduced the Central Supplier Data Base (CSD), where all suppliers are required to register. For more information, please contact Mr. Z Mkhwanazi on (035) 799 2790 or visit the CSD website at www.csd.gov.za. **Only tenderers who are registered with CSD and King Cetshwayo District Municipality Supplier Data base will be considered for this tender.**

A **Compulsory tender briefing meeting** will be held on **10th August 2023 @ 12h00.** Tenderers will be required to meet at the Middledrift Water Treatment Works (GPS: $28^0$49'28.29"S; $31^0$08'46.58"E) (Nkandla Area – Road between Eshowe and Kranskop) for a compulsory tender meeting. Due to remoteness of the site, a vehicle capable of handling rough terrain is recommended. Prospective tenderer's that do not attend the meeting will be disqualified. It is a requirement that competent person(s) attend the meeting.

Closing Date: Completed tenders in sealed envelopes bearing the tender number must be deposited in the Municipality's tender box in the foyer of Prince Mangosuthu Buthelezi, Corner of Krugerrand & Barbados Bay Road, CBD, Richards Bay on or before **12h00 on 5th September 2023,** when tenders will be opened in public. Tenders received after the due date and time will not be considered.

This tender will be evaluated on a 90/10 preferential points system as per the following criteria: ***"King Cetshwayo District Municipality strive to achieve the specific goals in line with PPPFA regulations 2022 and the RDP"***

		>50 million
No	**Categories**	**90/10**
1	Ownership: EME AND QSE: which is at least 100% owned by black people	**5**
2	Empowerment (Local Economic Development Sub contracting (10%-30% and 40% where it is technically possible and subject to pre-approval: Enterprise owned by black people with CIDB Grading 4 or less.	**2**
3	RDP (Job creation and community upliftment), creation of jobs/labour intensive activities.	**2**
4	Other: Enterprise located within the Province	**1**
	Total	**10**

Tenders are required to employ Targeted Enterprises on this contract, failure to do so may lead to tenderer being completely disqualified. The Targeted Enterprises to be utilized should meet the requirements of Preferential Procurement Regulations, 2022 and registered with CIDB with grading of *1 CE to 4 CE*. At least *30%* of contract value (with stipulated exceptions) must be

subcontracted to the Targeted Enterprises. The objective is to bring about meaningful transformation in the Construction Industry through meaningful economic participation, transfer of technical, management and entrepreneurial skills and creation of sustainable Black Enterprises.

Functional Evaluation Criteria:

Please note that this tender will be evaluated on functionality and compliance. The following criteria in "*Functional Evaluation Criteria",* will be applicable for the functionality and compliance and maximum weight of each criterion is indicated in brackets and any tenderer who scores less than 70 percent, in respect of "functionality" will be regarded as submitting a non-responsive tender and will be disqualified. Note that only tenderers who administratively comply (returnable and completeness of document) shall move to functionality stage.

	Criteria Description		Weight
1	**Service providers must comply with the following pre-requisites:**		
	a.	Tenderer's experience in similar projects	30
	b.	Key Personnel: Site Agent / Contracts Manager	20
	c.	Key Personnel: Foreman	20
	d.	Preliminary Construction Programme	15
	e.	Quality Assurance / Quality Management System	15
TOTAL >			**100**

It will be the tenderer's responsibility to check the document on receipt for completeness and to notify the employer of any discrepancies or omissions. It is the tenderer's responsibility to provide all the data and information requested in the form required, failure to do so may be regarded by the employer as a non-responsive tender. Submissions may only be done on documentation supplied by the Municipality.

All communication between the employer and the tenderer shall be in a form that can be read, copied and recorded. All writing shall be in the English Language. The employer shall not take any responsibility for non-receipt of communications from a tenderer.

All enquiries must be directed to Zamo Mkhwanazi at Tel. 035-799 2790
Tenderers who do not hear from the King Cetshwayo Municipality within 90 days of the closing date of the tender should consider their tender unsuccessful.

Please note that no tender will be accepted by fax or e-mail.

MR PP SIBIYA
Municipal Manager
King Cetshwayo District Municipality
Private Bag X1025
RICHARDS BAY
3900

T1.2 Tender Data

The conditions of Tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement. (See www.cidb.org.za) which are reproduced without amendment or alteration are, for the convenience of Tenderers attached as an Annex to this Tender Data.

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.

Clause Number **Tender Data**

F.1.1 The employer is the King Cetshwayo District Municipality

F.1.2 The Tender documents issued by the employer comprise:

T1.1 Tender Notice and Invitation to Tender
T1.1.1 Summary for Tender Opening Purposes
T1.2 Tender Data
T2.1 List of Returnable Documents
T2.2 Returnable Schedules

Part 1: Agreements and contract data

C1.1 Form of Offer and Acceptance
C1.2 Contract Data
C1.3 Conditions of Contract
C1.4 Contractual Documentation

Part 2: Pricing data

C2.1 Pricing Instructions
C2.2 Bills of Quantities

Part 3: Scope of work

C3 Scope of Work

PP Health and Safety Specification

Annexures

F.1.3 The Employer's agent, for the purposes of any communication between the employer and Tenderer, is:

Queries	**Tender queries**		**Technical Queries**	
Name:	Mr. Zamo Mkhwanazi		Mr Nkanyiso Mdamba	
Postal Address:	Private Bag X1025 Richards Bay 3900		Private Bag X1025 Richards Bay 3900	
Physical Address	Prince Mangosuthu Buthelezi, Corner Kruger Rand & Barbados Bay Road, Richards Bay CBD		Prince Mangosuthu Buthelezi, Corner Kruger Rand & Barbados Bay Road, Richards Bay CBD	
Tel /Fax No.:	035 799 2790	086 514 9772	035 799 2500	086 514 9772
E-mail:	mkhwanaziz@kingcetshwayo.gov.za		mdamban@kingcetshwayo.gov.za	

F.2.1 Only those Tenderers who are registered with the CIDB, in an equal or higher than an **Eight Civil Engineering works (8CE)** class of construction work and are registered with the CIDB as having a track record, are eligible to submit Tenders.

Add the following to F.2.1.1

a) Only Tenderers that can furnish proof of extensive previous experience in projects of similar nature, value, complexity, construction methods and similar contract period should submit bids.

b) The Tenderer need to meet the minimum score for functionality being 70%

c) Tenderers who are registered on the National Treasury Central Supplier Database and the KCDM supplier database

d) Tenderers who have not failed to perform on any previous contract and were issued a written notice to this effect

e) Only those tenderers who have in their management and supervisory staff satisfying the requirements of the scope of work for labour intensive competencies for supervisory and management staff are eligible to submit tenders

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

Tenderers must sign the attendance list in the name of the Tendering entity. Addenda may be issued and Tenders will be accepted only from those Tendering entities appearing on the attendance list.

F.2.12 If a Tenderer wishes to submit an alternative Tender offer, the only criteria permitted for such alternative Tender offer is that it demonstrably satisfies the Employer's standards and requirements, the details of which may be obtained from the Employer's Representative.

Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative Tender offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements so as to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal.

Acceptance of an alternative Tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the Tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects to the Employer's standards and requirements.

The modified Pricing Data must include an amount equal to 5% of the amount Tendered for the alternative offer to cover the Employer's costs of confirming the acceptability of the detailed design before it is constructed.

F.2.13.3 Each Tender offer communicated on paper shall be submitted as an original, plus 0 copies.

F.2.13.5 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:		In the foyer of the offices of the King Cetshwayo District Municipality, Corner of Krugerrand & Barbados Bay Road, CBD, Richards Bay
Identification details	Reference Number	Reference No: KCDM/RBIG/01/2023
	Title of Tender	MIDDLEDRIFT BULK AUGMENTATION: CIVIL & BUILDING WORKS FOR 10ML/DAY EXPANSION TO THE MIDDLEDRIFT TREATMENT WORKS
	Closing Date	05st September 2023
	Time	12h00
Postal address:		Private Bag X1025, Richards Bay, 3900

F.2.13 A two-envelope procedure will not be followed.

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

F.2.15 Telephonic, telegraphic, telex, facsimile or e-mailed Tender offers will not be accepted.

F.2.16 The Tender offer validity period is 90 working days

F.3.4 Tenders will be opened immediately after the closing time for Tenders.

F.3.11 The procedure for the evaluation of responsive Tenders is as per Method 2 (Fin. Offer & Preference).

F.3.11.4 Scoring preference

All Tenderers will be evaluated on 90 / 10 preferential point structure of which 90 points will be price, and 10 points will be preference.

F3.11.5 Scoring Quality

Substitute the word 'quality' wherever it appears with the word 'functionality'.

The table below lists the scoring criteria and weighting for the score achieved against the relevant schedule:

NO.	CRITERIA	WEIGHT
1.	**Tenderer's Experience**	
	Successful completion of similar projects (in nature and value) in the last five (5) years No Projects (Disqualification) • 1 x Project (5) • 2 x Projects (10) • 3 x Projects (15) • 4 x Projects (25) • 5 x Projects and above (30) **Note: Returnable Schedule RS012**	**30**
2.	**Key Personnel: Site Agent / Contracts Manager**	
	Qualification required is 3yr Degree / N. Diploma in Civil Engineering, LIC NQF 5 and the following experience: • No qualification or less than 1-year experience (Disqualification) • 1-2 years' relevant experience in the position (7) • More than 2-5 years' relevant experience in the position (14) • Qualified with more than 5 years relevant experience in the position (20) **Note: Returnable Schedule RS013**	**20**
3.	**Key Personnel: Foreman**	
	Qualification required is LIC NQF 4, Matric/N3 and the following experience • No experience or less than 1-year experience (Disqualification) • 1-2 years' relevant experience in the position (4) • More than 2 - 4 years of relevant experience in the position (8) • More than 4 years - 6 years' relevant experience in the position (12) • More than 6 years - 8 years' relevant experience in the position (16) • More than 8 years' relevant experience in the position (20)) **Note: Returnable Schedule RS013**	**20**

4.	**Preliminary Construction Programme**	
	• No programme (Disqualification) • Poor (only major work items shown) (5) • Adequate (all necessary work items shown) (10) • Excellent (all necessary work items shown including links between tasks) (15) **Note: Returnable Schedule RS019**	15
5.	**Quality Management System**	
	• Nothing submitted (Disqualification) • Poor Quality Management system (4) • Detailed company quality management program attached (8) • ISO 9001:2015 certified (15) **Note: Returnable Schedule RS022**	15
TOTAL		**100**

The Tenderer needs to score a minimum of 70% to be considered responsive.

F.3.12. Tender offers will only be accepted if:

a) The Tenderer complies with the legal requirements stated in the Tender Data and Returnable Schedule.

b) Tenderer has in his or her possession a valid Tax Clearance Reference and Pin issued by the South African Revenue Services;

c) Tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation;

d) Tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector;

e) Tenderer has not:

i)Abused the Employer's Supply Chain Management System; or
ii)Failed to perform on any previous contract and has been given a written notice to this effect;

f) has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the Tenderer's ability to perform the contract in the best interests of the Employer or potentially compromise the Tender process.

F.3.17 The number of paper copies of the signed contract to be provided by the employer is one.

T1.2.1 CONDITIONS OF TENDER

A. GENERAL

1. King Cetshwayo Municipality does not bind itself to accept the lowest or any tender, and reserves the right to accept the whole or any part of a tender.

2. The conditions of tender are based on the Standard Conditions of Tender as contained in Annex F of Board Notice 136 of 2015 in Government Gazette *No 38960 of 10 July 2015*, Construction Industry Development Board (CIDB) Standard for Uniformity in Construction Procurement (see www.cidb.org.za) which are reproduced without amendment or alteration for the convenience of Tenderers as an Annex to this Tender Data.

3. 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.

4. This contract will be governed by King Cetshwayo District Municipality "Conditions of TENDER" as outlined in this document only and not any condition supplied by the Tenderer.

5. The quantities called for in this tender are an estimated quantity and King Cetshwayo District Municipality reserves the right to take more or less than the quantity specified.

6. Full details of items offered and or drawings / pamphlets etc. must be supplied together with the return documents. All additional drawings / pamphlets returned with the tender documents must be firmly bound and marked as "Additional" to the specific tender reference number.

7. All items offered on this tender must be new and of the latest design.

8. Only tenders on King Cetshwayo District Municipality official tender document will be accepted and the original document must be returned, fully completed and signed, in the form presented. Failure to do so will invalidate such tender.

9. It must be clearly understood by the Tenderer, that no order/s for such commodities or services required by the King Cetshwayo District Municipality will be recognized by the Tenderer unless a King Cetshwayo District Municipality official order is issued and it is further understood that King Cetshwayo District Municipality will not accept responsibility for any payment to the Tenderer unless the delivery notes and invoices for such goods or services quote the relevant order number and is sent to King Cetshwayo District Municipality, Financial Department, Private Bag X 1025, RICHARDS BAY, 3900.

10. Should it be considered necessary by the Tenderer, in the interest of design, quality or inspection for whatever reason that a King Cetshwayo District Municipality official should proceed to other centers for inspection purposes, such costs shall be for the account of the Tenderer.

11. Only tenders received by 12h00 on the given closing date will be considered. No late tender by post, e-mail, fax, courier or delivered by hand will be accepted after this time.

12. No telegraphic, e-mail or faxed tenders will be accepted and all posted or tenders sent by couriers, must be clearly marked with the postal address.

13. No correction fluid/ tape should be used on this tender document. Any alterations on the document should be signed by the responsible person completing the document; failing to adhere to this will disqualify your tender.

14. all prices quoted must include value added tax and must be firm for a period of (90) ninety days from closing date of this tender.

B. DEMONSTRATIONS AND INSPECTIONS

15. All Tenderers must be prepared to demonstrate where required, free of charge and obligation, at the King Cetshwayo District Municipality or any other area within the boundary of the King Cetshwayo District Municipality, any items offered in this tender.

16. Where officials are required to attend demonstrations or inspections outside the District Municipality boundary of Richards Bay, all costs to attend such demonstration must be borne by the Tenderer.

C. DELIVERIES, COMPLETION AND PENALTIES

17. Delivery date to be negotiated on placing the order.

18. Tenderers shall furthermore note that goods or services will not be considered acceptable and consequently their obligations not fulfilled should goods or services fail to comply with the specifications in the tender document.

19. Where the supplier fails to deliver within the scope of the specifications of this tender, the Municipality reserves the right to obtain services from any other supplier that complies with the specifications and the Tenderer will be held responsible for all costs involved.

D. PAYMENTS

20. Payment will be made within 30 days from statement invoice date subject to satisfactory execution of the contract conditions and provided that the statement/invoice is without error.

21. Tenders must clearly state all settlement and trade discounts.

22. Any additional payment for extra work carried out on a contract will only be made provided that the contractor is issued with a variation order by the Municipal Manager or delegated official of the King Cetshwayo District Municipality.

23. The King Cetshwayo District Municipality hereby indemnifies itself from any claims whatsoever, which may arise as a result of loss of income suffered by the Tenderer for any reason directly or indirectly during the course of this tender and King Cetshwayo District Municipality reserves the right to consider compensation at its own terms.

Annex F: Standard Conditions of Tender

*As published in **Annexure F** of the CIDB Standard for Uniformity for Construction Procurement, Board Notice 136 Government Gazette No 38960 of 10 July 2015*

F.1 General F.1.1 Actions

F.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 F.2 and F.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

F.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.

F.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.

F.1.2 Tender Documents

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

F.1.3 Interpretation

F.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.

F.1.3.2 These conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

F.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 fulfill his or her duties impartially;
   ii) an individual or organisation 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 organisation which 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;

e) **Organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body;

f) **Functionality** means the measurement according to the predetermined norms of a service or commodity designed to be practical and useful, working or operating, taking into account quality, reliability, viability and durability of a service and technical capacity and ability of a Tenderer.

F.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.

F.1.5 Cancellation and Re-Invitation of Tenders

F1.5.1 An organ of state 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 services, works or goods requested; or

(b) Funds are no longer available to cover the total envisaged expenditure; or (c) no acceptable tenders are received.

F1.5.2 The decision to cancel a tender must be published in the CIDB website and in the government Tender Bulletin for the media in which the original tender invitation was advertised.

F.1.6 Procurement procedures

F.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to F.3.13, be concluded with the Tenderer who in terms of F.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.

F.1.6.2 Competitive negotiation procedure

F.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 F.3.4, the employer shall announce only the names of the Tenderers who make a submission. The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of Tenderers shall not apply.

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

F.1.6.2.3 At the conclusion of each round of negotiations, Tenderers shall be invited by the employer to make a fresh 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.

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

F.1.6.3 Proposal procedure using the two stage-system

F.1.6.3.1 Option 1

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

F.1.6.3.2 Option 2

F.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.

F.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.

F.2 Tenderer's obligations

F.2.1 Eligibility

F.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.

F.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.

F.2.2 Cost of tendering

F2.2.1 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 comply with requirements.

F2.2.2 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.

F.2.3 Check documents

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

F.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.

F.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.

F.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.

F.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.

F.2.8 Seek clarification

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

F.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.

F.2.10 Pricing the tender offer

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

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

F.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.

F.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.

F.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.

F.2.12 Alternative tender offers

F.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.

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

F.2.12.3 An alternative tender offer may only be considered in the event that the main tender offer is the winning tender.

F.2.13 Submitting a tender offer

F2.13.1 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, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

F2.13.2 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.

F2.13.3 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.

F2.13.4 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.

F2.13.5 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.

F2.13.6 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.

F2.13.7 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.

F2.13.8 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.

F.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.

F.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.

F.2.15 Closing time

F.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.

F.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.

F.2.16 Tender offer validity

F.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.

F.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.

F.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.

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

"SUBSTITUTE".

F.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 F.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.*

F.2.18 Provide other material

F.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.

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

F.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.

F.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.

F.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.

F.2.22 Return of other tender documents

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

F.2.23 Certificates

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

F.3 The employer's undertakings

F.3.1 Respond to requests from the Tenderer

F.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all Tenderers who drew procurement documents.

F.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.

F.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 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 drew documents.

F.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.

F.3.4 Opening of tender submissions

F.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.

F.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.

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

F.3.5 Two-envelope system

F.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.

F.3.5.2 Evaluate functionality of the technical proposals offered by Tenderers, then advice 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.

F.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.

F.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.

F.3.8 Test for responsiveness

F.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.

F.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.

F.3.9 Arithmetical errors, omissions and discrepancies

F.3.9.1 Check the highest ranked tender or Tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with F.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.

F3.9.2 The employer must correct the arithmetical errors in the following manner:

a) Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern.
b) 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.
c) 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.

Consider the rejection of a tender offer if the Tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

F.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.

F3.11 Evaluation of tender offers

F3.11.1 General

Appoint an evaluation of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

F3.11.2 Method 1: Financial offer

In the case of a financial offer:

a) Rank tender offers from the most favourable to the least favourable comparative offer.
b) Recommend the highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.
c) Re-rank all tenderers should there be compelling and justifiable reasons not to recommend the highest ranked tenderer and recommend the highest ranked tenderer, unless there are compelling and justifiable reasons not to do so and the process set out in the subclause is repeated.

F3.11.3 Method 2: Financial offer and preference

In the case of a financial offer and preferences:

a) Score each tender in respect of the financial offer made and preferences claimed, if any, in accordance with the provisions of F3.11.7 and F3.11.8.
b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_P$$

Where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F3.11.7;
N_P is the number of tender evaluation points awarded for preferences claimed in accordance with F3.11.8.

c) Rank tender offers from the highest number of evaluation points to the lowest.
d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points, and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in the sub clause is repeated.

F3.11.4 Method 3: Financial offer and quality

In the case of a financial offer and quality:

a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions of F3.11.7 and F3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_Q$$

Where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F3.11.7;
N_Q is the number of tender evaluation points awarded for quality offered in accordance with F3.11.9.

c) Rank tender offers from the highest number of evaluation points to the lowest.
d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points, and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in the sub clause is repeated.

F3.11.5 Method 4: Financial offer, quality and preferences

In the case of a financial offer, quality and preferences:

a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions of F3.11.7 and F3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_P + N_Q$$

Where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F3.11.7;
N_P is the number of tender evaluation points awarded for preference claimed in accordance with F3.11.8.
N_Q is the number of tender evaluation points awarded for quality offered in accordance with F3.11.9.

c) Rank tender offers from the highest number of evaluation points to the lowest.
d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in the sub-clause is repeated.

F3.11.6 Decimal places

Score financial offers, preferences and quality, as relevant, to two decimal places.

F3.11.7 Scoring Financial Offers

Score the financial offers of remaining responsive tender offers using the following formula:

$$N_{FO} = W_1 \times A$$

Where: N_{FO} is the number of tender evaluation points awarded for the financial offer.
W_1 is the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.
A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Table F.1: Formulae for calculating the value of A

Formula	Comparison aimed at achieving	Option 1[a]	Option 2[a]
1	Highest price or discount	$A = (1 + \frac{(P - P_m)}{P_m})$	$A = P / P_m$
2	Lowest price or percentage commission / fee	$A = (1 - \frac{(P - P_m)}{P_m})$	$A = P_m / P$

[a] P_m is the comparative offer of the most favourable comparative offer.
P is the comparative offer of the tender offer under consideration.

F3.11.8 Scoring preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences.
Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F3.11.9 Scoring quality

Score each of the criteria and sub criteria for quality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$$N_Q = W_2 \times So / M_s$$

Where: S_O is the score for quality allocated to the submission under consideration.
M_s is the maximum possible score for quality in respect of a submission.
W_2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data.

F.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.

F.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, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his 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.

F.3.14 Prepare contract documents

F.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.

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

F.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.

F.3.16 Notice to unsuccessful Tenderers

F.3.16.1 Notify the successful Tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

F.3.16.2 After the successful Tenderer has been notified of the employer's acceptance of the tender, notify other Tenderers that their tender offers have not been accepted.

F.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.

F.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.

F3.19 Transparency in the procurement process.

F3.19.1 The CIDB prescripts require that tenders must be advertised and be registered on the CIDB Tender system.

F3.19.2 The employer must adopt a transparency model that incorporates the disclosure and accountability as transparency requirements in the procurement process.

F3.19.3 The transparency model must identify the criteria for selection of projects, project information template and the threshold value of the projects to be disclosed in the public domain at various intervals of delivery of infrastructure projects.

F3.19.4 The client must publish the information on a quarterly basis which contains the following information:

- Procurement planning process
- Procurement method and evaluation process
- Contract type
- Contract status
- Number of firms tendering
- Cost estimate
- Contract title
- Contract firm(s)
- Contract price
- Contract scope of work
- Contract start date and duration
- Contract evaluation reports

F3.19.5 The employer must establish a Consultative Forum which will conduct a random audit in the implementation of the transparency requirements in the procurement process.

F3.19.6 Consultative Forum must be an independent structure from the bid committees.

F3.19.7 The information must be published on the employer's website.

F 3.19.8 Records of such disclosed information must be retained for audit purposes.

T2.1 List of Returnable Documents

The Tenderer must complete and /or sign the following returnable documents:

1 Returnable Schedules –Evaluation Documents

RS001 : Record of Addenda to Tender Documents
RS002 : Compulsory Enterprise Questionnaire
RS003 : Site Inspection Certificate
RS004 : Contractor Registration with the Construction Industry Development Board
RS005 : Annual Financial Statements
RS006 : A copy of a valid Letter of Good Standing from Workmen's Compensation
RS007 : Confirmation of ability to obtain a Performance Guarantee
RS008 : Municipal Account Statement
RS009 : Preferential Procurement – Optional MDB 6.1
RS010 : Authority for Signatory
RS011 : Schedule of Plant and Equipment
RS012 : Tenderer's Experience
RS013 : Key Personnel
RS014 : Proposed Amendments and Qualifications
RS015 : Declaration of Tenderers Past Supply Chain Management Practices
RS016 : Declaration of Interest
RS017 : Certificate of Independent Bid Determination
RS018 : Dayworks Schedule
RS019 : Preliminary Programme
RS020 : Declaration of Competency on Health and Safety
RS021 : Proposed Target Enterprises
RS022 : Quality Assurance & Environmental Management
RS023 : Tenderers Financial Standing and Stability
RS024 : Form of Acceptance and Declaration

3 The offer of the C1.1 Offer and Acceptance

4 C1.2 Contract Data (Part 2)

5 C2.2 Bill of Quantities

Record of Addenda to Tender documents RS001

We confirm that the following communications received from the Employer before the submission of this Tender offer, amending the Tender documents, have been taken into account in this Tender offer:

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		

Attach additional pages if more space is required.

Compulsory Enterprise Questionnaire RS002

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.

Failure to do so may lead to your Tender being disqualified.

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 6 partners

Section 5: Particulars of companies and close corporations

Company registration number	
Close corporation number	
Tax reference number	

Attach a certified copy of valid CIPRO Certificate to this page.

Section 6: Record of 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	□ 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 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	

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 of 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 been 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 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 authorized to do so on behalf of the enterprise:

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

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

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

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 _____

Tenderer _____

Site Inspection Certificate RS003

Site Inspection Certificates are signed and handed out by the Engineer at the Tender Site Inspection.

ATTACH YOUR SIGNED ORIGINAL SITE INSPECTION CERTIFICATE TO THIS PAGE

Failure to do so may lead to your Tender being disqualified.

Contractor Registration with Construction Industry Development Board RS004

Attach copy of valid Certificate of Contractor Registration issued by the Construction Industry Development Board to this page.

Failure to do so may lead to your Tender being disqualified.

Alternatively, the CIDB registration number can be provided as follows:

Name of entity registered with CIDB: _____

Registration number: _____

Registration category and class: _____

FOR CLARITY CONTACT THE SUPPLY CHAIN MANAGEMENT UNIT ON 035 - 799 2500

Annual Financial Statement RS005

PAGE TO WHICH AN ANNUAL FINANCIAL STATEMENT MUST BE ATTACED (FOR A PERIOD OF 3 YEARS)

The AFS must be in accordance to the nature of the business, whether they must be audited or not audited statement. (E.g., Pty companies: Need to be audited and Close Cooperation: do not need to be audited).

FAILURE TO DO SO MAY LEAD TO DISQUALIFICATION

Workmen's Compensation Letter of Good Standing RS006

PAGE TO WHICH A VALID CERTIFICATE NUMBER OF THE WORKMEN'S COMPENSATION COMMISSIONER LETTER OF GOOD STANDING MUST BE ATTACHED.

Please provide a valid certificate number of the Workmen's Compensation if registered with the department of labour, or attach valid original (or valid certified copy) of the Workmen's Compensation commissioner letter of good standing from applicable agencies e.g, FEM, RAM etc, if not registered with the department of labour.

Workmen's Compensation registration number: _____

Workmen's Compensation certificate number: _____

OR

In the case where it is not possible for an applicant to obtain the above letter of good standing from the Workmen's Compensation Commissioner, an affidavit is to be submitted advising that the business has registered with the Workmen's Compensation Commissioner.

OR

In the case where a business does not employ any employees an affidavit Together with a Letter from the Workmen's Compensation Commissioner addressed to the business, confirming that registration is not required, must be submitted.

FAILURE TO DO SO MAY LEAD TO YOUR TENDER BEING DISQUALIFIED.

Confirmation of ability to obtain a Performance Guarantee RS007

Type of Security	Contractor's choice (Mark "Yes" at the selected security)
Cash deposit of 10% of the Contract Sum Attach a letter from the bank confirming availability of funds equivalent to 10 (ten) % of the Value of Works.	
Fixed Performance Guarantee of **10%** of the Contract Sum Attach a letter of undertaking from a Bank registered in terms of the Banking Act (94 of 1990), confirming the issuing of a performance guarantee equal to in value to 10 (ten) % of the tendered amount exclusive of VAT. The performance guarantee is to be issued by a Bank registered in terms of the Banking Act (94 of 1990).	
Retention of 10% of the Works Attach to this document a letter from the director/s giving the Employer consent to deduct 10 (ten) % retention from each progress payment due to the contractor until a limit of 10 (ten) % of the Value of Works is reached.	
Cash deposit of 5% of the Contract Sum plus retention of 5% of the value of the Works Attach a letter from the bank confirming availability of funds equivalent to 5 (five) % of the Value of Works. Attach a letter from the director/s giving the Employer consent to deduct 10 (ten) % retention from each progress payment due to the contractor until a limit of 5 (five) % of the Value of Works is reached.	

Failure to do so may lead to your Tender being disqualified.

Municipal Account Statement — RS008

PAGE TO WHICH ANY OF THE FOLLOWING MUST BE ATTACHED	Please select the relevant option by ticking below
IN THE CASE WHERE:	
A. TENDERER AS LANDOWNER FOR PURPOSE OF CONDUCTING BUSINESS FROM PREMISES	
A.1 In the case where the tenderer owns the property from which the tenderer's business operates from, an original or certified copy of the tenderer's business most recent municipal account indicating the status of payment of all municipal rates and taxes i.e., property rates, electricity, water, refuse & sewer from the Municipality in which jurisdiction the said property is situated, must be submitted.	☐
OR	
A.2 In the instance where the tender occupies Tribal land an original/certified copy of a letter from the councillor or tribal authority confirming that the tenderer is residing in the area and whether the area has municipal account. If the property rates, electricity, water, refuse is charged by the municipality, the original or certified copy of the statement not older than three (3) months in the name of the service provider or any of its directors must be attached.	☐
NB: Should there be **separate** tax invoices from the municipality for property rates and services (taxes), you are required to submit the most recent of each of these invoices.	☐
OR	
B. TENDERER IS THE TENANT FOR PURPOSE OF CONDUCTING ITS BUSINESS FROM PREMISES	
B.1 In the case where the tenderer does not own property and is a tenant for the purpose of its business establishment, the tenderer to provide an original or certified copy of a certificate from its landlord certifying that all the tenant's payments in respect of all municipal rates and taxes i.e. property rates, electricity, water, refuse & sewer are paid up to date, or	☐
B.2 In the case where the tenderer as tenant is responsible for its own municipal accounts with the municipality then tenderer to provide an original or certified copy letter from the landlord certifying the above together with all most recent relevant municipal invoices i.e., property rates, electricity, water refuse & sewer.	☐
B.3 In the case where the tenderer operates in the property owned by relative And does not pay rent or rate an affidavit from the relative confirming such must be attached	☐
B.4 In case where the potential service provider is under incubation programme an original or certified copy of the letter from the incubator confirming that the service provider is using their facilities (property). The incubator is to provide their original or certified copy of rates account or letter from the landlord.	
Failure to do so may lead to your tender being disqualified.	

Preferential Procurement-Optional **RS009**

PREFERENTIAL PROCUREMENT - OPTIONAL

MBD 6.1

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

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

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

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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**

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

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

(a) Price; and

(b) Specific Goals.

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

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	90
SPECIFIC GOALS	10
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 90/10 PREFERENCE POINT SYSTEMS

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

90/10

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

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 90 points is allocated for price on the following basis:

90/10

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

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.)

The following table present the specific goals for the 90/10 preference points to be scored for this contract.

The specific goals allocated points in terms of this tender	**Number of points allocated (90/10 system) (To be completed by the organ of state)**	**Number of points claimed (90/10 system) (To be completed by the tenderer)**
Ownership: EME AND QSE: which is at least 100% owned by black people.	**5**	
Empowerment - Local Economic Development Sub contracting 10%-30% and 40% where it is technically possible and subject to pre-approval: Enterprise owned by black people with CIDB Grading 4 or less.	**2**	
RDP (Job creation and community upliftment), creation of jobs/labour intensive activities.	**2**	
Other: Enterprise located within the province.	**1**	

Note to tenderers:

The tenderer must indicate how they claim points for each preference point system.

Please attach a supporting document claiming points and attach certified documents as proof.

Failure to attach supporting document or certified copies will result in points NOT being awarded.

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: ……

……

FAILURE TO COMPLETE AND ATTACH THE CERTIFICATE MAY LEAD TO DISQUALIFICATION

Certificate of Authority for Signatory RS010

This Returnable Schedule is to be completed by companies and close corporations.

Indicate the status of the Tenderer by ticking the appropriate box hereunder. The Tenderer must complete the certificate set out below for the relevant category or may attach the original or certified board resolution stating the nominated member.

Failure to do so may lead to your Tender being disqualified.

A Company	B Joint Venture	C Close Corporation

A. Certificate for company

I, ……., managing director of the board of directors of ……...

……, hereby confirm that by resolution of the board taken

on ……..…. 20…..., Mr./Ms. ……..., has been duly authorized to sign all documents in connection with this tender and any contract resulting from it on behalf of the company.

As witnesses: -

1……... ……..
Managing director

2…… ……..
Date

B. Certificate for Joint Venture

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorize Mr/Ms ……

……., authorized 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	AUTHORISING SIGNATURE, NAME & CAPACITY
Lead partner		

C. Certificate for close corporation

We, the undersigned, being the key members in the business trading as ……...

…….... hereby authorize Mr./Ms. ……, to sign all documents in connection with the tender and any contract resulting from it on our behalf.

NAME	ADDRESS	SIGNATURE	DATE

NOTE: This certificate is to be completed and signed by all of the key members upon whom rests the direction of the affairs of the Close Corporation as a whole.

Schedule of Plant and Equipment RS011

Tenderers to furnish with their tenders a complete list of the major items of plant and equipment which they propose to use in the work. After his tender has been accepted, the Contractor must satisfy the Project Manager at all times that such plant and equipment, or its equivalent, is available for use.

TYPE OF PLANT	MAKE & DESCRIPTION	NUMBER	
CATEGORY 1 – PLANT		**Owned**	**Hired**
CATEGORY 2 – EQUIPMENT		**Owned**	**Hired**

Failure to complete this form properly and correctly, may lead to the conclusion that the Tenderer does not have the necessary plant and equipment resources at its disposal, which may prejudice its tender.

Tenderer's Experience RS012

RS012.1 LIST OF SIMILAR PROJECTS CARRIED OUT OVER THE PAST 5 YEARS

1. Tenderers must take care to provide accurate information in this return. Incorrect contact details of references listed will have a negative impact on scoring.

2. Table RS012.1.1 is a statement of similar work successfully executed by the Tenderer. If the space provided is insufficient, add more projects on a separate sheet by photocopying this template.

3. The Tenderer must indicate the numerical list number out of a given total number of lists submitted on the right top corner of each list.

4. The Tenderer should also indicate duration of each project in weeks as this will be used to calculate the number of years of relevant experience.

5. The total number of weeks will be converted to the number of years by dividing by 52.

6. Tenderers must attach Appointment letters, completion letter and reference letters

Table RS012.1.1: *List of similar Projects (i.e Water Retaining Structures & WTW) carried out over the past 5 years*

(List 1 of ..... Lists)

Employer:	**Contact person (Employer's Agent)**	**Description of contract (name of project)**	**Project Value (incl. VAT)**	**Completion Date**	**Duration (weeks)**
1. Employer's name:	Consultant's name:				
Contact:	Contact:				
Tel:	Tel:				
Cell:	Cell:				
Fax:	Fax:				
2. Employer's name:	Consultant's name:				
Contact:	Contact:				
Tel:	Tel:				
Cell:	Cell:				
Fax:	Fax:				
3. Employer's name:	Consultant's name:				
Contact:	Contact:				
Tel:	Tel:				
Cell:	Cell:				
Fax:	Fax:				
4. Employer's name:	Consultant's name:				
Contact:	Contact:				
Tel:	Tel:				
Cell:	Cell:				
Fax:	Fax:				
5. Employer's name:	Consultant's name:				
Contact:	Contact:				
Tel:	Tel:				
Cell:	Cell:				
Fax:	Fax:				
Total duration in number of weeks (for official use only)					

……... ……..
Signature Date

Key Personnel RS013

RS013.1 LIST OF KEY PERSONNEL ASSIGNED TO THE CONTRACT

1. Provide relevant information as prescribed below for the following Key Persons proposed in the tender to fulfil the following positions:
2. Curriculum Vitae for all proposed staff need to be attached.

Table RS013.1.1: *List of personnel to be assigned to this project*

Name	ID No.	Current Position	No. of Years Employed	Qualifications / Experience
CATEGORY 1 – CONTRACTS MANAGER / SITE AGENT				
1.				
2.				
3.				
4.				
CATEGORY 2 – FOREMAN				
5.				
6.				
7.				
CATEGORY 3 – HEALTH AND SAFETY STAFF				
8.				
9.				
10.				
CATEGORY 4 – SUPPORT STAFF				
11.				
12.				
13.				
14.				
CATEGORY 5 – ARTISANS AND OPERATORS				
15.				
16.				
17.				
18.				
19.				

3. Attach a proposed organogram to this page.

..……... ……..
Signature Date

RS013.2 CURRICULUM VITAE OF KEY PERSONNEL

CV's and Certified Qualifications of each key personnel member must be submitted.

- Contracts Manager / Site Agent
- Foreman
- Health and Safety Staff

Proposed Amendments and Qualifications RS014

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

The Tenderer's attention is drawn to Clause F.2.12 of the Standard Conditions of Tender referenced in the Tender Data regarding the Employer's handling of material deviations and qualifications.

These amendments and qualifications, if accepted by the Employer, will be incorporated in the Acceptance Form as Deviations.

Page	Clause or item	Proposal

The undersigned, who warrants that he / she is duly authorized to do so on behalf of the Tenderer, confirms that the contents of this schedule are within his / her personal knowledge and are to the best of his / her belief both true and correct.

....
Signature Date

Declaration of Tenderer's Past Supply Chain Management Practices RS015

1 This Municipal Tendering Document must form part of all Tenders 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 Tender of any Tenderer may be rejected if that Tenderer, 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 2004).

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

Item	Question	Yes	No
4.1	Is the Tenderer or any of its directors listed on the National Treasury's database as a company or person 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 National Treasury after the *audi alteram partem* rule was applied).	Yes ☐	No ☐
4.1.1	If so, furnish particulars:		
4.2	**Is the Tenderer 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 2004)?** (To access this Register enter the National Treasury's website, www.treasury.gov.za, click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 3265445).	Yes ☐	No ☐
4.2.1	If so, furnish particulars:		
4.3	Was the Tenderer 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 Tenderer 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 Tenderer 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 ☐
4.5.1	If so, furnish particulars:		

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME) ……...……...……...… CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS 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 Tenderer

Declaration of Interest RS016

1. No bid will be accepted from persons in the service of the state[1].

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 favoritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in 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 or her representative: ……...…….

3.2 Identity Number: …….

3.3 Position occupied in the Company (director, trustee, hareholder[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 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 particulars …….

…….

[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 of 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 public 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 exercises control over the company.

3.9 Have you been in the service of the state for the past twelve months? **YES / NO**

3.9.1 If yes, furnish particulars.…..……..…

3.10 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? **YES / NO**

1.10.1 If yes, furnish particulars.…..……

3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?

YES / NO

3.11.1 If yes, furnish particulars.…..……

3.12 Are any of the company's directors, trustees, managers, principal shareholders or stakeholders in service of the state? **YES / NO**

3.12.1 If yes, furnish particulars.…..……

3.13 Are any spouse, child or parent of the company's directors' trustees, managers, principal shareholders or stakeholders in service of the state? **YES / NO**

3.13.1 If yes, furnish particulars.…..……

3.14 Do you or any of the directors, trustees, managers, principal 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.

YES / NO

3.14.1 If yes, furnish particulars.…..……

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

Full Name	Identity Number	State Employee Number

……..
Signature

……..
Date

……
Capacity

…….
Name of Tenderer

Certificate of Independent Bid Determination RS017

I, the undersigned, in submitting the accompanying bid:

_____
(Bid number and description)

In response to the invitation for the bid made by:

_____
(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:_____
(Name of Bidder) that:

1. I have read and I understand the contents of the 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.

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 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.

10. 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.

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

---------- ----------
Signature Date

---------- ----------
Position Name of Tenderer

Day-works Schedule RS018

This day work schedule will be used at the discretion of the Agent for the valuation of extra work, which cannot conveniently be valued at rates submitted in the Bill of Quantities.

The rates entered for labour and material shall be inclusive of overhead charges and profit, site supervision of staff, insurances, holidays with pay and the use and maintenance of small hand tools and non-mechanical plant, traveling allowances, other emoluments and allowances. Provision will be made for the insertion of percentages to cover all these items which are henceforth termed "on-costs". The rate used in the deduction of the value of the day work is thus the basic rate plus the percentage "on-costs".

In the case of plant, no "on-costs" items are provided. The rate entered shall include any of the above "on-costs" which are pertinent and shall include operator's costs, consumable stores, maintenance, etc.

The Tenderer must fill in each item listed below or his Tender may be rejected as being incomplete.

A LABOUR

1 Unskilled_____per hour plus_____% "On-Cost"

2 Semi-skilled_____per hour plus_____% "On-Cost"

3 Skilled_____per hour plus_____% "On-Cost"

B PLANT DESCRIPTION

	RATE PER HOUR WORKING	STANDING

NOTE:

The rates for compressors shall include for hoses and pneumatic tools.

C MATERIAL

The TENDERER shall state the percentage "On-Cost" he will add to the basic price of materials.

_____%

……... ……..
Signature Date

Preliminary Programme RS019

The tender below shall outline his proposed programme for the completion of the Works to conform with the requirements set out in the Appendix to the Form of Tender.

The successful Tenderer shall use the programme submitted below as the basis for the detailed programme, which is to be provided 14 days after the handing over of the site.

ACTIVITY NO.	DESCRIPTION OF WORK	ENVISAGED DURATION	STARTING WEEK	FINISHING

[Note: The programme must be based on the completion time as specified in the Contract Data. No other completion time that may be indicated on this programme will be regarded as an alternative offer, unless it is listed in Table (b) of Form I hereafter and supported by a detailed statement to that effect, all as specified in the Bid Data]

Declaration of Competency on Health and Safety Requirements RS020

Tenderer to provide a declaration on his competencies in establishing and maintaining a Health and Safety plan as required in terms of the Construction Regulations of 2014.

In order to demonstrate these competencies, the Tenderer is to provide with his tender (and attached to this page as a separate document) brief statements as to a safety plan and how the safety management systems will work and what control procedures, they plan on using to ensure safety on the construction site.

The following generic aspects should be covered in the safety plan:

- What administrative procedures the Contractor envisage to use in the implementation and maintenance of the safety plan with reference to the construction site.
- How continuous assessment of the safety plan will be assessed and implemented with respect to construction site.
- What control systems the Contractor envisage to implement on site to support his safety programme.
- How the Contractor will ensure that he adheres to the construction regulations in respect of competent persons for appointments.
- What external resources the Contractor envisage on using to ensure successful implementation and sustainability of the safety plan.
- What training to employees the Contractor envisage and how he would go about to execute it.
- The Contractor should indicate which competent (as described in the OSH Act) persons he currently has in his employ or he plans on employing and attach abbreviated Curriculum Vitaes of these persons.

DECLARATION BY TENDERER

It is confirmed that an outline of the Health and Safety plan is attached hereto. We further declare that we have the competence and necessary resources to carry out work safely in compliance with the Construction Regulations 2014 and that an approved Health and Safety Plan will be submitted prior to commencing with this contract.

..……... ……..
Signature Date

Proposed Designated Subcontractors **RS021**

RS021.1 PROPOSED TARGETED ENTERPRISES

Tenders are required to employ Targeted Enterprises on this contract; failure to do so shall lead to tenderer being completely disqualified. The Targeted Enterprises to be utilized should meet the requirements of Preferential

Procurement Regulations, 2017and registered with CIDB with minimum grading of 1 to 4 CE. A Contract Participation Goal of at least 30% for subcontracting to the Targeted Enterprises. The objective is to bring about meaningful transformation in the Construction Industry through the following:

- Meaningful economic participation
- Transfer of technical, management and entrepreneurial skills
- Creation of sustainable Black Enterprises

Also refer to Contract Data, 'TARGETED PROCUREMENT FOR CONTRACTORS' (Pg. C.21-C.23)

	Proposed extent of works to be allocated to subcontractor	**Include value of works allocated to sub-contractor**
1.		
2.		
3.		
4.		
5.		

The TARGETED PROCUREMENT ratio will be calculated based on the tendered sum of the works less the VAT, Contingencies, Deductible Materials, CPA and Preliminary and General.

....
Signature Date

RS021.2 ADEQUACY AND QUALITY OF MENTORSHIP AND SKILLS TRANSFER PROGRAMME

1. Tenderers are required to employ designated Subcontractors on this contract or enter into Joint Ventures with the targeted enterprise(s). The designated sub-contractors to be utilized should be black owned business and registered with CIDB with minimum grading of 1CE to 4CE.

2. A contract Participation Goal of at least 30% for subcontracting to these designated subcontractors has to be achieved by the Tenderer. The objective is to bring about meaningful transformation in the construction industry through the following:

   - Meaningful economic participation
   - Transfer of technical, management and entrepreneurial skills
   - Creation of sustainable Black Enterprises

3. In pursuance of the above objectives, the Tenderer has to develop a mentoring and skills transfer programme which is a practical training programme for targeted black owned SMME construction companies preferably located in King Cetshwayo District Municipality.

4. The mentorship programme must clearly specify the role of the targeted enterprise(s) showing the areas of development in relation to the work packages assigned to the targeted enterprise(s)

5. The on-job training is to be organized and managed by the Developed Enterprise; in contracts awarded and managed by KCDM, but works are executed with the guidance and assistance of experienced Main Contractors at the tendering, mobilization, construction and completion phases.

6. Depending on the nature of contract, the training programme should among other things cover areas such as: understanding Technical Specifications; Standard Specifications; Interpretation of Technical Drawings; Tendering Procedures; Pricing and Unit Rates Build-up; Construction of Civil Works in the Water Industry: Reinforcement, Formwork and False-work; Clearing and Site Establishment; Site Organization and Administration; Surveying and Setting Out; Project Planning and Work Programming/ Scheduling; Contract Supervision and Administration; Environmental Issues; Financial Planning; Project Cost Control; Cash Flow Management; Measurement of Works and Pricing; Preparation of Payment Certificates; Preparation of Claims and Claims Management; Procurement of Equipment and Materials; Personnel Management; Accident and Safety Precaution; Communication. This is just a guide for the design of the mentorship programme.

7. The mentoring and skills transfer programme must indicate what evidence will be produced to show that training did take place. This could for instance be in the form of SAQA accredited modules by relevant SITAs.

8. The Main Contractor (Developed Enterprise) is strongly encouraged to choose relevant SITA accredited modules for training of targeted SMMEs in which case the SITA's NQF level certificates indicating the credits attained could be produced as evidence of the training of the targeted SMMEs. Examples could be NQF2, 3 or 5 in labour intensive construction (LIC) methods

9. The mentorship and skills transfer programme will be assessed based on the submitted methodology or plan. It must be robust, well thought out and should meet most elements of the description given above depending on the nature of work:

10. A capacity building evaluation/ assessment form is to be designed by the main contractor in agreement with the targeted enterprise(s). This must be included in the tender document. The evaluation/ assessment form has to be filled in by all the contractors every month and after completion of the project. The form is to be used for assessing progress made with the training as well as identifying additional training (or gaps) requiring more training.

11. THE MENTORSHIP AND SKILLS TRANSFER PROGRAMME (REFER TO ITEM NO. 5 ABOVE) AS WELL AS THE CAPACITY BUILDING EVALUATION FORM (REFER TO ITEM NO. 10 ABOVE) MUST BE ATTACHED BELOW

..……... ……..
Signature Date

RS021.3 DETERMINATION OF TARGETED PROCUREMENT

1. The targeted procurement ratio will be calculated based on the tendered sum of the works less the following:

   1.1 Preliminary & General
   1.2 VAT
   1.3 Contingencies
   1.4 CPA
   1.5 Value of the deductible materials as listed in RS021.70 below

2. Tenderers must provide the rates for quantities and value of items earmarked for exclusion from the targeted procurement calculation.

Failure to do so may lead to the assumption that all quantities contained the BoQ are eligible for application of the targeted procurement.

Table RS021.70 *Schedule of items excluded in the calculation of the TARGETED PROCUREMENT*

Section	Description	Amount
3	INLET CHAMBER	
4	CLARIFLOCULATOR	
5	RAPID GRAVITY SAND FILTER	
8	ELECTRICAL PROVISIONAL SUMS	
9	COMMISSIONING OF WORKS	
	Sub Total	

RS021.4 CONTRACT GOAL PARTICIPATION FOR TARGETED ENTERPRISES

Contract Participation for Targeted Enterprise

Total value of Contract excluding P&G's, VAT, Contingencies,

CPA & Specialists Items (Deductible Materials): _____

Total value of contract participation by targeted enterprise: _____

Percentage (%) contract participation by targeted enterprise: _____

Broad description of work to be performed by the targeted enterprise:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Failure to complete this schedule will lead to the assumption that the sub-contract 30% of the contract value to the Targeted Enterprises without exclusion of any items.

Quality Assurance and Environmental Management RS022

1. Quality assurance systems employed by the Bidder in his office in order to ensure compliance with stated employer's requirements ISO 9001: 2008 Certification: Bidders who are certified as being compliant to the International Organisation for Standardisation's ISO 9001: 2008 quality management standard, will score higher in the functionality. Proof of certification or application with evidence of previously started process must be attached in order to qualify for functionality points. The extent of the use of this system must be attached in order to qualify for higher scores.
2. Bidders who are following a quality management standard as set out by CESA/SABTACO will be deemed to be adequate if they indicate the extent of the use of this system which must be attached in order to qualify for satisfactory score.
3. Proof of certification of the tendering entity and its sub-contractor(s) or JV partner(s) must be submitted with the tender.
4. Note: Where the entity Tendering is a joint venture, provided one of these parties is ISO 9001: 2000 certified, and it has been indicated on the work plan submitted that the party will take responsibility for quality management.

5. Does the Tenderer have a quality management system which is certified in terms of ISO 9001: 2008 ..... .

YES	NO

6. If "yes", Tenderer to supply brief summary of structure of system

.....

.....

.....

.....

.....

.....

.....

7. If "no", does the Tenderer intend to apply for certification?

YES	NO

By when? ..... .

Date

OR

8. If "no", does the Tenderer have its own system? .....

YES	NO

.....

9. If "yes", please supply details of the system

.....

.....

.....

.....

.....

11. Does the Tenderer have an Environmental Management system which is certified in terms of ISO 14 000 .....?

YES	NO

12. If "yes", Tenderer to supply brief summary of structure of system:

.....

.....

.....

.....

.....

13.. If "no", does the Tenderer intend to apply for certification?

YES	NO

By when? ..... .

Date

OR

14. If "no", does the Tenderer have its own system?

YES	NO

15. If "yes", please supply details of the system

.....

.....

.....

.....

16. If the Tenderer does not intend to apply for certification it shall submit details of the quality / environmental management system presently in place.

17. [The Tenderer shall insert here a copy of the company's quality assurance plan, control procedures and the relevant documentation supporting its commitment to environmental management. In the event of these documents being too extensive to be included in the procurement document, an abbreviated version of the master document will be included, referring to the master document.]

Name: ..... Signature: ..... Date: .....

Position: ..... Tenderer: .....

Tenderer's Financial Standing and Stability RS023

RS023.1 TENDERER'S FINANCIAL STANDING AND STABILITY

1. In terms of the standard conditions of Tender, the Tenderer shall provide information about its commercial position, which includes information necessary for the Employer to evaluate the Tenderer's financial standing.
2. A third-party credit bureau check will be used to determine the credit worthiness of the Tenderer.
3. The financial standing of the Tenderer will be assessed by third party credit checks on the main contractor
4. An analysis of the Tenderer financial standing will be conducted by third party for the purposes of establishing the Tenderers financial viability and ability to meet all of its contractual obligations for the duration of the contract, should the Tenderer be awarded the contract.
5. Tenders that do not meet King Cetshwayo District Municipality's financial requirements as per third party assessment, will be disqualified from further assessment

RS023.2 TENDERER'S BANK DETAILS

Name of account holder: .....

Name of Bank: ..... Branch: .....

Account number: ..... Type of account: .....

Branch code: ..... Bank Manager's name: .....

Telephone number: ..... Facsimile number: .....

6. The Employer undertakes to treat the information thus obtained as confidential, strictly for the use of evaluation of the Tender submitted by the Tenderer.

6. I/We hereby authorize the Employer/Employer's Agent to approach the bank for areference:

SIGNATURE: ..... DATE: .....

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

NAME: ..... POSITION: .....

TENDERER: .....

Form of Acceptance & Declaration RS024

The Municipal Manager
King Cetshwayo District
Municipality Private Bag X1025
RICHARDS
BAY 3900

I/We ……

(To be completed)
(Representative or Company name)

The undersigned, having examined the Specification, hereby offer to supply the Municipality with the requirements called for on the Municipality's Form of Tender "Part T" and the Contract "Part C", in accordance with the conditions of this tender.

I/We further undertake that this offer shall not be retracted or withdrawn from the closing date of this Tender up to the order date.

I/We further undertake, in the event of the acceptance of this Tender, either wholly or in part, to enter into a formal contract, if required, and to provide a good and sufficient surety for the due fulfillment of the contract to the satisfaction of the Municipality.

I/We also agree:

(a) that if the Tender be accepted, the acceptance may be communicated to us by letter through the post and that in such case the Post Office shall be regarded as our agents and delivery of such acceptance to the Post Office shall be treated as delivery to us;

(b) The Municipality chooses as its "domicilium citandi et executandi" for the purpose of the contract, the following address:

King Cetshwayo District
Municipality Private Bag X 1025
RICHARDS
BAY 3900

(c) the law of South Africa will govern the contract created by acceptance of our Tender and we agree to submit to the jurisdiction of the South African Courts;

(d) that if our Tender be accepted by the Municipality either wholly or in part, and the acceptance be notified to us, we undertake to be bound by the term of the agreement constituted by our said Tender and the acceptance thereof by the said Municipality, until a formal contract has been executed between us and the Municipality, and that if we are not required by the Municipality to execute such formal contract, we undertake to be bound by the terms of the agreement constituted by our said Tender and the acceptance thereof by the said Municipality.

I/WE ALSO DECLARE THAT:

1) the information provided is true and correct;

2) the signatory to the Tender document is duly authorized;

3) I/we are registered for Workmen's Compensation and the valid original (or valid certified copy) of the Workmen's Compensation Commissioner's Letter of Good Standing is attached. When applicable the option to submit an original or certified copy of the letter from the agent authorized by Workmen's Compensation Commissioner will be accepted

In the case where it is not possible for a Tenderer to obtain the above letter of good standing from the Workmen's Compensation Commissioner, an affidavit is to be submitted advising that the business has registered with the Workmen's Compensation Commissioner.

In the case where a business does not employ any employees an affidavit together with a letter from the Workmen's Compensation Commissioner addressed to the business, confirming that registration is not required, must be submitted.

4) documentary proof regarding any tendering issue will, when required, be submitted to the satisfaction of the relevant organ of state;

5) the valid tax clearance certificate is attached;

6) My municipal rates and taxes are paid up to date and the required proof is attached:

A. TENDERER IS LANDOWNER FOR PURPOSE OF CONDUCTING BUSINESS FROM ITS PREMISES

A.1 In the case where the Tenderer owns the property from which the Tenderer's business operates from, an original or certified copy of the Tenderer's business most recent municipal account indicating the status of payment of all municipal rates and taxes i.e., property rates, electricity, water, refuse & sewer from the Municipality in which jurisdiction the said property is situated, must be submitted.

NB: Should there be **separate** tax invoices from the municipality for property rates and services (taxes), you are required to submit the most recent of each of these invoices.

OR

B. TENDERER IS THE TENANT FOR PURPOSE OF CONDUCTING ITS BUSINESS FROM PREMISES

B.1 In the case where the Tenderer does not own property and is a tenant for the purpose of its business establishment, the Tenderer to provide an original or certified copy of a certificate from its landlord certifying that all the tenants' payments in respect of all municipal rates and taxes i.e. property rates, electricity, water, refuse & sewer are paid up to date, or

B.2 In the case where the Tenderer as tenant is responsible for its own municipal accounts with the municipality then Tenderer to provide an original or certified copy of the letter from the landlord certifying the above together with all most recent relevant municipal invoices i.e., property rates, electricity, water refuse & sewer.

..……... ……..
Signature Date

PART C1: AGREEMENTS AND CONTRACT DATA

TABLE OF CONTENTS

IMPORTANT NOTE ON C1.1:

ALL Tenderers MUST complete and sign Form A: OFFER (the first page hereafter).

Form B: ACCEPTANCE will be signed by the Employer and then only in the case of the successful Tenderer.

Form C: SCHEDULE OF DEVIATIONS must be signed by the Employer as well as the successful Tenderer after award of the contract.

Form D: CONFIRMATION OF RECEIPT must be signed by the successful Tenderer on receipt of a fully completed original copy of the Agreement including the Schedule of Deviations, if any.

A tender in which Form A: OFFER has not been completed and signed by the Tenderer, will not be valid and will be disqualified in the discretion of the Employer.

C1.1 FORM OF OFFER AND ACCEPTANCE

A. OFFER

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

TENDER NO. KCDM/RBIG/01/2023: TENDER FOR MIDDLEDRIFT BULK AUGMENTATION:

CIVIL & BUILDING WORKS FOR 10ML/DAY EXPANSION TO THE MIDDLEDRIFT WATER TREATMENT WORKS

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

By the representative of the Tenderer, deemed to be duly authorized, signing this part of this Form of Offer and Acceptance the Tenderer offers to perform all of the obligations and liabilities of the Service Provider 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 VAT IS:

(in words) .....

.....Rands;

(in figures) R.....

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

Signature(s) .....

Name(s) .....

Capacity .....

For the Tenderer:

(Insert name and address of organization) .....

.....

Name & Signature of Witness .....

Date .....

For official use		
INITIALS OF KCDM OFFICIALS AT THE TENDER OPENING SESSION		
1.	2.	3.

Form B: ACCEPTANCE

By signing this part of the 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:

C.1 Agreement, and Contract Data, (which include this Agreement)
C.2 Pricing Data, including the Bill of Quantities
C.3 Scope of Work

and the schedules, forms, drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 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 said documents are valid unless contained in this Schedule, which must be duly signed by the authorized representatives of both parties.

The Tenderer shall within two weeks after receiving a completed copy of this Agreement, including the Schedule of Deviations (if any), contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of any other bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein and unless agreed mutually elsewhere in writing between the Employer and the Tenderer, this agreement comes into effect on the earliest of: (a) Two weeks following the date on which the Tenderer acknowledges the receipt of a formal letter awarding the contract; (b) 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 receipt of either the letter from the Employer alluded to in (a) or the document alluded to in (b) above 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, effective from the date of signature below by the Employer.

Signature: *(of person authorized to sign the acceptance)* .....

Name: *(of signatory in capitals)* .....

Capacity: *(of Signatory)* .....

Name of Employer: *(organization)* King Cetshwayo District Municipality

Address: Corner of Kruger Rand & Barbados Bay Road, CBD, Richards Bay

Postal Address: Private Bag X1025, Richards Bay, 3900

Telephone number: 035 799 2500 **Fax number:** .....

AS WITNESS

Signature: .....**Name: (***in capitals)* .....

Date: .....

Form C: SCHEDULE OF DEVIATIONS

The extent of deviations from the tender documents issued by King Cetshwayo District Municipality prior to the tender closing date is limited to those permitted in terms of the Tender Data and the Conditions of Tender.

A Tenderer's covering letter will not necessarily 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.

Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents and which it is agreed by the Parties becomes an obligation of the contract shall also be recorded here.

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: .....
.....

7. **Subject**: .....
Details: .....
.....

By the duly authorized representatives signing this Schedule of Deviations, King Cetshwayo District Municipality 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 King Cetshwayo District Municipality 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.

FOR THE TENDERER:

Signature: .....

Name: .....

Capacity: .....

Tenderer: *(Name and address of organization)* .....

Witness:

Signature: .....

Name: .....

Date: .....

FOR KING CETSHWAYO DISTRICT MUNICIPALITY

Signature: .....

Name: .....

Capacity: .....

Witness:

Signature: .....

Name: .....

Date: .....

Form D: CONFIRMATION OF RECEIPT

The Tenderer, (now Service Provider), 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 on this

FOR THE CONTRACTOR:

Signature: .....

Name: .....

Capacity: .....

Signature and name of witness:

Signature: .....

Name: .....

C1.2 CONTRACT DATA

The Conditions of Contract are the General Conditions of Contract for Construction Works, Third Edition, 2015 published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to the Contract and is obtainable from www.saice.org.za

Each item of data given below is cross-referenced to the clause in the Conditions of Contract to which it mainly applies.

PART 1: DATA PROVIDED BY THE EMPLOYER

REF. CLAUSE NO.	DATA BY EMPLOYER	
1.1.13	**The Defects Liability Period is:**	12 months
1.1.14	**The time for achieving Practical Completion is:**	14 months
1.1.1.15	**The name of the Employer is:**	King Cetshwayo District Municipality
1.1.1.26	**The Pricing Strategy is:**	Re-measurement
1.2.1.2	**The address of Employer:**	
	Physical:	Postal:
	Prince Mangosuthu Buthelezi, Cnr. Krugerrand & Barbados Bay Streets, CBD,	Private Bag X 1025
	RICHARDS BAY, 3900	RICHARDS BAY, 3900
	Telephone No: (035) 799 2500	Fax No: (035) 799 1409
1.1.1.16	**Name of the Employers Agent**:	ECA Consulting (Pty) Ltd
1.2.1.2	**Address of the Employers Agent**:	
	Physical:	
	161 High Street VRYHEID 3100	
	Tel No.: 034-983 2825 Fax No.: 034-983 2945 e-mail: vryheid@ecaconsult.co.za	

REF. CLAUSE NO.	DATA BY EMPLOYER
5.3.1	**The documentation required before commencement with Works execution are:**
	• Construction Work Permit • Health and Safety Plan (Refer to Clause 4.3) • Initial programme (Refer to Clause 5.6) • Cash flow projection aligned to programme • Insurance (Refer to Clause 8.6) • Bank Guarantee
5.3.2	**The time to submit the documentation required before commencement with Works execution is:** 14 Days
5.8.1	**Non-working days are:** Sundays
	The special non-working days are: Public holidays and the year-end break which commences on the first working day after 15 December and ends on the first Tuesday after 5 January of the next year.
5.13.1	The **penalty** for failing to complete the Works will be the lesser of R5 000.00 or 0.05% of the offered total of prices excluding VAT per calendar day.
5.16.3	**The latent defect period is:** 10 years
6.5.1.2.3	**The percentage allowances to cover overhead charges:**
	10% of the gross remuneration of workmen and foremen actually engaged in the day work; and 7.5% on the net cost of materials actually used
6.8.2	**Contract Price Adjustment** will be applicable. The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values: The value of "x" is 0.1 The values of the coefficients are: A = 0.40 B = 0.10 C = 0.45 D = 0.05 Base Date = September 2023
6.10.1.5	**The percentage advance on materials not yet built into the Permanent Works is:** 80% provided a session in favour of the Employer is provided from both the supplier and the Contractor.
6.10.3	**The retention money:** The percentage retention on the amounts due to the Contractor is 10% up to a limit of 5% of the contract value with 50% being released on issuing of Certificate of Completion.
6.10.5	The defects Liability Period is specified as being 12 Months.

8.6.1	**INSURANCE EFFECTED BY THE EMPLOYER** The Employer will not provide any insurance. **INSURANCE EFFECTED BY THE CONTRACTOR** a) The Contractor and Sub-contractor shall where applicable provide as a minimum the following: i) ..... Contract Works, SASRIA and Public Liability Insurance; ii) .... Insurance of Construction Plant and Equipment (including tools offices and other temporary structures and contents) and other things (except those intended for incorporation into the Works) brought onto the site for a sum sufficient to provide for their replacement; iii) ... Insurance in terms of the provisions of the Compensation for Occupational Injuries and Diseases Act (COID) Act No 130 of 1993; Employers Common Law Liability Insurance with a limit of indemnity of not less than R 1 000 000.00; iv).... Motor Vehicle Liability Insurance comprising (as a minimum) "balance of Third Party" Risks including Passenger Liability indemnity of not less than R 2 000 000.00 (one million Rand); and v)..... Where the Contract involves manufacturing and/or fabrication of the Works or parts thereof at premises other than at the Contract Site the Contractor shall satisfy the Employer that all materials and equipment for incorporation in the Works are adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such Works during manufacture or fabrication then such interest shall be noted by the endorsement to the relevant Policies of Insurance. The Contractor shall within fourteen (14) days of commencement of the contract produce to the Employer the relevant Policies of Insurance. Notwithstanding anything elsewhere contained in this Contract without limiting the obligations liabilities or responsibilities of the Contractor in any way whatsoever (including but not limited to any requirement for the provision by the Contractor of any other insurances) the Employer may, on behalf of the Contractor, effect and maintain as appropriate in the joint names of the Employer the Contractor and where the relevant Sub-contractors the following insurances which are subject to the terms, limits, exceptions and conditions of the Policy. **CONTRACT WORKS AND SASRIA SPECIAL RISKS INSURANCE** – which will provide cover against accidental physical loss or damage to the Works, Temporary Works and materials intended for incorporation in the Works. **PUBLIC LIABILITY** Insurance – which will provide indemnity against legal liability in the event of accidental death of or injury to third persons and/or loss of or damage to third party property arising directly from the execution of the contract and occurring during the period of insurance with a limit of indemnity of R 2 000 000.00 in respect of all claims arising from any one occurrence or series of occurrences consequent on or attributable to one source or original cause.
8.6.1.1.3	R Nil
10.4	**Dispute resolution by amicable settlement, failure of which will require to further the dispute through adjudication and thereof to arbitration.**
10.5.3	**The number of Adjudication Board Members to be appointed is: 1**

PART 2: DATA TO BE PROVIDED BY CONTRACTOR

REF. CLAUSE No	DATA BY CONTRACTOR
1.1.1.9	**Name of Contractor**:
1.2.1.2	**Address of Contractor:**
	Physical:..... Postal: .....
	…..... .....
	…..... .....
	e-mail: ….. Telephone No: …..... Fax No: ….....
1.1.1.14	**Time for achieving Practical Completion of the whole of the Works is**: _____(14 Max months)
6.2.1	**The security to be provided by the Contractor shall be the following: (x tick)** Cash deposit of 10% of the Contract Sum ☐ Fixed Performance Guarantee of 10% of the Contract Sum ☐ Retention of 10% of the Works ☐ Cash deposit of 5% of the Contract Sum plus retention of 5% of the value of the Works ☐

C1.3 CONDITIONS OF CONTRACT

The Conditions of Contract are the General Conditions of Contract for Construction Works, Third Edition, 2015.

The additional clauses to the General Conditions of Contract are:

PREAMBLE

The Special Conditions of Contract contains clauses hereinafter defined and forms an integral part of the Conditions of Contract. In the case of any discrepancy or conflict with any part of the General Conditions of Contract, the Special Conditions of Contract shall take precedence and shall govern.

CONTRACTOR'S RESPONSIBILITY FOR SETTING OUT

Add to Clause 9.1.5.1

The Contractor shall take special precautions to protect all permanent survey beacons, bench-marks, stand boundary pens and trigonometrical beacons regardless whether such pegs or beacons were placed before or during the execution of the contract. If any such beacons or pegs which would not otherwise have been affected by construction of the works, have been disturbed by the Contractor or his employees, the Contractor shall have them replaced by a registered land surveyor at his own cost.

NATURAL VEGETATION (ADDITIONAL SUB CLAUSE)

Add new Clause 8.1.6

"The Contractor shall confine his operation to as small an area of the site as may be practical for the purpose of executing the works.

Only those trees and shrubs directly affected by the works and such others as the Engineer/Employer may direct in writing shall be cut down and stumped. The natural vegetation, grassing and other plants shall not be disturbed other than in areas where it is essential for the execution of the Works or where directed by the Engineer".

ENGAGEMENT OF EMPLOYEES

DELAY THROUGH OPPORTUNITIES AFFORDED TO OTHER PERSONS

Add to Clause 10.1.3

"Whenever the Contractor considers that he is suffering a delay in the smooth running of his work as the result of the execution of any work on the Site by other persons he shall report to the Engineer/Employer in writing within twenty-four (24) hours of the occurrence thereof the circumstances and extent of such delay. The Engineer/Employer shall take such steps to resolve the problem as he considers necessary. Failure on the part of the Contractor to report to the Engineer/Employer such delay at the time of its occurrence shall invalidate any claim to any extension of time in terms of **Clause 10.1.1**".

Add new Clause 4.11.2

"The Contractor shall at all times exercise strict control over his employees to prevent, as far as possible, any unruly or unlawful behavior by or amongst the labourers, local community members or leadership thereof and other employed by him.

The Contractor shall not engage or otherwise employ on the Works any person who, at the time of signing the contract, was employed by the Employer upon the Works, unless the Contractor obtains the written consent of the Employer or Employer's Representative in respect of the employment of such person".

INSURANCES

Amend Clause 8.6
Clause 8.6 of the General Condition of Contract will be superseded by a principle-controlled construction insurance which is provided by the King Cetshwayo District Municipality on all contracts.

Tenderers are to specifically note the detail of insurances affected by the employer as depicted under **Clause** 8.6.1 as "insurance effected by the Contractor"

EXTENSION OF TIME DUE TO INCLEMENT WEATHER

Add the following to sub-Clause 5.12.2.2

(b) Abnormal climatic conditions.

No extensions of the time for completion shall be granted on the grounds of normal rainfall conditions, but extension of time in terms of **Clause 5.12** of the General Conditions of contract on the grounds of abnormal rainfall or wet conditions shall be calculated separately for each calendar month or part thereof, according to the following formula. It shall be calculated as follows for the time for completion, including any extension thereof:

$$V = (N_w - N_n) + \frac{(R_w - R_n)}{X}$$

Where

V	=	Extension of time for calendar days of the calendar month concerned. If the value of V is negative and the absolute value thereof is greater than Nn, V is taken as negative Nn.
Nw	=	Actual number of days during calendar month on which a rainfall of Y mm or more is recorded.
Nn	=	Average number of days in the calendar month concerned on which a rainfall of Y mm or more is recorded in terms of existing rainfall data
Rw	=	Actual rainfall for the calendar month concerned in mm.
Rn	=	Average rainfall for the calendar month in mm deduced from existing rainfall data.

For the purposes of the contract Nn, Rn, X and Y shall have the values as stipulated below.

The total extension of time is the algebraic sum of the monthly totals for the period concerned, extension of time for parts of a month shall be calculated by using pro rata values of Nn and Rn. If the algebraic sum of the monthly totals is negative, no reduction of the time for completion as a result ofrainfall shall be applicable.

This formula does not take any delays as a result of flood damage, which may cause further or simultaneous delays, into consideration and flood damage shall be treated separately for purposes of extension of time for completion.

The factor (Nw – Nn) is considered as a fair allowance for deviation from the normal for the number of days on which the rainfall exceeds Y mm. The factor (Rw – Rn)/X is considered as a fair allowance for deviation from the normal for the number of days on which the rainfall does not exceed Y mm, but on which wet conditions will hamper or disrupt work.

The Contractor shall keep daily rainfall records and submit it to the Employer's Representative at every site meeting. No additional payment shall be made for the supply and installation of the rain gauge or for the keeping of the rainfall records and all costs must be included in the scheduled items:

Information of the records of the nearest rainfall station are given below for the Contractor's information:
* WB42 climate statistics from the South African Weather Services.

Rainfall station	:	Dougvale
Average annual rainfall	:	742 mm
Period	:	1990 - 2009

Average number of days per year with rainfall exceeding:

Y =	10mm
X =	20mm

MONTH	Nn (No)	Rn (mm)	MONTH	Nn (No)	Rn (mm)
January	4	178	July	0	12
February	4	142	August	1	29
March	3	85	September	1	41
April	2	46	October	4	100
May	1	24	November	4	120
June	0	18	December	5	138

EXTENSION OF TIME DUE TO DISRUPTION OF LABOUR

Add the following to Sub Clause 5.12.2.4

"Labour disruptions on a regional or national level due to political unrest, organised mass action or related incidents will be considered to be beyond the Contractor's control.

Any strike within the confines of the Contractor's company and/or this project only, will be deemed to be within the Contractor's control".

DEFECTS LIABILITY PERIOD

Add the following to Sub Clause 7.9

7.9.1 Emergency repairs during defects liability period

7.9.1.1 Classification

Any defect resulting in an interruption in the supply of services will be deemed an emergency repair, and the timing of the works is then of an urgent nature. Such classification will be at the discretion of the Engineer and communicated as such to the Contractor.

7.9.1.2 Availability of Contractor for emergency repairs

During the defects liability, the Contractor will ensure that a member of his staff will at all times of day or night be contactable through a cell phone in the event of having to effect an emergency repair.

The Contractor shall as a minimum comply with the following requirements:

i) A minimum of 1 artisan and 1 skilled labourer shall be available to attend to an emergency repair at all times during normal hours and after hours.

ii) Suitable tools, plant, transport, test equipment, spares and repair kits shall be available at all times to do the necessary emergency repairs.

iii) Above labour and resources shall be available on all weekdays including Saturdays, Sundays and public holidays and the names, addresses and contact information shall be made available to the Employer and Engineer for this purpose.

7.9.1.3 Procedure for commencement and execution of works

Upon notification of a defect by the Employer, the Engineer or his representative will instruct the Contractor to attend to the said emergency repair, which instruction will be verbal, and thereafter confirmed in writing.

The Contractor must within 6 hours from such notification arrive on site so as to define the extent of the repair required and must immediately make arrangements to have such a repair rectified, which repair must be effected within 12 hours thereafter.

7.9.1.4 Communication in the event of emergency repairs

The Contractor will immediately upon arrival inform the Engineer of the extent of the problem and also of the anticipated timeframe required to effect the repairs thereto.

Immediately upon completion of the repairs, the Contractor has to provide a verbal notification to the Engineer to the fact that the works have been completed and confirm same within 12 hours in writing.

7.9.1.5 Failure to effect emergency repairs

In the event that the Contractor should fail to attend to the emergency repairs as described above and within the response times noted, the Employer shall be entitled to carry out such work by his own workman or by other persons without further notification to the Contractor and to recover the cost thereof from the Contractor.

CESSION FOR CASH ADVANCEMENTS

No cessions for cash advancements will be entertained by the employer for whatever reason. Cessions will only be accepted for payment of material and nominated sub-contractors, and payment will only be effected on delivery and fixing of material in the required position.

OCCUPATIONAL HEALTH AND SAFETY ACT

The Contractor shall comply with all the requirements of the Occupational Health and Safety Act (Act No. 85 of 2014) and the Regulations framed there under.

The Contractor shall also ensure that any Sub Contractor employed by him shall also comply with the Act and the Regulations.

The contractor shall submit an approved Health and Safety plan prior to commencement with this contract.

TENDER ACCEPTANCE

The Employer does not bind itself to accept the lowest tender or any tender or furnish any reasons for the acceptance or rejection of any tender.

LABOUR INTENSIVE CONSTRUCTION REQUIREMENTS

PAYMENT FOR THE LABOUR-INTENSIVE COMPONENT OF THE WORKS

Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

APPLICABLE LABOUR LAWS

The Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R63 of 25 January 2002, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.

1 Introduction

1.1 This document contains the standard terms and conditions for workers employed in elementary occupations on an Expanded Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of a EPWP.

1.2 In this document –
(a) "department" means any department of the State, implementing agent or contractor;
(b) "employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on a EPWP;
(c) "worker" means any person working in an elementary occupation on a EPWP;
(d) "elementary occupation" means any occupation involving unskilled or semi-skilled work;
(e) "management" means any person employed by a department or implementing agency to administer or execute an EPWP;
(f) "task" means a fixed quantity of work;
(g) "task-based work" means work in which a worker is paid a fixed rate for performing a task;
(h) "task-rated worker" means a worker paid on the basis of the number of tasks completed;
(i) "time-rated worker" means a worker paid on the basis of the length of time worked.

2 Terms of Work

2.1 Workers on a EPWP are employed on a temporary basis.

3 Normal Hours of Work

3.1 An employer may not set tasks or hours of work that require a worker to work–
(a) more than forty hours in any week
(b) on more than five days in any week; and
(c) for more than eight hours on any day.

3.2 An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.

3.3 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

4 Meal Breaks

4.1 A worker may not work for more than five hours without taking a meal break ofat least thirty minutes duration.

4.2 An employer and worker may agree on longer meal breaks.

4.3 A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.

4.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

5 Special Conditions for Security Guards

5.1 A security guard may work up to 55 hours per week and up to eleven hours per day.

5.2 A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

6 Daily Rest Period

Every worker is entitled to a daily rest period of at least eight consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

7 Weekly Rest Period

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work "emergency work").

8 Work on Sundays and Public Holidays

8.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.

8.2 Work on Sundays is paid at the ordinary rate of pay.

8.3 A task-rated worker who works on a public holiday must be paid –
(a) the worker's daily task rate, if the worker works for less than four hours;
(b) double the worker's daily task rate, if the worker works for more than four hours.

8.4 A time-rated worker who works on a public holiday must be paid –
(a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday;
(b) double the worker's daily rate of pay, if the worker works for more than four hours on the public holiday.

9 Sick Leave

9.1 Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.

9.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.

9.3 A worker may accumulate a maximum of twelve days' sick leave in a year.

9.4 Accumulated sick-leave may not be transferred from one contract to another contract.

9.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.

9.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.

9.7 An employer must pay a worker sick pay on the worker's usual payday.

9.8 Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
(a) absent from work for more than two consecutive days; or
(b) absent from work on more than two occasions in any eight-week period.

9.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.

9.10 A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

10 Maternity Leave

10.1 A worker may take up to four consecutive months' unpaid maternity leave.

10.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.

10.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.

10.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.

10.5 A worker may begin maternity leave –
(a) four weeks before the expected date of birth; or
(b) on an earlier date –
  (i) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
  (ii) if agreed to between employer and worker; or
(c) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.

10.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.

10.7 A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the EPWP on which she was employed has ended.

11 Family responsibility leave

11.1 Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -
(a) when the employee's child is born;
(b) when the employee's child is sick;
(c) in the event of a death of –
  (i) the employee's spouse or life partner;
  (ii) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

12 Statement of Conditions

12.1 An employer must give a worker a statement containing the following details at the start of employment –
(a) the employer's name and address and the name of the EPWP;
(b) the tasks or job that the worker is to perform; and
(c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
(d) the worker's rate of pay and how this is to be calculated;
(e) the training that the worker will receive during the EPWP.

12.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

12.3 An employer must supply each worker with a copy of these conditions of employment.

13 Keeping Records

13.1 Every employer must keep a written record of at least the following –
(a) the worker's name and position;
(b) in the case of a task-rated worker, the number of tasks completed by the worker;
(c) in the case of a time-rated worker, the time worked by the worker;
(d) payments made to each worker.

13.2 The employer must keep this record for a period of at least three years after the completion of the EPWP.

13.3 The Contractor must keep in the project site office the minutes of site progress minutes; contractors' monthly site progress reports; accurately recorded attendance register; proof of payment as means to verify authenticity of data in the EPWP Beneficiary form submitted with payment certificates. Copies of submitted EPWP beneficiary data forms should also be kept in the site office.

13.4 This should be safely kept for job creation data verifications and periodical audits on projects conducted by National Department of Public Works and Auditors.

14 Payment

14.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.

14.2 A task-rated worker will only be paid for tasks that have been completed.

14.3 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.

14.4 A time-rated worker will be paid at the end of each month.

14.5 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.

14.6 Payment in cash or by cheque must take place –
(a) at the workplace or at a place agreed to by the worker;
(b) during the worker's working hours or within fifteen minutes of the start or finish of work;
(c) in a sealed envelope which becomes the property of the worker.

14.7 An employer must give a worker the following information in writing –
(a) the period for which payment is made;
(b) the numbers of tasks completed or hours worked;
(c) the worker's earnings;
(d) any money deducted from the payment;
(e) the actual amount paid to the worker.
(f) If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.
(g) If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

14.8 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.

14.9 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

15 Deductions

15.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.

15.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.

15.3 An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.

15.4 An employer may not require or allow a worker to –
(a) repay any payment except an overpayment previously made by the employer by mistake;
(b) state that the worker received a greater amount of money than the employer actually paid to the worker; or
(c) pay the employer or any other person for having been employed.

16 Health and Safety

16.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.

16.2 A worker must –
(a) work in a way that does not endanger his/her health and safety or that of any other person;
(b) obey any health and safety instruction;
(c) obey all health and safety rules of the EPWP;
(d) use any personal protective equipment or clothing issued by the employer;
(e) report any accident, near-miss incident or dangerous behavior by another person to their employer or manager.

17 Compensation for Injuries and Diseases

17.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 2014.

17.2 A worker must report any work-related injury or occupational disease to their employer or manager.

17.3 The employer must report the accident or disease to the Compensation Commissioner.

17.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

18 Termination

18.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.

18.2 A worker will not receive severance pay on termination.

18.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement.

18.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

18.5 A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

19 Certificate of Service

19.1 On termination of employment, a worker is entitled to a certificate stating –

(a) the worker's full name;
(b) the name and address of the employer;
(c) the EPWP on which the worker worked;
(d) the work performed by the worker;
(e) any training received by the worker as part of the EPWP;
(f) the period for which the worker worked on the EPWP;
(g) any other information agreed on by the employer and worker.

20 Contractor's default in payment to Labourers and Employees

(a) Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.
(b) The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

21 Provision of Hand tools, PPE and EPWP overalls

(a) The Contractor shall provide his labour force with hand tools of adequate quality, sufficient in numbers and make the necessary provisions to maintain the tools in good and safe working conditions. All workers shall be provided with the necessary PPE and the standard EPWP two-piece orange overall set. The overalls should have the DPW logo on the left-hand side, the EPWP logo on the right-hand side (chest). "EPWP" should also be printed in Arial, Bold, Black on the back of the overall.

22 EPWP signage board

EPWP at the project level shall always be promoted through the projects signage board that embrace EPWP logo at the bottom, correct measurement for this signage board will be provided by the project leader during the site handing over meeting.

23 MINIMUM LABOUR BASED TARGETS

The following minimum labour based targets are required to be met:

23.1 LABOUR BUDGET AS PERCENTAGE OF PROJECT BUDGET

A minimum of 15% of the Project Budget is required to be spent on local community labour.

23.2 EMPLOYMENT OF LOCAL LABOUR

(i) The Contractor is required to make maximum possible use of the local labour force from the community, which is at present underemployed or unemployed.
(ii) To this end the Contractor is required to give preference to the use of local labour and limit the use of non-local labour to key personnel only.
(iii) The Contractor shall, through all available community structures, inform the local community of the labour intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:
    a) where the head of the household has less than a primary school education;
    b) that have less than one full time person earning an income;
    c) where subsistence agriculture is the source of income.
    d) those who are not in receipt of any social security pension income
(iv) Local labour is defined as "people who reside in the community who have preferable been identified by the Project Steering Committee to be employed"

(v) Key Personnel – are defined as foremen and skilled labourers without whom the particular job could not be accomplished. As far as possible these people should impart their management and building skills to individuals within the community workforce who show a keen interest and display a willingness to learn.

23.3 EMPLOYMENT OF WOMEN, YOUTH AND DISABLED PERSONS

The Contractor shall endeavor to ensure that the expenditure on the employment of temporary workers is in the following proportions:

a) 55 % women; 45% men
b) 55% youth who are between the ages of 18 and 35; and
c) 2% on persons with disabilities.

24 MINIMUM REPORTING

24.1 CONTRACTORS REPORT

The Contractor is required to complete a Contractors Report, which is to be submitted together with the Contractors Payment Claims all as per the "Reporting Schedule 1 - 5 (overall)" attached hereto. Payment of the contractor is conditional on the information being accurately and timeously provided.

24.2 PROGRESS REPORTS

Progress report detailing production output compared to the programme of works shall be submitted monthly.

24.3 WORKER CONTRACTS

All worker contracts for workers employed during the month must accompany the Reporting Schedule 1 - 5 attached hereto.

25 EPWP CONTRACT FOR LABOUR

It is compulsory that shortly after the contractor and/or sub-contractor has appointed local labour, the employment contract should be signed by both parties, prior to commencement with works on site. The employment contract forms part of the Ministerial Determination.

26 SKILLS DEVELOPMENT

EPWP Local labour needs to be capacitated with skills that will render them employable in the future. It is then the responsibility of the Contractor to ensure that the mandatory life skills are provided to 100% of workforce on site.

Contractor shall also provide all necessary on-job training to targeted labour to enable such labour to master and advance on techniques required to undertake the work in accordance with requirements of the contract in a manner that does not compromise workers health and safety.

The latter is not mandatory to all as it covers technical skills. Few beneficiaries can be identified to undergo through further technical training to prepare them for opportunities as semi-skilled Artisans

27 ATTACHMENTS

Reporting Schedule 1 (Daily Site Attendance Register)
Reporting Schedule 2 (Payment Register)
Reporting Schedule 3 (Beneficiary List)
Reporting Schedule 4 (Monthly progress report)
Reporting Schedule 5 (Contractors Monthly Report on Sub-contractors)

TARGTED PROCUREMENT FOR CONTRACTORS

1. Objective

The objective of King Cetshwayo District Municipality's Targeted Procurement Policy is to bring about meaningful transformation in the built environment construction industry through the following:

- Meaningful Economic Participation;
- Transfer of Technical, Management and Entrepreneurial Skills; and
- Creation of sustainable Large Black Enterprises

2. Targeted Procurement Goals

2.1. Targeted Procurement – the value of goods, services and works paid to one or more sub-contractors(s) exclusive of the following:

- Cost of major strategic materials such as pipes, valves, pump sets and electrical switch gear; as specifically listed in the tender document.
- Value added Tax
- Preliminary and General section
- Contract Price Adjustment

2.2. The Targeted Procurement is expressed as a subcontracted percentage of the contract amount.

- **King Cetshwayo District Municipality requires 30% of work to be reserved for targeted procurement.**

3. Applicability

3.1. The Targeted Procurement policy is applicable to all Capital Projects contracts for Contractors with a CIDB grading of 5 or higher in the General Building or Civil Engineering classes of works and may be achieved through any of the following mechanisms/approaches:

- Stipulated Minimum B-BBBEEE status level contributor.
- EME and QSE
- Sub-contracting

3.2. The requirements of a targeted procurement policy apply only to:

a) Construction works contracts in the General Building (GB) and to Civil Engineering (CE) classes of construction works;
b) construction works contracts of an estimated minimum project duration of 6 months;

3.3. It is envisaged that such mechanisms/approaches will involve two or more entities, one being an established or developed enterprise and the other(s) being one or more targeted enterprise(s).

3.4. The intention here is for skills to be transferred from the developed enterprise to the targeted enterprise hence joint ventures formed by two or more targeted enterprises are not desirable. Engaging sub-contractors will be a preferred method.

3.5. The above definitions are based on the "Construction Sector Code of Good Practice published in General Notice 862 of 2009 in Government Gazette No 32305 of 2009 in terms of the Board Based Black Economic Empowerment Act of 2003 (Act 53 of 2003)".

Table 3.1: *Definition of targeted and established/developed enterprises*

Type of Enterprise		Black Ownership	Tax Reference and Pin	Minimum Full Time Employees	CIDB Grading	Preference Target
Established or Developed or Large Enterprise		N/A	Required	>3	5 to 9	70% Max.
Targeted Enterprise	Qualifying Small Enterprise (QSE) And Exempted Micro Enterprise (EME)	51%	Required	3	1 to 4	30% Min.

Note:

(i) an EME or QSE;
(j) an EME or QSE which is at least 51% owned by black people;
(k) an EME or QSE which is at least 51% owned by black people who are youth;
(l) an EME or QSE which is at least 51% owned by black people who are women;
(m) an EME or QSE which is at least 51% owned by black people with disabilities;
(n) an EME or QSE which is 51% owned by black people living in rural or under developed areas or townships;
(o) a cooperative which is at least 51% owned by black people;
(p) an EME or QSE which is at least 51% owned by black people who are military veterans; or

4. Application

4.1. The targeted procurement ratio calculation is to be based on the Tender Value (excluding VAT, contingencies and CPA) less the cost of special materials to be procured by the Contractor, but including the Contractor's mark-up value of these materials.

4.2. The distribution of the work according to the targeted procurement ratio must be across the various levels of management, supervision, artisans and labour within the contract to ensure that a transfer of skills occurs at all these levels as shown in Table 4.1.

Table 4.1: *Example of TARGETED PROCUREMENT targets for Contractors*

Job Function / Work Package	Type of Enterprise	Maximum % Contract Value / Hours	Type of Enterprise	Minimum % Contract Value / Hours
Management	Developed	70%	Targeted	30%
Contracts Manager	Developed	70%	Targeted	30%
Site Agent	Developed	70%	Targeted	30%
Foreman	Developed	70%	Targeted	30%
Labour	Maximise use and training of LOCAL LABOUR			
Overall	**Developed**	**70%**	**Targeted**	**30%**

4.3. Specific construction activities, such as haulage, excavation and the like, may be allocated in total to targeted enterprises where this will enable these enterprises to become better established in these specialized activities.

4.4. Rates paid to targeted enterprises must be no less than those paid to a developed enterprise to undertake the same task or function.

5. Reporting

For each monthly invoice submitted by the main Contractor, on a contract where the targeted procurement is applicable, the split between the Developed Enterprise(s) and the Targeted Enterprise(s) hours and costs per function must be clearly articulated to enable the targeted procurement objectives to be easily and regularly monitored.

6. Eligibility Criteria

- For tenders where the targeted procurement is applicable, those that do **not** offer a minimum targeting of 30% **according to the requirements mentioned above** will be deemed **ineligible**.
- CIDB registration requirement for both main and targeted partner where applicable.
- Eligibility criteria for the Developed and Targeted enterprises shall be separated.
- The onus is on the developed enterprise to ensure that their targeted partner meets the criteria for targeted procurement. The eligible Targeted Enterprises shall be nominated from the Municipality's database for targeted procurement contractors.

6.1. Eligibility criteria for Targeted Procurement

1. Developed enterprise must not have equity holding, either directly or through a 'flow through' principle.
2. CIDB registration 1-4 (GB, CE, and EB)
3. SARS Tax Registration and Pin.
4. CIPC Registration
5. Must be either 51% owned EME or QSE

6.2. Documents to be utilized to enable evaluation of Tenders

Tenderers must refer to schedule RS021.

6.3. Monitoring of Contractual Obligations

- Agreement between developed and target partner to be submitted within 14 days from date of award clearly providing detailed work packages to be performed by the targeted enterprise
- Payment Certificates from the targeted partner indicating work packages performed CIDB document
- Site visits
- Interviews with targeted partner's staff to cover:
    - Confirmation that targeted partner has been paid for services rendered
    - Confirmation of skills transfer
- Performance management

6.4. Incentives for achieving more than the minimum targeted procurement goals or finishing early

- Possible shorter payment cycle in exchange for settlement discount
- Recognition certificate / award (developed & targeted)

6.5. Penalties for not achieving the minimum targeted procurement goals.

1. Penalty equal to the financial value of the subcontracted amount not achieved to a maximum of 30% of the applicable contract value will be levied depending on the minimum set targeted enterprise percentage for that contract.

2. Monthly penalties will be applied at a rate of Three Thousand Rand (R 3 000) for every percentage not achieved until the maximum of 30% of contract value is reached.

3. The final applicable penalty will be determined following reconciliation at the end of the contract after calculating the targeting achieved by the Service Provider and any penalty due to the Employer will be recovered either from the last payment or retention. In the event the penalty is overcharged, it will be refunded.

4. To avoid the monthly penalties, the Tenderer needs to develop a detailed works programme indicating when the work packages for targeted enterprise will be rendered. Failure to provide such a programme will result in penalties commencing in the second month of the contract.

5.6 Allocation of SMME sub-contractor from King Cetshwayo District Municipality data base

1. It should be noted that no construction work on the project may commence on the project until an SMME subcontractor has been allocated to the project from the King Cetshwayo District Municipality's Data Base.

C1.4 CONTRACTUAL DOCUMENTATION

C1.4.1 CONSTRUCTION GUARANTEE

Contract No: Tender No **KCDM/RBIG/01/2023**

WHEREAS **King Cetshwayo District Municipality** (hereinafter referred to as the Employer") entered into, a Contract with:

….. .....

(hereinafter called "the Contactor") on the: ..... day of: ..... 20 ..... for

.....

at .....

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of a guarantee for the due and faithful fulfilment of such Contract by the Contractor;

AND WHEREAS . . . . . has / have at the request of the Contractor, agreed to give such guarantee;

NOW THEREFORE WE . . . . . do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to the Employer under renunciation of the benefits of division and exclusion for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

1. The Employer shall, without reference and / or notice to us, have complete liberty of action to act in any manner authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the completion date of the works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alterations of the completion date which the Employer may make, give, concede or agree to under the said Contract.

2. This guarantee shall be limited to the payment of a sum of money.

3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.

4. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.

5. Our total liability hereunder shall not exceed the Guaranteed Sum of . . . . . .

   . . . . Rand (in words);

   R . . . . (in figures)

6. The Guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon our liability hereunder shall cease.

7. We hereby choose our address for the serving of all notices for all purposes arising here from as

. . . . . .

. . . . . .

. . . . . .

. . . . . .

IN WITNESS WHEREOF this guarantee has been executed by us at . . . . . .

on this . . . . . day of..... 20 . . . . . .

Signature . . . . . .

Duly authorized to sign on behalf of . . . . . .

Address . . . . . .

. . . . . .

. . . . . .

As witnesses:

1 . . . . . .

2. . . . . .

C1.4.2 AGREEMENT OF INDEMNITY IN TERMS OF OCCUPATIONAL HEALTH AND SAFETY ACT 2014

THE KING CETSHWAYO DISTRICT MUNICIPALITY

duly represented herein by …… in his capacity as

……..… (hereinafter referred to as "EMPLOYER") and

…….. duly

represented herein by ……. in his capacity as

……..…… (hereinafter referred to as the "MANDATARY")

The EMPLOYER and the MANDATARY hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act 2014 (Act 85 of 2014, hereinafter referred to as "the Act"), that as far as the work described in 1 hereafter, the following arrangements and procedures shall apply between them to ensure compliance by the MANDATARY with the provisions of the Act, namely:

1. DESCRIPTION OF WORK: ……...……...……...……...……...……...

……...……...……...……...……..

……..……..……..……..…….

……...……..……

2. DEFINITIONS:

2.1. EMPLOYER: means any person who employs or provides work for any person and remunerates that person or expressly or tacitly undertakes to remunerate him, but excludes a labour broker as defined in Section 1(1) of the Labour Relations Act, 1956 (Act No 28 of 1956).

2.2. MANDATARY: includes an agent, a contractor or a sub-contractor for word, but without derogating from his status in his own right as an employer or a user.

3. ARRANGEMENTS AND PROCEDURES:

3.1. The MANDATARY as an employer in his own right, undertakes to acquaint the appropriate officials and employees of the MANDATARY with all relevant provisions of the Act and the regulations promulgated in terms of the Act;

3.2. The MANDATARY undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations will be fully complied with;

3.3. The MANDATARY hereby accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and Regulations and expressly absolves the EMPLOYER from itself being obliged to comply with any of the aforesaid duties, obligations and prohibitions; and

3.4. The MANDATARY agrees that any duly authorized officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the MANDATARY has complied with his undertakings as set out more fully in paragraphs 1 and 2 above, which steps may include, but not be limited to, the right to inspect any appropriate site or premises.

3.5. The MANDATARY undertakes to furnish the EMPLOYER with a letter of good standing in terms of Section 89 of the Compensation for Occupational Injuries and Diseases Act 2014 (Act No 130 of 2014) before any work in terms of this agreement is commenced.

3.6. The MANDATARY undertakes to appoint a designated responsible person in terms of the Act, and to furnish the EMPLOYER with a copy of such appointment before any work in terms of this agreement is undertaken

THUS DONE AND SIGNED AT RICHARDS BAY ON THIS …….. DAY OF.....20……

AS WITNESSES:

1. .....……..... ……..
(For and on behalf of the **EMPLOYER**)

2. .....…….....

THUS DONE AND SIGNED AT RICHARDS BAY ON THIS …… DAY OF.....20…..

AS WITNESSES:

1. .....…….....

2. .....……..... ……
(For and on behalf of the **MANDATORY**)

C1.4.3 TRANSFER OF RIGHTS AND INDEMNITY FOR MATERIALS ON SITE

TRANSFER OF RIGHTS FOR MATERIAL ON SITE

Claim for materials on site, Payment Certificate No: ……..…….. Date: ……

Contract No: …… for (*contract title*) ……..……

……...

I, the undersigned (*name of signatory*) …….……..…….. in my capacity as

……. of (*name of Contractor*) ……..
duly authorised hereto on behalf of the Contractor hereby transfer, cede and assign all the Contractor's rights, title and interest in and to the materials and goods, for which evidence of bona fide ownership is attached hereto,

unto and in favour of (*name of Employer*) ….…….
Insofar as the Contractor retains actual control of the materials and goods, the right of ownership thereof passes to the Employer by *constitutum possessorium*.

I herewith indemnify the Employer against any claim to and in respect of said materials by reason of the Contractor's sequestration or liquidation or of any effect in the Contractor's title to the materials and agree that no payment for materials on site will be made by the Employer until such time as I have submitted documentary proof of bona fide ownership of the said materials and goods.

The transfer shall become effective upon conclusion of the Contractor receiving payment from the Employer or from any other person on behalf of the Employer for the materials and goods as Materials on Site, payment of retention money thereon excluded.

I further confirm that I am fully responsible for all materials and goods listed under this Transfer of Rights and that they have been insured adequately against all risks and will remain insured until they are built into or used in the permanent works and taken over by the Employer.

This certificate of Transfer of Rights applies only to the materials and goods as listed in the following table:

DESCRIPTION OF ITEM	UNIT	QTY	RATE	AMOUNT	SUPPLIER
TOTAL VALUE OF MATERIALS AND GOODS					

Signed by ……. Date ……
for and on behalf of the Contractor,

Witnesses by ……..…….…… Date ……....

[Note: This form, together with the documentary proof of ownership or proof of payment by the Contractor to the supplier, shall accompany the Contractor's claim for payment for materials on site in terms of Clause 49.1.5 of the General Conditions of Contract 2015.]

INDEMNITY FOR MATERIALS ON SITE

We the.....…….....(Bank or Insurance Company)

do hereby bind ourselves as surety in solidum and co-principal debtors to recompense the employer in the event of his not acquiring ownership of materials for whatever reason, or in the event of his lawfully being required to make payment of any sum of money to any third party in order to obtain or retain ownership of full and free possession of the said materials, in circumstances where the employer has paid the Contractor for the said materials on site in terms of Clause 52 (1)(e) of the General Conditions of Contract, and for all losses, damages and expenses that may be suffered or incurred by the Employer as a result of such payment for the said materials on site, renouncing all benefits from the legal exceptions ordinis se excursionis et divisions "No value received" and all other exceptions which might or could be pleaded against the validity of this guarantee, with the meaning and effect of which exceptions we declare ourselves to be fully acquainted; provided that the liability of the undersigned under this guarantee is limited to and shall not exceed

R..... (.....…….....…….)

and will lapse after issue of the Certificate of Completion of the Contract, unless the surety is advised in writing by the Employer before issue of the said Certificate of his intention to institute claims and the particulars thereof, in which event this guarantee shall remain in force until all such claims are paid or settled.

This undertaking is not negotiable nor transferable and must be returned to us upon payment of the above-mentioned amount.

Bank/Insurance Company: .....

Address: .....

.....

Date: .....

PART C2: PRICING DATA

TABLE OF CONTENTS

C2.1 PRICING INSTRUCTIONS

1. Measurement and payment shall be in accordance with the relevant provisions of Clause 8 of each of the SANS 1200 Standardised Specifications for Civil Engineering Construction referred to in the Scope of Work. The Preliminary and General items shall be measured in accordance with the provisions of SANS 1200-A, *General.*

2. The units of measurement described in the Bills of Quantities are metric units. Abbreviations used in these Bills of Quantities are as follows:

%	=	percent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kPa	=	kilopascal
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
m^2	=	square metre
m^2-pass	=	square metre-pass
m^3	=	cubic metre
m^3-km	=	cubic metre-kilometre
MN	=	meganewton
MN.m	=	meganewton-metre
MPa	=	megapascal
No.	=	number
Prov sum	=	Provisional sum
PC sum	=	Prime Cost sum
R/only	=	Rate only
sum	=	lump sum
t	=	ton (1000 kg)
W/day	=	Work day

3. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.

4. The prices and rates in these Bills of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.

5. It will be assumed that prices included in these Bills of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for Tenders. (Refer to www.stanza.org.za or www.iso.org for information on standards)

6. Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount Tendered such items.

7. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.

8. The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.

9. Reasonable compensation will be received where no pay item appears in respect of work required in the Bills of Quantities in terms of the Contract and which is not covered in any other pay item.

10. The short descriptions of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.

11. Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the SANS 1200 Standardised Specifications.

12. Those parts of the contract to be constructed using labour-intensive methods have been marked in the bill of quantities with the letters LI in a separate column filled in against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of works, is a breach to the contract. The items marked with the letters "LI" are not necessarily an exhaustive list of all the activities, which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.

12. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the scope of works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work, which was to be done labour-intensively will not be condoned, and any works so constructed will not be certified for payment.

SECTION 1 : PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
	SABS 1200 A	**PRELIMINARY AND GENERAL**				
1.1	8.3	FIXED-CHARGE ITEMS				
1.1.1	8.3.1	Contractual Requirements	Sum	1		
	8.3.2	Establish Facilities on the Site :				
		a) Facilities for Engineer (SABS 1200 AB)				
1.1.2	PSAB	Offices: as per specification.	Sum	1		
1.1.3	PSAB	Nameboards	Sum	1		
1.1.4	PSAB	Survey Facilities	Sum	1		
		b) Facilities for Contractor				
1.1.5		Offices and storage sheds	Sum	1		
1.1.6		Workshops	Sum	1		
1.1.7		Laboratories	Sum	1		
1.1.8		Living accommodation	Sum	1		
1.1.9		Ablution and latrine facilities	Sum	1		
1.1.10		Tools and equipment	Sum	1		
1.1.11		Water supplies, electric power and communications	Sum	1		
1.1.12		Dealing with water (Subclause 5.5)	Sum	1		
1.1.13		Access (Subclause 5.8)	Sum	1		
1.1.14		Plant	Sum	1		
1.1.15		Allow for land surveyor to set out all structures, lines etc.	Sum	1		
1.1.16	8.3.3	Other fixed-charge obligations	Sum	1		
1.1.17		Survey & setting out of the entire works by a land surveyor	Sum	1		
1.1.18	8.3.4	Remove Engineer's and Contractor's Site establishment on completion	Sum	1		
1.1.19	PA	All work to ensure compliance with the provisions of the OSH Act 85 of 1993 and Regulations R1010 as published in Government Gazette on 18 July 2003. This item shall include all costs to provide a safety plan including the mentoring thereof, auditing thereof and reporting to the Engineer, on a regular basis.	Sum	1		
1.1.20	PB	All work to ensure compliance with the provisions of the Environmental management plan.	Sum	1		
1.2	8.4	TIME-RELATED ITEMS				
1.2.1	8.4.1	Contractual Requirements	Sum	1		
	8.4.2	Operate and maintain facilities on the Site:				
	8.4.2.1	a) Facilities for Engineer for duration of construction (SABS 1200 AB)				
CARRIED FORWARD						

SECTION 1 : PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
1.2.2	PSAB	Offices: 1 rooms, etc., as for item 1.1.2	Sum	1		
1.2.3	PSAB	Nameboards	Sum	1		
1.2.4	PSAB	Survey Facilities	Sum	1		
	8.4.2.2	b) Facilities for Contractor for duration of construction, except where otherwise stated				
1.2.5		Offices and storage sheds	Sum	1		
1.2.6		Workshops	Sum	1		
1.2.7		Laboratories	Sum	1		
1.2.8		Living accommodation	Sum	1		
1.2.9		Ablution and latrine facilities	Sum	1		
1.2.10		Tools and equipment	Sum	1		
1.2.11		Water supplies, electric power and communications	Sum	1		
1.2.12		Dealing with water (Subclause 5.5)	Sum	1		
1.2.13		Access (Subclause 5.8)	Sum	1		
1.2.14		Plant	Sum	1		
1.2.15	8.4.3	Supervision	Sum	1		
1.2.16	8.4.4	Company and head office overhead costs	Sum	1		
1.2.17	8.4.5	Other time-related obligations	Sum	1		
1.2.18	PA	All work to ensure compliance with the provisions of the OSH Act 85 of 1993 and Regulations R1010 as published in Government Gazette on 18 July 2003. This item shall include all costs to provide a safety plan including the mentoring thereof, auditing thereof and reporting to the Engineer, on a regular basis.	Sum	1		
1.2.19	PB	All work to ensure compliance with the provisions of the Environmental management plan.	Sum	1		
1.3	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
1.3.1	8.5	Prime cost items: Project Works Insurance				
1.3.2		Allow a provisional amount to be be paid over, on behalf of the employer (KCDM), at the commencement of the contract, to an independant Insurance Broker for Contract Insurance Cover: R400 000.00	Sum	1	400 000.00	400 000.00
1.3.3		Attendance, charges, etc., on item 1.3.2	%	400000		
1.3.4	8.6	Prime cost items				
1.3.5		Provide fittings and equipment to be installed: R60 000.00	Sum	1	60 000.00	60 000.00
1.3.6		Attendance, charges, etc., on item 1.3.5	%	60000		
CARRIED FORWARD						

SECTION 1 : PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
1.3.7	8.7	Daywork				
1.3.7.1		Labour	Sum	1	100 000.00	100 000.00
1.3.7.1.1		Percentage adjustment to item 1.3.7.1) for labour	%	100000		
1.3.7.2		Materials	Sum	1	100 000.00	100 000.00
1.3.7.2.1		Percentage adjustment to item 1.3.7.2) for materials	%	100000		
1.3.7.3		Plant	Sum	1	100 000.00	100 000.00
1.3.7.3.1		Percentage adjustment to item 1.3.7.3) for plant	%	100000		
		TESTING				
1.3.8		Concrete Test Cubes				
1.3.8.1		Make, lable, cure and test by independant laboratory, concrete test cubes for duration of contract. All test certificates to be presented to engineer. Only tests that have passed will be paid for.	Test	3000		
1.3.9		Soil Density Testing				
1.3.9.1		Perform soil density tests by independent laboratory and make test results avialble to engineer. Only tests that have passed will be paid for.	Test	200		
1.3.10		COMMUNITY LIASION OFFICER				
1.3.10.1		Allowance for R150 000 for CLO reimbursement.	PC	1	150 000.00	150 000.00
1.3.10.1.1		E.O Contractor's profit mark-up and attendance.	%	150000		
1.3.11		"KEY-ALIKE" PAD LOCKS				
1.3.11.1		Allowance of R 10 000.00 for the purchase of master locks.	PC	1	10 000.00	10 000.00
1.3.11.1.1		E.O Contractor's profit mark-up and attendance.	%	10000		
1.3.12		EPWP CONSUMABLES & TRAINING				
1.3.12.1		Allowance of R 175 000 for the Extended Public Works compliance consumables and Training.	PC	1	175 000.00	175 000.00
1.3.12.2		E.O Contractor's profit mark-up and attendance.	%	175000		
1.3.13		CROP DAMAGE COMPENSATION				
1.3.13.1		Allowance for R50 000 for crop damage compensation to local community.	PC	1	50 000.00	50 000.00
1.3.13.1.1		E.O Contractor's profit mark-up and attendance.	%	50000		
1.3.14		RESIDENT ENGINEER / CLERK OF WORKS				
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
1.3.14.1		Allowance of R600 000 for Resident Engineer & Accomodation	PC	1	600 000.00	600 000.00
1.3.14.1.1		E.O Contractor's profit mark-up and attendance.	%	600000		
1.3.15		CPG TRAINING SERVICES				
1.3.15.1		Provide the provisional sum for the payment of accredited community training including proven costs whilst on training: R 680 000.00	PC	1	680 000.00	680 000.00
1.3.15.1.1		E.O Contractor's overheads, charges, attenandce and profit on item above: %	%	680000		
1.3.16		HEALTH AND SAFETY				
1.3.16.1		Provide the provisional sum for the payment of Health and Safety Audits by the Health and Safety Practitioner appointed by the Engineer: R 220 000.00	PC	1	220 000.00	220 000.00
1.3.16.1.1		E.O Contractor's overheads, charges, attenandce and profit on item above: %	%	220000		
1.3.17		ENVIROMENTAL ASSESSMENTS				
1.3.17.1		Provide the provisional sum for the payment of Enviromental Audits by the Enviromental Controller appointed by the Engineer: R 280 000.00	PC	1	280 000.00	280 000.00
1.3.17.1.1		E.O Contractor's overheads, charges, attenandce and profit on item above: %	%	280000		
1.3.18		LAND SURVEYING				
1.3.18.1		Provide the provisional sum for the payment of Professional Surveyor appointed by the Principal Consultant to confirm the contractors surveying: R 120 000.00	PC	1	120 000.00	120 000.00
1.3.18.1.1		E.O Contractor's overheads, charges, attenandce and profit on item above: %	%	120000		
1.3.19		AS-BUILT				
1.3.19.1		Provisional Sum for As-Built and GIS Spatial dataset for project record keeping and relevant close out and relevant close out document services to principal consultant: R 380 000.00	PC	1	380 000.00	380 000.00
1.3.19.1.1		E.O Contractor's overheads, charges, attenandce and profit on item above: %	%	380000		
1.3.20		LIGHT DELIVERY VEHICLE (LDV)				
CARRIED FORWARD						

SECTION 1 : PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
1.3.20.1		Provisional Sum for LDV (Bakkie) with 4 x 4 Capability including: • Fuel for average travel of 750km/week; • Insurances (Vehicle and 3rd party); • Maintenance / Services; • General Wear; for use by Engineer or his representative and KCDM representatives for the duration of the contract: R 390 000.00	PC	1	390 000.00	390 000.00
1.3.20.1.1		E.O Contractor's overheads, charges, attenandce and profit on item above: %	%	390000		
1.3.21		COMMUNITY ENGAGEMENT				
1.3.21.1		Provisional Sum for client community engagement during construction stage of the project: R250 000.00	PC	1	250 000.00	250 000.00
1.3.21.1.1		E.O Contractor's overheads, charges, attenandce and profit on item above: %	%	250000		
1.3.22		COMMUNITY AWARENESS				
1.3.22.1		Provisional Sum for client community awareness during construction stage of the project: R250 000.00	PC	1	250 000.00	250 000.00
1.3.22.1.1		E.O Contractor's overheads, charges, attenandce and profit on item above: %	%	250000		
TOTAL FOR SECTION 1 CARRIED FORWARD TO SUMMARY						

SECTION 2 : SITE WORK

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		SITE WORK				
2.1	SABS 1200 C PSC	CLEAR SITE				
2.1.1	8.2.1 PSC.1.1	Clear and grub Site	ha	1		
	8.2.2	Remove and grub large trees and tree stumps of girth Over and up to				
2.1.2		1 m 2 m	No.	6		
2.1.3		2 m 3 m	No.	3		
2.1.4		3 m upwards in 1 m steps	No.	2		
2.1.5	8.2.5	Take down existing fences	m	33		
2.1.6	8.2.7	Dismantle and remove pipelines (not encased in concrete), electricity transmission lines, cables, etc.	m	150		
2.2	SABS 1200 D PSD	EARTHWORKS				
	8.3.2	EXCAVATION				
2.2.1	8.3.1.2	Remove topsoil to nominal depth 150mm, stockpile, and maintain	m²	6480		
2.3	8.3.2(a) PSD.1.1 PSD.1.2	Excavate in all materials and dispose within freehaul distance for :				
2.3.1		Clarifloculators	m³	1880		
2.3.2		Rapid gravity sand fillers.	m³	860		
2.3.3		Sludge Drybeds	m³	9140		
2.4	8.3.2(a) PSD.1.1	Excavate in all materials, stockpile and backfill or use for embankments to:				
2.4.1		Clarifloculators	m³	915		
2.4.2		Rapid gravity sand fillers.	m³	1515		
2.4.3		Sludge Drybeds	m³	2000		
2.5	8.3.2(b) PSD.1.2	Extra-over items 2.3 & 2.4 for excavation in:				
2.5.1		Hard rock material	m³	2145		
2.5.2		Boulder material, Class A	m³	1100		
2.6	8.3.3(a) PSD.1.1	Excavate for foundations in all materials, stockpile and backfill or use for embankments to:				
2.6.1		Clarifloculators.	m³	200		
2.6.2		Rapid gravity sand fillers.	m³	85		
2.6.3		Sludge Drybeds	m³	310		
2.7	8.3.3(b) PSD.1.2	Extra-over items 2.6 for excavation in:				
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
2.7.1		Hard rock material	m³	145		
2.7.2		Boulder material, Class A	m³	71		
2.8	8.3.4	IMPORT MATERIAL				
2.8.1		Import (G4 type material) backfill material from commercial sources and compaction to 98% Mod AASTHO density under all structures as directed.	m³	670		
2.8.2	8.3.9	Extra-over 2.4 & 2.6 for backfill with selected fill material and compaction to 98% Mod AASTHO density under all structures and paving as directed.	m³	315		
2.9		FINISHINGS				
2.9.1	8.3.10	Topsoiling 75mm	m²	7900		
2.9.2	8.3.11	Grassing, kikuyu runners.	m²	5500		
2.9.3	8.3.11	Grassing, kikuyu instant lawn.	m²	2690		
2.10	SABS 1200 DB	PIPE TRENCHES				
		EXCAVATION				
	8.3.2(a) PSDB	Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for pipes: up to 100 mm diam. for total trench depth: Exceeding but not exceeding				
2.10.1		0,0 m 1,0 m	m	145		
2.10.2		1,0 m 2,0 m	m	275		
2.10.3		2,0 m 3,0 m	m	44		
	8.3.2(a) PSDB	Over 100 up to 300 mm diam. for total trench depth: Exceeding but not exceeding				
2.10.4		0,0 m 1,0 m	m	70		
2.10.5		1,0 m 2,0 m	m	143		
2.10.6		2,0 m 3,0 m	m	69		
2.10.7		3,0 m 4,0 m	m	69		
	8.3.2(a) PSDB	Over 300 up to 600 mm diam. for total trench depth: Exceeding but not exceeding				
2.10.8		1,0 m 2,0 m	m	275		
2.10.9		2,0 m 3,0 m	m	520		
2.10.10		3,0 m 4,0 m	m	180		
		Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for cables. For total trench depth: Exceeding but not exceeding				
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
2.10.11		0,0 m 1,0 m	m	670		
2.10.12		1,0 m 2,0 m	m	275		
	8.3.2(b) PSDB.1.1	Extra-over items 2.10.1 to 2.10.12 incl. for:				
2.10.13		Hard rock excavation	m³	275		
2.10.14		Boulder material, Class A	m³	1100		
2.10.15	8.3.2(c) PSDB.2.3.2	Excavate and dispose of unsuitable material from trench bottom (Provisional)	m³	140		
2.11		EXISTING SERVICES				
	8.3.5(a)	Services that intersect a trench				
2.11.1		Cables	No.	6		
2.11.2		House water connections	No.	1		
2.11.3		Water mains up to 300 mm diam.	No.	2		
2.11.4		Water mains over 300 mm diam.	No.	4		
2.12	SABS 1200 L	WATER MAINS				
		PIPELINE				
	8.2.1	mPVC pipes: Supply, handle, cut, lay, and bed Class A bedding for flexible pipes . Joint, test, and disinfect (potable water pipeline)				
		Modified polyvinal chloride Piping (mPVC) Manufacture & Certified to SABS ISO 4427 for mPVC.				
2.12.1		250mm diam. Class 12	m	160		
2.12.2		355mm diam. Class 12	m	88		
2.12.3		355mm diam. Class 6	m	800		
2.12.4		550mm diam. Class 12	m	200		Rate Only
2.12.5		550mm diam. Class 9	m	18		Rate Only
2.12.6		550mm diam. Class 6	m	467		Rate Only
	8.2.1	HDPE Pipes: Supply, handle, cut, lay, bed, join, test, and disinfect.				
		High Density Polyethylene Piping (HDPE) Manufacture & Certified to SABS ISO 4427 for PE80 type piping.				
2.12.7		90mm HDPE PN10 PE80	m	50		Rate Only
2.12.8		75mm HDPE PN10 PE80	m	750		
2.12.9		50mm HDPE PN10 PE80	m	1650		
2.12.10		32mm HDPE PN10 PE80	m	150		Rate Only
2.12.11		20mm HDPE PN10 PE80	m	200		Rate Only
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
2.13	SABS 1200 L	SPECIALS AND FITTINGS				
	8.2.2	Supply, lay, and bed Class A bedding joint, incl cut pipes to length where required, test and disinfect:				
		Bends Modified polyvinal chloride Piping (mPVC) Class 12 Manufacture & Certified to SABS ISO 4427 for mPVC.				
2.13.1		250mm diam. 90 deg.	No.	2		
2.13.2		250mm diam. 45 deg.	No.	2		
2.13.3		250 mm diam. 22,5 deg.	No.	2		
2.13.4		250 mm diam. 11.25 deg.	No.	2		
2.13.5		350mm diam. 90 deg.	No.	6		
2.13.6		350mm diam. 45 deg.	No.	4		
2.13.7		350 mm diam. 22,5 deg.	No.	7		
2.13.8		350 mm diam. 11.25 deg.	No.	7		
2.13.9		550mm diam. 90 deg.	No.	1		Rate Only
2.13.10		550mm diam. 45 deg.	No.	2		Rate Only
2.13.11		550 mm diam. 22,5 deg.	No.	3		Rate Only
2.13.12		550 mm diam. 11.25 deg.	No.	3		Rate Only
	8.2.2	Supply, lay, bed, joint, incl cut pipes to length where required, test and disinfect:				
		HDPE Compression Fittings - 16 Bar rated or similar approved e.g Magnum' / 'Plasson' / 'Philmac' / 'Unidelta'				
2.13.13		90mm dia Coupling	No	3		
2.13.14		75mm dia Coupling	No	7		
2.13.15		50mm dia Coupling	No	14		
2.13.16		32mm dia Coupling	No	3		
2.13.17		20mm dia Coupling	No	6		
2.13.18		50mm dia equal tee.	No	2		
2.13.19		32mm dia equal tee.	No	1		
2.13.20		20mm dia equal tee.	No	10		
2.13.21		50 - 32mm dia Reducing Tee.	No	1		
2.13.22		50 - 20mm dia Reducing Tee.	No	4		
2.13.23		32 - 20mm dia Reducing Tee.	No	2		
2.13.24		50mm dia end cap.	No	2		
2.13.25		32mm dia end cap.	No	1		
2.13.26		20mm dia end cap.	No	3		
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
2.14	8.2.3 8.2.13	VALVES AND VALVE CHAMBERS				
		Manufacture and/or procure, deliver and install the following pipes and pipe fittings, valves, flange adapters, galv. bolts & nuts, I -Rings etc. to the following chambers, including manhole chamber and lid or spindle cap:				
		Air Release Valves:				
2.14.1		Air release valve to 350dia pipe as per Drawing 18-023-V-A-06-03	No	2		
2.14.2		Air release valve to 75dia pipe as per Drawing 18-023-V-A-06-03: 75dia air valve detail.	No	1		
2.14.3		Air release valve to 50dia pipe as per Drawing 18-023-V-A-06-03: 50dia air valve detail.	No	2		
		Scour Valves:				
2.14.4		Scour valve to 500dia pipe as per Drawing 18-023-V-A-06-03: 500dia Scour valve detail.	No	1		
2.14.5		Scour valve to 350dia pipe as per Drawing 18-023-V-A-06-03: 350dia Scour valve detail.	No	1		
		Isolating Valves:				
2.14.6		Isolating valve to 50dia pipe as per Drawing 18-023-V-A-06-03: 50dia RS valve detail.	No	4		
		Sundries				
2.14.7		Supply Valve key for opening & closing of valves.	No	2		
	8.2.15	Galvanised Piping Corrosion Protection - Apply to galvanised pipework prior to backfilling a Bitumen tape primer then spirally wrap the pipe with a Bitumen Tape at 55% overlap. All flanges must receive profiling mastic with bitumen tape and Clingwrap. (Similar to 'Denso' corrosion protection system) Apply for the following pipe diameters:				
2.14.8		500mm dia. Pipe & fittings.	m	20		
2.14.9		350mm dia. Pipe & fittings.	m	38		
2.14.10		250mm dia. Pipe & fittings.	m	8		
2.14.11		100mm dia. Pipe & fittings.	m	8		
2.14.12		80mm dia. Pipe & fittings.	m	8		
2.14.13		50mm dia. Pipe & fittings.	m	15		
2.15		ANCILLARIES				
	8.2.11	Anchor/Thrust blocks and pedestals				
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
2.15.1		Concrete Class 15MPa	m³	43		
2.15.2		Formwork	m²	50		
2.16	SABS 1200 LB	BEDDING				
2.17		PROVISION OF BEDDING				
		Available from trench within 0,5 km (Subclause 3.4.1)				
2.17.1	8.2.1	a) Selected fill material	m³	300		
		Imported from				
	8.2.2.1	a) Other necessary excavations within 0.5 km (Provisional)				
2.17.2		1) Selected granular material	m³	55		
2.17.3		2) Selected fill blanket	m³	55		
	8.2.2.3	c) Commercial sources				
2.17.4		1) Selected granular material	m³	615		
2.18	1200 LD	SEWERS				
		PIPEWORK				
	8.2.1	Supply, lay, joint, bed Class A and test uPVC sewer pipes with socket and spigot joints				
2.18.1		110 mm diam., Class 51	m	18		
2.18.2		160 mm diam., Class 51	m	60		
2.18.3		250 mm diam., Class 51	m	300		
2.18.4		355 mm diam., Class 51	m	180		
2.18.5		400 mm diam., Class 51	m	18		
2.18.6		450 mm diam., Class 51	m	84		
2.19	8.2.3	Waste water manhole to Dwg No: 18-023-V-A-06-04 complete with earthworks, floor slab, benching, brickwork, concrete rings and cover, etc. for depths over and up to				
2.19.1		- 1.5 m	No.	10		
2.19.2		1.5 m 2.5 m	No.	6		
2.19.3		2.5 m 3.5 m	No.	1		
2.19.4		2.5m 4.5 m	No.	1		
2.19.5		Painting manhole lids	No	18		
2.20		SUNDRIES				
2.20.1	8.2.9	Marker posts, complete, installed as per Dwg No: 18-023-V-A-06-02	No.	15		
2.21		STANDPIPE				
CARRIED FORWARD						

SECTION 2 : SITE WORK

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Manufacture and/or procure, deliver and install the following complete, including fittings, tap, concrete, earthworks, etc.				
2.21.1		Standpipe as per Drawing 18-023-V-A-06-02: Standpipe detail.	No	4		
2.22		ELECTRICAL DRAW PITS				
2.22.1		Construct 600 x 600mm by 800mm deep concrete draw pit with lockable manhole cover to the 6Ml reservoir electrical sleeve spaced at 100m c/c	No	1		
2.23		SITE SIGNAGE				
2.23.1		Procure and install signage and entrance nameboard as per engineers details: R15 000	Sum	1	15 000.00	15 000.00
2.23.2		Contractors markup	%	15000		
TOTAL FOR SECTION 2 CARRIED FORWARD TO SUMMARY						

SECTION 3 : INLET CHAMBER

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		INLET CHAMBER				
3.1		MASONRY WORK				
		MASONRY WORK				
3.1.1		Demolishing of existing brickwork as per Drawing No. 18-023-V-A-02-02	m²	3		
3.2		ALUMINIUM WORK				
		Manufacture / procure and install the following aluminium items:				
3.2.1		Manufacture supply and install by specialist a non-removable aluminium hand sluice with seals as per typical detail. Drawing No: 18-023-V-A-02-02. Gate to be 1000mm wide x 450mm high with adjustable gate handle and frame to be 1000mm wide x 1200mm high	No	2		
3.3		STAINLESS STEEL WORK				
		Manufacture / procure and install the following stainless steel items:				
3.3.1		2750mm Long x 145mm High adjustable weir plate incl. all anchor bolts, etc. as per detail. Drawing No: 18-023-V-A-02-02.		1		
TOTAL FOR SECTION 3 CARRIED FORWARD TO SUMMARY						

SECTION 4 : CLARIFLOCULATOR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		CLARIFLOCULATOR				
	SABS 1200 DA	EARTHWORKS (SMALL WORKS)				
4.1		EXCAVATION				
	8.3.2	Excavate in all materials and backfill or place embankment for:				
4.1.1		Inlet, Scour and drain pipe	m³	56		
	SABS 1200 G	CONCRETE (STRUCTURAL)				
4.2	8.1.3	CONCRETE				
	8.4.2	Blinding layer in 15 MPa/13 mm concrete				
4.2.1		40 mm minimum thickness	m²	760		
	8.4.2	"No Fines" blinding layer in 15MPa/13 mm concrete				
4.2.2		40 mm minimum thickness	m²	360		
	8.4.3	Strength concrete: 15 MPa/19mm				
4.2.3		Benching at slopes up to 45deg	m³	30		
	8.4.3	Strength concrete: 25 MPa/19mm				
4.2.4		Sludge scour chamber base	m³	3.85		
4.2.5		Sludge scour chamber walls	m³	16.5		
	8.4.3 PSG.6.2	Strength concrete: 35 MPa/19mm with 600g/m3 Polypropylene Microfibers, cast and cure to the following:				
4.2.6		Base	m³	126		
4.2.7		Floor slab	m³	94		
4.2.8		Walls	m³	220		
4.2.9		Columns	m³	10		
4.2.10		Beams	m³	19		
4.2.11		Suspended slabs	m³	19.5		
4.2.12		Floc chamber top beams	m³	8		
4.2.13		Encasement of inlet and scour pipe.	m³	21		
4.3	8.1.1 PSG.2	FORMWORK				
	8.2.3 PSG.2.3	Smooth horizontal plane (Class F2) to:				
4.3.1		Outlet channel soffit. (Curved).	m²	95		
4.3.2		Beam soffit.	m²	43		
4.3.3		Top beams	m²	43		
	8.2.3 PSG.2.3	Special Smooth vertical plane (Class F2) to:				
4.3.4		Curved Walls	m²	1620		
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
4.3.5		Curved Base	m²	121		
4.3.6		Beams	m²	42		
4.3.7		Curved Beams	m²	42		
4.3.8		Columns	m²	34		
4.3.9		Sludge scour chamber walls	m²	131		
4.3.10		Sludge scour chamber base & encased pipes.	m²	68		
4.3.11		Top beams	m²	30		
4.3.12	8.2.5	Vertical narrow widths up to 200 mm wide	m	308		
		Shutter Release Oil				
4.3.13		Supply and apply "Chryso Dem Bio 10" or similar approved vegetable-based, bio-degradable and non toxic release agent at a rate of 30m² / liter as thinly as possible and as near as possible to time of concreteting. Preferably sprayed onto steel shutters.	m²	2183		
		Curing Compund				
4.3.14		Supply and spray "MasterKure 181" or similar approved non-degrading, liquid based on Pliolite Resin curing compound suitable for spray application to freshly poured concrete at and application rate of 6m² / liter as soon as the shutters have been stripped or as soon as floating has been finished on floor surfaces.	m²	3180		
		Protective Epoxy Coating				
4.3.15		Supply and apply " MasterProtect 180" or similar approved non-toxic solvent free high build, protective epoxy resin coating applied to prepared concrete surface in two separate coats at an application rate of 5m² / liter per coat. Application to be done as close as possible to commissioning of plant to avoid damage to coating.	m²	3795		
	8.1.1.2	Chamfers				
4.3.16		Chamfer 25 mm x 25 mm	m	420		
4.3.17		Chamfer 100 mm x 100 mm to outlet channel.	m	138		
	8.2.6	Box out holes/form voids				
		Large, circular, diam. 0,35 - 0,7 m : depths over and up to				
4.3.18		0 m 0,5 m	No.	8		
		Non recoverable ties for wall formwork (No alternatives allowed):				
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
4.3.19		12mm Extended coil ties with water bar to suite 300mm thick wall complete with cones, tie bolt and washer and corked once formwork is removed.	no	780		
4.4	8.1.2	REINFORCEMENT				
	8.3.1	High-tensile steel bars				
4.4.1	8.1.2.1	Supply and fixing of all diameter reinforcing steel to all concrete volumes including cover blocks to shuttering.	t	52		
	8.3.2	High-tensile welded mesh reinforcement				
4.4.2		Supply, cut, place, including cover block Type reference 395 in standard sheets	m²	13		
4.4.3		Supply, cut, place, including cover block Type reference 500 in standard sheets	m²	430		
4.5	8.4.4 PSG.7	UNFORMED SURFACE FINISHES				
	PSG.7.2	Wood-floated finish (Class U2)				
4.5.1		Top of beams	m²	83		
	PSG.7.3	Steel-floated finish (Class U3)				
4.5.2		Top of base	m²	247		
4.5.3		Top of walls	m²	74		
4.5.4		Outlet channel floor	m²	70		
4.5.5		Chamber floor	m²	12.75		
	PSG.7.4	Power-floated finish (Class U4)				
4.5.6		Top of floorslabs	m²	505		
4.6	8.5	JOINTS & JOINT SEALANTS (Movement & Construction)				
		Horizontal Joints - Construction joint complete with high density polyethylene joint former (minimum 100kg/m³) and seal with 200mm wide 2mm thick "MasterSeal 930" or similar approved Bandage system by specialist according to manufacturers spesification (Including 75mm wide 2mm thick HDPE strip over joint before membrane is installed).				
4.6.1		10mm Expansion joint between base and floor slab.	m	126		
		Horizontal Joints - Construction joint complete with high density polyethylene joint former (minimum 100kg/m³) and seal with 200mm wide 2mm thick "MasterSeal 930" or similar approved Bandage system by specialist according to manufacturers spesification (Including 75mm wide 2mm thick HDPE strip over joint before membrane is installed).				
CARRIED FORWARD						

SECTION 4 : CLARIFLOCULATOR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
4.6.2		10mm Constrcution joint between floor slabs Horizontal Joints - Saw cut joint, fill cut groove with slurry and seal with 200mm wide 2mm thick "MasterSeal 930" or similar approved Bandage system by specialist according to manufacturers spesification.	m	93		
4.6.3		3mm Saw cut joint in floor Horizontal Joints - Seal with 200mm wide 2mm thick "MasterSeal 930" or similar approved Bandage system including corner fillet by specialist according to manufacturers spesification.	m	16		
4.6.4		Constrcution joint between wall and floor slabs	m	140		
4.6.5		Construction joint between lifts Vertical and Horizontal Joints - 200mm PVC waterstop with expansion bulb and reinforced eyeleted ficing flanges for wiring the waterstop to surrounding rebar.	m	545		
4.6.6		In walls	m	654		
4.7		WATER PROOFING & DRAINAGE One layer of 250 micron Gunplast USB green waterproof sheeting:				
4.7.1		Under floor, over blinding. Sub soil drain under reservoir floor cast into concrete.	m²	400		
4.7.2		19mm Stone filling	m³	12.5		
4.7.3		110mm 'Marley-LANDRAIN' perforated pipe or similar approved.	m	60		
4.7.4		110mm 'Marley' PVC Sewer pipe.	m	40		
4.7.5		110mm PVC Bends Inlet pipe under clarifloculator floor cast into concrete.	No	5		
4.7.6		355mm uPVC PN9	m	18		
4.7.7		75mm HDPE PN6	m	150		
4.8		GENERAL				
4.8.1		Manufacture and keep in place meranti joint former.	m	165		
4.9	PSG.6.5	TESTING & STERILISING				
4.9.1		Allow an amount to test the clarifloculator for water tightness as specified once water is made available.	sum	2		
4.10		Sundries				
CARRIED FORWARD						

SECTION 4 : CLARIFLOCULATOR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
4.10.1		Painting of the outside structures including the scour chamber with a Single Fairing coat of Structo Rep FC or simmilar approved by the Engineer.	m²	1200		
4.11		GALVANISED METAL PIPEWORK				
		PIPEWORK				
		PIPING, FITTINGS & VALVES Supply, manufacture / procure, deliver & install the following pipes, pipe fittings & valves. All welds to comply with the API 1104 Standard. *Piping in accordance to SABS 62 Part 1-1989: Table 2 - medium class steel pipes. *All flanges to be as detailed *All metalwork must be cleaned, using a mechanical driven wire brush and hot dipped galvanised in accordance with SABS 763.				
		Refer to detailed drawing 18-023-V-A-03-02 for the following:				
4.11.1		350mm Dia. VJ Flange adaptor for uPVC, T10 flanged as detailed No: 3-01.	No	8		
4.11.2		350mm Dia. Straight, T10 flanged with puddle flange as detailed No: 3-02 Manufactured from Gr. 304 Stainless Steel.	No	2		
4.11.3		350mm Dia Straights, with 90deg long radius bend, T10 flanged, 2 x puddle flanges and 7deg bend as detailed No: 3-03. Manufactured from Gr. 304 Stainless Steel.	No	2		
4.11.4		350mm Dia Straight with 1 x T10 flange as detailed No: 3-04. Manufactured from Gr. 304 Stainless Steel.	No	2		
4.11.5		350mm Dia Straight with 1 x T10 flange, 1 x puddle flange and 550mm dia bell mouth as detailed No: 3-05. Manufactured from Gr. 304 Stainless Steel.	No	2		
4.11.6		350mm Dia 90deg long radius bend, T10 flanged as detailed No: 3-06.	No	4		
4.11.7		350mm Dia. Straight, T10 flanged as detailed No: 3-07	No	2		
4.11.8		150mm Dia. Straight, with 45deg bend, 1 x T10 flange, 2 x puddle flanges and 300mm dia bell mouth as detailed No: 3-08. Manufactured from Gr. 304 Stainless Steel.	No	2		
4.11.9		150mm Dia. Equal tee eith 3 x T10 flanges as detailed No: 3-09.	No	2		
4.11.10	PD2	150mm Dia Wedge gate valve to SANS 664, T10 flanged as detailed No: 3-10	No	2		
4.11.11		150mm Dia. Straight, T10 flanged as detailed No: 3-011	No	2		
CARRIED FORWARD						

SECTION 4 : CLARIFLOCULATOR

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
4.11.12		150mm Dia 90deg long radius bend, T10 flanged as detailed No: 3-12.	No	2		
4.11.13	PD2	150mm Dia. Wedge gate valve to SANS 664, T10 flanged., with extended spindle, 900mm high stand and hand wheel as detailed No: 3-13.	No	2		
4.11.14		150mm Dia. Straight, with 1 x T10 flange as detailed No: 3-14.	No	2		
4.12		Sundries				
4.12.1		Allow for galvanised bolts for pipe connections as measured above.	sum	1		
4.12.2		Allow for I-Rings, gaskets etc. for pipe connections measured above.	sum	1		
4.12.3		Allow 150mm dia. isolating joint between Galv. & S/Steel pipework.	No	2		
4.12.4		Allow 350mm dia. isolating joint between Galv. & S/Steel pipework.	No	2		
4.13		GALVANISED STEEL WORK				
		Manufacture / procure and install the following hot dipped galvanised items:				
4.13.1		Supply and install galvanised 1500mm x 3000mm Rectagrid RS40 x 40 4.5 cover with surrounding flat bar frame, complete with 60x60x6mm angle iron support, 700mm x 700mm hinged lockable access manhole and anchor bolts to scour chamber	No	1		
4.13.2		4100mm Long Chamber internal access ladder as per plan incl. all anchor bolts, etc.	No	1		
4.13.3		1800mm Long Chamber external access ladder as per plan incl. all anchor bolts, etc.	No	1		
TOTAL FOR SECTION 4 CARRIED FORWARD TO SUMMARY						

SECTION 5 : RAPID GRAVITY SAND FILTER

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		RAPID GRAVITY SAND FILTER				
	SABS 1200 G	CONCRETE (STRUCTURAL)				
5.1	8.1.3	CONCRETE				
	8.4.2	Blinding layer in 15 MPa/13 mm concrete				
5.1.1		40 mm minimum thickness	m²	340		
	8.4.3	Strength concrete: 15 MPa/19mm				
5.1.2		Mass concrete	m³	1.65		
	8.4.3 PSG.6.2	Strength concrete: 35 MPa/19mm with 'Polyforce' synthetic fibres.				
5.1.3		Column base	m²	3.5		
5.1.4		Columns	m²	2		
5.1.5		Columns to filter floor	m³	3.25		
5.1.6		Beams	m³	6		
5.1.7		Floor slabs	m³	105		
5.1.8		Suspended slabs	m³	55		
5.1.9		Filter floor	m³	20		
5.1.10		Stairs	m³	2		
5.1.11		Walls	m³	225		
5.2	8.1.1 PSG.2	FORMWORK				
	8.2.3 PSG.2.3	Smooth horizontal plane (Class F2) to:				
5.2.1		Suspended slab soffit	m²	310		
5.2.2		Stair soffit	m²	8		
5.2.3		Beam soffit	m²	2		
5.2.4		25mm Thick fiber-cement permanent shutter to backwash inlet and outlet channel	m²	25		
	8.2.3 PSG.2.3	Special Smooth vertical plane (Class F2) to:				
5.2.5		Column base	m²	9		
5.2.6		Columns	m²	16		
5.2.7		Beams	m²	50		
5.2.8		Walls	m²	1925		
5.2.9	8.2.5	Vertical narrow widths up to 250mm wide	m	86		
5.2.10	8.2.5	Horizontal narrow widths up to 300mm wide for side of floor	m	310		
		Shutter Release Oil				
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
5.2.11		Supply and apply "Chryso Dem Bio 10" or similar approved vegetable-based, bio-degradable and non toxic release agent at a rate of 30m² / liter as thinly as possible and as near as possible to time of concreteting. Preferably sprayed onto steel shutters.	m²	2675		
		Curing Compund				
5.2.12		Supply and spray "MasterKure 181" or similar approved non-degrading, liquid based on Pliolite Resin curing compound suitable for spray application to freshly poured concrete at and application rate of 6m² / liter as soon as the shutters have been stripped or as soon as floating has been finished on floor surfaces.	m²	2673		
	8.1.1.2	Chamfers				
5.2.13		Chamfer 20 mm x 20 mm	m	605		
5.2.14		Chamfer 100 mm x 100 mm	m	31		
	8.2.6	Box out holes/form voids				
		Large, circular, diam. 0,35 - 0,7 m : depths over and up to				
5.2.15		0 m 0,5 m	No.	24		
5.3	8.1.2	REINFORCEMENT				
	8.3.1	High-tensile steel bars				
5.3.1	8.1.2.1	Supply and fixing of all diameter reinforcing steel to all concrete volumes including cover blocks to shuttering.	t	55		
5.3.2		Allow to drill & grout in position reinforcing anchor bars for the filterbed slab. Refer to detailed drawing	No	1520		
	8.3.2	High-tensile welded mesh reinforcement				
5.3.3		Type reference 395 in standard sheets	m²	12		
5.3.4		Type reference 500 in standard sheets	m²	12		
5.4	8.4.4 PSG.7	UNFORMED SURFACE FINISHES				
	PSG.7.2	Wood-floated finish (Class U2) to:				
5.4.1		Top of column base	m²	8.8		
5.4.2		Top of exterior walkways	m²	75		
	PSG.7.3	Steel-floated finish (Class U3) to:				
5.4.3		Top of slabs.	m²	363		
5.4.4		Top of walls.	m²	75		
	PSG.7.3	Power float finish (Class U4) to:				
5.5		Top of slabs.	m²	170		
CARRIED FORWARD						

SECTION 5 : RAPID GRAVITY SAND FILTER

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
5.6	8.5	JOINTS & JOINT SEALANTS (Movement & Construction)				
		Vertical and Horizontal Joints - 220mm PVC waterstop Dumb-Bell type.				
5.6.1		In walls	m	780		
		Vertical and Horizontal Joints - 220mm PVC waterstop Reargard without centre bilb type.				
5.6.2		In slabs	m	40		
5.7		WATER PROOFING & DRAINAGE				
		Drain scour pipes. Supply and install the following pipes and fittings.				
5.7.1		110mm 'Marley' PVC Sewer pipe.	m	43		
5.7.2		110mm PVC Bends	No	2		
5.7.3		110mm PVC Gulley head	No	1		
5.7.4		75mm HDPE PN6 pipes.	m	50		
		Sub soil drain under reservoir floor.				
5.8		Sub soil drain excavations (By hand) in imported fill or natural insitu material.	m^3	15		
5.9		19mm Stone filling	m^3	11		
5.10		110mm 'Marley-LANDRAIN' perforated pipe or similar approved.	m	42		
5.11		110mm PVC Bends	no	2		
5.12		110mm PVC Discharge piping into scour chamber	m	18		
5.13		GENERAL				
5.13.1		Manufacture and keep in place meranti joint former for Handgate key as detailed.	No	5		
5.14		GALVANISED METAL PIPEWORK				
		PIPEWORK				
		PIPING, FITTINGS & VALVES Supply, manufacture / procure, deliver & install the following pipes, pipe fittings & valves. All welds to comply with the API 1104 Standard. *Piping in accordance to SABS 62 Part 1-1989: Table 2 - medium class steel pipes. *All flanges to be as detailed *All metalwork must be cleaned, using a mechanical driven wire brush and hot dipped galvanised in accordance with SABS 763.				
		All piping and fittings shall be hot dipped galvanised to SABS 763 specification. Refer to detailed drawing 18-023-V-A-04-05 for the following:				
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
5.14.1		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. VJ Flange adaptor for uPVC, T10 flanged as detailed No:4-01.	No	4		
5.14.2		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Straight with 2 x 90deg short radius bends, T10 flanged as detailed No:4-02.	No	2		
5.14.3		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Straight, 1 x T10 flange with puddle flange as detailed No:4-03. Manufactured from Gr. 304 Stainless Steel.	No	4		
5.14.4		SUPPLIED by OTHERS - INSTALL ONLY : 350-300mm Dia. Eccentric reducer, T10 flanged as detailed No:4-04.	No	2		
5.14.5		SUPPLIED by OTHERS - INSTALL ONLY : 300mm Dia. Straight, T10 flanged with puddle flange as detailed No:4-05.	No	1		
5.14.6		SUPPLIED by OTHERS - INSTALL ONLY : 300mm Dia WP Dynamic pulse output water meter DN 300, T10 flanged as detailed No: 4-06.	No	1		
5.14.7		SUPPLIED by OTHERS - INSTALL ONLY : 300mm Dia. Straight, T10 flanged as detailed No:4-07.	No	1		
5.14.8		SUPPLIED by OTHERS - INSTALL ONLY : 300mm Dia. Viking Johnson dismantling joint, 10bar rated, as detailed No:4-08.	No	1		
5.14.9		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Straight with 1 x 90deg short radius bends, T10 flanged as detailed No:4-09.	No	1		
5.14.10	PD.2 PD.3	SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. wafer type 10 bar rated Butterfly isolating valve, gear operated as detailed No:4-10.	No	1		
5.14.11		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Straight with 1 x 350mm branch, T10 flanged as detailed No:4-11.	No	1		
5.14.12		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Straight with 1 x T10 flange as detailed No:4-12.	No	4		
5.14.13		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Viking Johnson coupling, 10bar rated, as detailed No:4-13.	No	4		
5.14.14		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Straight with 1 x 350mm branch and 2 x T10 flanges as detailed No:4-14.	No	3		
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
5.14.15		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Straight with 1 x 350mm branch and 2 x T10 flanges as detailed No:4-15.	No	1		
5.14.16		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Blank flange T10 as detailed No:4-16.	No	1		
5.14.17		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Straight with 1 x 90deg short radius bends, T10 flanged as detailed No:4-17.	No	5		
5.14.18	PD.1 PD.2	SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. 10 bar rated wafer type Butterfly isolating valve including, pneumatic actuator with limit switch and solenoid valve as detailed No:4-18.	No	5		
5.14.19		SUPPLIED by OTHERS - INSTALL ONLY : 350-250mm Dia. Reducing tee, T10 flanged as detailed No:4-19.	No	5		
5.14.20		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Straight, 1 x T10 flange with puddle flange as detailed No:4-20. Manufactured from Gr. 304 Stainless Steel.	No	5		
5.14.21	PD.1 PD.2	SUPPLIED by OTHERS - INSTALL ONLY :250mm Dia. 10 bar rated wafer type Butterfly isolating valve including, pneumatic actuator with limit switch and solenoid valve as detailed No:4-21.	No	5		
5.14.22		SUPPLIED by OTHERS - INSTALL ONLY : 250-200mm Dia. Eccentric reducer, T10 flanged as detailed No:4-22.	No	5		
5.14.23		SUPPLIED by OTHERS - INSTALL ONLY :200mm Dia. Viking Johnson dismantling joint, 10bar rated, as detailed No:4-23.	No	5		
5.14.24		SUPPLIED by OTHERS - INSTALL ONLY : 200mm dia Bermad 750-66 level controll valve with modulating float, T10 flanged. Or similar approved	No	5		
5.14.25		SUPPLIED by OTHERS - INSTALL ONLY : 250-200mm Dia. Eccentric reducer, T10 flanged as detailed No:4-25.	No	5		
5.14.26		SUPPLIED by OTHERS - INSTALL ONLY : 250mm Dia. Straight, T10 flanged with puddle flange as detailed No:4-26. Manufactured from Gr. 304 Stainless Steel.	No	5		
5.14.27		SUPPLIED by OTHERS - INSTALL ONLY : 250mm Dia. 90deg short radius bend with 1 x T10 flange and 450dia. belmouth. As detailed No:4-27.	No	5		
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
5.14.28		SUPPLIED by OTHERS - INSTALL ONLY : 500mm Dia. Straight, 1 x T10 flange with puddle flange as detailed No:4-28. Manufactured from Gr. 304 Stainless Steel.	No	5		
5.14.29		SUPPLIED by OTHERS - INSTALL ONLY : 500mm Dia. Blank flange T10 as detailed No:4-29.	No	5		
5.14.30		SUPPLIED by OTHERS - INSTALL ONLY : 50mm Dia straight, with 90 deg bend, 2 x puddle flanges and 1 x T16 flange. As detailed No:4-30. Manufactured from Gr. 304 Stainless Steel.	No	5		
5.14.31		SUPPLIED by OTHERS - INSTALL ONLY : 50mm Dia. Blank flange T16 as detailed No:4-31.	No	5		
5.14.32		SUPPLIED by OTHERS - INSTALL ONLY : 50mm Dia. Straight, 1 x T16 flange with puddle flange as detailed No: 4-32. Manufactured from Gr. 304 Stainless Steel.	No	5		
5.14.33		SUPPLIED by OTHERS - INSTALL ONLY : 50mm Dia RS gate valve to SANS 664, T16 flanged.	No	5		
5.14.34		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Straight, 1 x T16 flange with puddle flange as detailed No: 4-34. Manufactured from Gr. 304 Stainless Steel.	No	5		
5.14.35		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. long radius bend, T10 flanged as detailed No:4-35	No	5		
5.14.36	PD.1 PD.2	SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. 10 bar rated wafer type Butterfly isolating valve including, pneumatic actuator with limit switch and solenoid valve as detailed No:4-36.	No	5		
5.14.37		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Straight, T10 flanged as detailed No:4-37.	No	5		
5.14.38		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Viking Johnson dismantling joint, 10bar rated, as detailed No:4-38.	No	5		
5.14.39		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Straight, T10 flanged as detailed No:4-39.	No	5		
5.14.40		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Blank flange T10 as detailed No:4-40	No	1		
5.14.41		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Straight with 1 x 150mm branch and 2 x T10 flanges as detailed No:4-41.	No	5		
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
5.14.42		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Viking Johnson coupling, 10bar rated, as detailed No:4-42.	No	5		
5.14.43		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Straight with 1 x T10 flange as detailed No:4-43.	No	4		
5.14.44		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Straight with 1 x T10 flange as detailed No:4-44.	No	1		
5.14.45		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Equal tee, T10 flange as detailed No:4-45.	No	1		
5.14.46		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Straight, T10 flanged as detailed No:4-46.	No	1		
5.14.47		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Straight with 1 x T10 flange as detailed No:4-47.	No	1		
5.14.48		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. Straight with 2 x 150mm branch and 3 x T10 flanges as detailed No:4-48.	No	1		
5.14.49		SUPPLIED by OTHERS - INSTALL ONLY : 150mm Dia. long radius bend, with straight and 1 x T10 flanged as detailed No:4-49	No	2		
5.14.50		SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. Straight, 1 x T10 flange with puddle flange as detailed No:4-50. Manufactured from Gr. 304 Stainless Steel.	No	5		
5.14.51	PD.1 PD.2	SUPPLIED by OTHERS - INSTALL ONLY : 350mm Dia. 10 bar rated wafer type Butterfly isolating valve with lugs including, pneumatic actuator with limit switch and solenoid valve complete with stainless steel extended spindle and 800mm high actuator stand as detailed No:4-51	No	5		
5.14.52		SUPPLIED by OTHERS - INSTALL ONLY : 80mm Dia straight, with 90 deg bend, 1 x puddle flanges and 1 x T16 flange. As detailed No:4-52. Manufactured from Gr. 304 Stainless Steel.	No	1		
5.14.53		SUPPLIED by OTHERS - INSTALL ONLY : 75mm x 3" HDPE Flanged adaptor. Item No4-53	No	1		
5.14.54		SUPPLIED by OTHERS - INSTALL ONLY : 250mm Dia. Straigh with 1 x puddle flange and 450dia. belmouth as detailed No:4-54. Manufactured from Gr. 304 Stainless Steel.	No	2		
5.15		Sundries				
5.15.1		Allow for galvanised bolts for pipe connections as measured above.	sum	1		
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
5.15.2		Allow for I-Rings, gaskets etc. for pipe connections measured above.	sum	1		
5.15.3		Allow 500mm dia. isolating joint between Galv. & S/Steel pipework.	No	5		
5.15.4		Allow 350mm dia. isolating joint between Galv. & S/Steel pipework.	No	10		
5.15.5		Allow 250mm dia. isolating joint between Galv. & S/Steel pipework.	No	10		
5.15.6		Allow 150mm dia. isolating joint between Galv. & S/Steel pipework.	No	5		
5.15.7		Allow 50mm dia. isolating joint between Galv. & S/Steel pipework.	No	5		
5.16		GALVANISED STEEL WORK				
		Manufacture / procure and install the following hot dipped galvanised items:				
5.16.1		Supply and install galvanised 1800mm x 1200mm Rectagrid RS40 x 40 x 4.5 cover with surrounding flat bar frame, complete with 60x60x6mm angle iron support and anchor bolts to clear well gallery.	No	5		
5.16.2		2500mm Long internal access ladder as per plan incl. all anchor bolts, etc.	No	2		
5.16.3		150dia Wall mounted pipe support bracket as per plan incl. all anchor bolts, etc.	No	3		
5.16.4		150dia Roof mounted pipe support bracket as per plan incl. all anchor bolts, etc.	No	6		
5.16.5		350dia Floor mounted pipe support bracket as per plan incl. all anchor bolts, etc.	No	8		
5.16.6		150dia Floor mounted pipe support bracket (blower pipework)	No	2		
5.17		ALUMINIUM WORK				
		Manufacture / procure and install the following aluminium items:				
5.17.1		Manufacture supply and install by specialist a removable aluminium hand sluice with seals as per typical detail. Drawing No: 18-023-V-A-04-05. Gate and frame to be 350mm wide x 900mm high.	No	5		
5.18		STAINLESS STEEL WORK				
		Manufacture / procure and install the following stainless steel items:				
5.18.1		2500mm Long internal access ladder as per plan incl. all anchor bolts, etc.	No	1		
5.18.2		4940mm Long inlet gutter as per plan incl. all anchor bolts, etc.	No	5		
5.19		CAST-IRON WORK				
CARRIED FORWARD						

SECTION 5 : RAPID GRAVITY SAND FILTER

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Manufacture / procure and install the following cast-iron items:				
5.19.1		450 x 600mm Single seal cast-iron 54.4kg access manhole with frame cast into concrete.	No	4		
5.20	SABS 1200 HA	MILD STEEL GALVANISED STANCHION AND HANDRAILS TO BE MOUNTED ON CONCRETE WALL				
	8.3.7	Handrailing as shown on Drawing				
		Rails:				
5.20.1		Handrails	m	130		
5.20.2		Kneerails	m	130		
		Stanchions:				
5.20.3		Top mounted	No.	90		
5.20.4		Side mounted	No.	27		
		Bends and end closures:				
5.20.5		90° bends	No.	52		
5.20.6		90° end closure	No.	22		
		Accessories:				
5.20.7		Ferrules	No.	200		
5.20.8		Pins	No.	400		
5.20.9		HD bolts	Sets	260		
TOTAL FOR SECTION 5 CARRIED FORWARD TO SUMMARY						

SECTION 6 : SAND FILTER - BUILDING WORK

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		SAND FILTER - BUILDING WORK				
6.1		MASONRY				
		Masonry Brickwork to consist of SABS aproved burnt clay plaster bricks, on 85mm gauge, in stretcher bond, with equal horizontal and vertical joints.				
		Super structure brickwork :				
6.1.1		230mm Wall	m²	280		
6.1.2		115mm Beam filling 200mm high extreme.	m²	43		
		Extra Over brickwork:				
6.1.3		E.O For exterior brick skin in 'FBS' Quality Clay Face Brick - 'Montana Travertine' from Corobrick or similar approved by Project Manager.	m²	280		
6.1.4		E.O For exterior roller coarse in 'FBS' Quality Clay Face Brick - 'Montana Travertine' from Corobrick or similar approved by Project Manager.	m	70		
6.1.5		E.O For brickwork for building in two seperate skins and applying bag wash to inside skin to take 'Brixeal' by ABE or similar approved waterproofing emulsion. (Emulsion measured elsewhere).	m²	280		
		Standard prestressed fabricated lintels including bedding bearing ends in 'Wallcrete' cement mortar and propping as necessary:				
6.1.6		102 x 70mm Lintels in lengths not exceeding 1500mm (Prov.)	m	33		
		Sundries				
		Welded mesh brick reinforcement built horizontally into walls and lintels on every 4th course.				
6.1.7		75mm Wide reinforcement	m	200		
6.1.8		150mm Wide reinforcement	m	1150		
		Galvanised hoop iron cramps, ties, etc:				
6.1.9		30 x 1,6mm Roof tie 1500mm long with one end fixed to timber and other end built into brickwork, min. 6 courses or cast onto ring beam..	No	60		
6.2		WATERPROOFING				
		Damp-proofing of walls and floors One layer of 375 micron Brickgrip or similar approved DPC embossed damp-proof course:				
6.2.1		In walls (Prov.)	m	110		
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Joint sealants: Sikaflex 1A or similar approved polyurethane sealing compound including backing cord, bond breaker, primer, etc:				
6.2.2		10 x 10mm In expansion joints vertically between brickwork.	m	31		
		Waterproof emulsion between brick skins in exterior 230mm walls to lintel level of highest door, including gable ends.				
6.2.3		Brixeal' or similar approved waterproof emulsion, applied to bagwashed interior skin of brickwork.	m²	280		
6.3		ROOF COVERINGS				
		Chromadek' or similar IBR profiled roof sheeting and accessories fixed to timber purlins in accordance with the manufacturer's specifications:				
6.3.1		0.6mm 'Chromadek' IBR roof sheeting with 17.5 deg. pitch. - Colour: Dark Dolfin.	m²	180		
6.3.2		Chromadek' or similar ridge capping to match roof sheeting including closure plates with polyclosers to manufacturer's specifications.	m	33		
		Roofing Insulation - Supply, deliver to site, erect and fix insulation under sheeting, etc., including the supply of all necessary fasteners, etc.				
6.3.3		Sisalation: Residential RPP' or similar approved aluminium foil insulation laid taut over purlins and fixed concurrent with roof covering, including laps over purlins .	m²	185		
6.3.4		40mm chicken mesh or similar suspension pulled taught over purlins to take insulation as measured above.	m²	185		
		RAINWATER GOODS				
6.3.5		Continously rolled aluminium gutters with chromadek finish and fixing brackets along roof line.	m	65		
6.3.6		5m Long downpipes to go with guttering.	No	5		
6.4		CARPENTRY AND JOINERY				
		Roofs, Structural timber etc. All timber to be min. grade S5				
		Pre-fabricated roof construction, designed & manufactured by specialist. Plate nailed timber roof truss construction formed of sawn softwood with patent galvanised plate nailed connections fixed in position:				
CARRIED FORWARD						

SECTION 6 : SAND FILTER - BUILDING WORK

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
6.4.1		FILTER BUILDING - Gangnail truss, to building as per detailed drawings including all permanent bracing, runners etc.. (wall plates & purlins elsewhere)	Roof	1		
6.4.2		Issue of TR1 & TR2 Certificate.	Item	1		
6.4.3		76 x 76mm planed tilter batten including fixing with hurricane clips.	m	70		
6.4.4		76 x 38mm Wall plate	m	66		
6.4.5		50 x 76mm Purlins including fixing to trusses using hurricane clips.	m	140		
6.4.6		50x76mm Planed fascia runner fixed to u/s of truss rafter.	m	67		
		Sundries:				
6.4.7		Allowance for 'Teco' products, nails, bolts e.g Truss hangers, hurrican clips etc.	Sum	1		
6.4.8		Two coats carbolinium or similar approved on all exposed timber before fixing. (Prov.)	m²	40		
		Eaves, verges etc.				
		Everite' high density pressed 'Nutec' or similar cement fascia boards with aluminium H-profile jointing strips screwed to roof timbers with brass screws:				
6.4.9		10 x 225mm Tempered fascia board.	m	67		
6.4.10		80 x 200mm Barge Board	m	8		
		Soilid Meranti Doors & Frames - Manufactured, supplied and installed:				
6.4.11		D1 - Meranti BB - Square Jointed or similar approved door, 813mm wide x 2032mm high hung to steel frame.	No	2		
6.4.12		D2 - Meranti BB - Square Jointed or similar approved double door with 20 x 20mm internal rebate, 1634mm wide x 2032mm high hung to steel frame.	No	2		
6.4.13		D3 - '813 x 2032 x 40mm Hardboard faced solid core flush panel door, hung to steel frame.	No	2		
		Sundries				
6.4.14		1.8m x 0.9m Pin board with rebated meranti timber frame and soft board panel covered with pinboard carpeting.	No	1		
6.5		CEILINGS				
		Nailed up ceilings 4mm 'Nutec' or similar fibre cement board with H-profile cover strips over joints or similar approved:				
CARRIED FORWARD						

SECTION 6 : SAND FILTER - BUILDING WORK

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
6.5.1		Ceilings including 38 x 50mm sawn softwood brandering at 400mm centres in one direction and all header joints and perimeter edges.	m²	72		
6.5.2		Extra over ceiling and brandering for 600 x 600mm trap door and frame and H-profile grid fitted flush in opening including any addtional brandering	No	2		
		Board cornice:				
6.5.3		75mm Gypsum plaster board coved cornice	m	66		
6.6		IRONMONGERY				
		Door Ironmongery - Supply and install the following door hardware in stainless steel fininsh to the following:				
6.6.1		Door D1 & D3 - 'Union' - Radius lever CZ 692-24SC with Union 2 lever upright lock 2295 - 78SS.	No	2		
6.6.2		Door D2 - Union: Radius lever CZ692-24SC fitted with Union: 2-Lever upright lock 2295-78SS & 2 x Flush bolts to inner door, complete with rebate conversion set.	No	2		
		Accessories				
6.6.3		Door stop	No	5		
6.6.4		Brass cabin hooks, mounted on meranti hardwood pluged to walls.	No	1		
		Nameplates and symbols:				
6.6.5		150 x 150mm White chromadec with red border fire fighting pictogram with red fire fighting arrow, symbol or escape sign.	No	3		
6.7		METALWORK				
		Pressed steel galvanised door frames 1,2mm Double rebated steel frame suitable for half-brick wall including building in:				
6.7.1		Galvanised Frame for door 813mm wide x 2032mm high	No	1		
6.7.2		Galvanised Frame for door 1630mm wide x 2032mm high	No	1		
		Standard aluminium window frames in 'Anolock bronze 543 finish. Supply and fit standard, pre-glazed, aluminium frames to manufacturer's specification.				
6.7.3		PTT 2112 with factory fitted clear glazing & square bar burglar proofing.	No	5		
6.7.4		PTT 159 with factory fitted clear glazing & square bar burglar proofing.	No	10		
		Security Gates				
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
6.7.5		G1 - Galvanised single security gate (950mm wide x 2100mm high) consisting of 38x38x1.6mm square tubing, with R12 bars @ 100mm c/c and bullet hinges. Purpose made 38x38x1.6mm square tubing frame rawl bolted to wall. Gate fitted with lockset as per schedule.	No	1		
6.7.6		G2 - Double Security gate (1.8m wide x 2100mm high) consisting of 38x38x1.6mm square tubing, with R12 bars @ 100mm c/c and bullet hinges. Purpose made 38x38x1.6mm square tubing frame rawl bolted to wall at entrance. Gate fitted with lockset as per schedule.	No	1		
6.8		PLASTERING				
		Cement screeds - Sand / cement finish (3:1) steel trowelled to a smooth polished surface in panels not exceeding 6 m2 on concrete:				
6.8.1		25mm Thick on floors and landings (Provisional)	m²	11		
6.8.2		25mm Thick on treads and risers of stairs, kerbs, thresholds, etc.	m²	11		
		Plaster, 12mm thick 1:5 Cement plaster finished with steel trowel:				
6.8.3		Internal Walls	m²	280		
6.8.4		External Walls	m²	15		
6.9		FLOOR FINISHES				
		Wall & Floor Tiling				
		Tiling: Supply and Install tiles. Glazed ceramic in tiling cement and grout, to:				
6.9.1		To Clear Water Wells. White with water prove grout and tile cement.	m²	75		
6.9.2		Wall tiles as required. (Make allowance of R200/m² tile cost)	m²	36		
6.9.3		Floor tiles as required. (Make allowance of R200/m² tile cost)	m²	36		
		Tiling Sundries				
6.9.4		PVC tile edging to all wall corners. (Provisional)	m	7		
		Expoxy Floor Toppings				
CARRIED FORWARD						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Flowshield 1000' self smoothing epoxy compound to a minimum thickness of 1000 microns in accordance with the manufacturers Flowcrete SA's installation methodology. Colour to be Goosewing Grey 222 or equal and approved. Concrete floors to be clean, dry, sound and free of laitance with residual moisture content of less than 4%. Applied by Specialist Sub contractor.				
6.9.5		Internal floors - (Apply to floors as per finishing schedule)	m²	125		
6.10		WATER SUPPLY PIPING AND INSTALLATION:				
		Water Connection				
6.10.1		20mm - 1003/125 CB fullway gate valve	No	1		
6.10.2		Allow for 50mm HDPE PN 10 pipe from main supply.	m	110		
6.10.3		Allow for trenching excavations & backfilling to install 50mm HDPE pipe, 600mm deep.	m	110		
		Fire Fighting				
6.10.4		Supply and install 'Chubb fire - EVERYWAY or similar approved hose reel' complete with frame, 30m hose & valve.	No	1		
6.10.5		E.O to above - Supply and install 'Chubb' or similar approved hose reel cover to secure equipment from misuse / vandalism.	No	1		
		Fire appliances:				
6.10.6		4,5 kg Dry chemical powder fire extinguisher mounted to wall with timber backing board.	No	1		
6.11		PAINTWORK				
		On ceiling boards prepare, prime nail heads and paint one coat undercoat / sealer as required and two coats acrylic PVA paint. (Colour : White) on:				
6.11.1		Ceilings, cover strips and cornices	m²	72		
		On Walls				
		Prepare and paint 1 x Universal undercoat and 2 x coats 'Plascon' Double Velvet' or similar approved on:				
6.11.2		Internal Walls: Colour - VEL 17 Broken White.	m²	255		
6.12		ELECTRICAL				
		Electrical installation certified by a registered Electrician. All of the following items are to include for all supply, chasing, conduiting, draw wires, wiring, installation and testing.				
CARRIED FORWARD						

SECTION 6 : SAND FILTER - BUILDING WORK

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
6.12.1		Install Single Phase, Main Distribution board, flush mounted, including all required switchgear and wiring for Filter Building lights and plug points.	Item	1		Rate Only
		Plugs etc.				
6.12.2		Std 15A Double wall plug.	No	2		
6.12.3		Std 15A Single wall plug.	No	2		
6.12.4		15A Water proof wall plug.	No	1		
		Other connection points and switchgear				
6.12.5		Ceiling light point.	No	11		
6.12.6		Light switch - 1 lever	No	1		
6.12.7		Light switch - 2 lever	No	2		
6.12.8		Exterior light point in masonry.	No	9		
6.12.9		Photocell switch.	No	1		
6.12.10		Lighning protection: R40 000	Sum	1	40 000.00	40 000.00
6.12.11		E.O Contractors Markup and Attendance	%	40000		
		Light fittings - Supply and fit:				
6.12.12		Exterior wall light - LED Bulkhead with metal body and cover.	No	9		
6.12.13		Ceiling LED light - 1.5m Vapour proof, fitted with 2 LED tubes and clear diffuser.	No	11		
		Main supply cable from main power supply, to include, installation, joining etc. in sleeve (measured elswhere)				
6.12.14		Supply and install main supply cable: 16mm² x 4 core (Size to be confirmed)	m	67		
		Sleeves, bends etc.				
		Supply and install sleeves, bends etc. during the building process:				
6.12.15		50mm PVC sleeve pipe	m	14		
6.12.16		50mm PVC long radius bend	No	2		
6.12.17		75mm PVC sleeve pipe	m	14		
6.12.18		75mm PVC long radius bend	No	2		
6.12.19		110mm PVC sleeve pipe	m	7		
6.12.20		110mm PVC long radius bend	No	1		
TOTAL FOR SECTION 6 CARRIED FORWARD TO SUMMARY						

SECTION 7 : SLUDGE DRYING BEDS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		SLUDGE DRYING BEDS				
7.1	SABS 1200 DE	EARTHWORKS				
7.2	8.3.3(a) PSD.1.1	Excavate for foundations in all materials, stockpile and backfill or use for embankments to:	m³	200		
7.3	8.3.3(b) PSD.1.2	Extra-over items 7.2 for excavation in:				
7.3.1		Hard rock material	m³	150		
7.3.2		Boulder material, Class A	m³	75		
7.4	8.3.4	IMPORT MATERIAL				
7.4.1		Import (G4 type material) backfill material from commercial souces and compaction to 93% Mod AASTHO density under floor.	m³	315		
	SABS 1200 G	CONCRETE (STRUCTURAL)				
7.5	8.1.3	CONCRETE				
	8.4.2	Blinding layer in 15 MPa/19 mm concrete				
7.5.1		40 mm minimum thickness	m²	2145		
	8.4.3	Strength concrete: 25 MPa/19mm with 600g/m3 Polypropylene Microfibers, cast and cure to the following				
7.5.2		Floor slabs and Channel base	m³	200		
7.5.3		Apron slab / v-drain, 100mm thick, in sloping panels with wood float finish, around sludge drying beds.	m²	990		
	8.4.3 PSG.6.2	Strength concrete: 15 MPa/19mm, cast and cure to the following:				
7.5.4		Brick wall foundations	m³	181		
7.6	8.1.2	REINFORCEMENT				
	8.3.2	High-tensile welded mesh reinforcement				
7.6.1		Supply, cut, place, including cover block Type reference 395 in standard sheets to surface beds.	m²	1842		
7.6.2		Supply, cut, place, including cover block Type reference 245 in standard sheets to apron slabs	m²	990		
7.7	8.1.1 PSG.6.2	FORMWORK				
	8.2.3	Special Smooth horizontal plane (Class F2) to:				
7.7.1	8.2.5	Horizontal narrow widths up to 100mm high for side of floors, aprons etc.	m	860		
7.8	8.4.4 PSG.7	UNFORMED SURFACE FINISHES				
	PSG.7.3	Steel-floated finish (Class U3) to:				
CARRIED FORWARD						

SECTION 7 : SLUDGE DRYING BEDS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
7.8.1		Surface Beds and Channels	m²	1760		
7.8.2		Apron Slabs	m²	990		
7.9		WATER PROOFING & DRAINAGE				
		Drain Supply place or lay.				
7.9.1		Sand filling	m³	10		
7.9.2		110mm 'Marley-LANDRAIN' perforated pipe or similar approved.	m	215		
7.9.3		250mm 'Marley' PVC Sewer pipe.	m	385		
7.10	SABS 1200 LB	BEDDING				
7.11		PROVISION OF BEDDING				
		Available from trench within 0,5 km (Subclause 3.4.1)				
7.11.1	8.2.1	a) Selected fill material	m³	21		
		Imported from				
	8.2.2.1	a) Other necessary excavations within 0.5 km (Provisional)				
7.11.2		1) Selected granular material	m³	82		
7.11.3		2) Selected fill blanket	m³	55		
	8.2.2.3	c) Commercial sources				
7.11.4		1) Selected granular material	m³	82		
		Supply, deliver and install the following filter media				
7.12		Filter sand 0.8 to 1.8mm with a uniform co-efficient of less than 3.5.	m³	760		
7.13		Supply and install biddum under sand layer on top of concrete floor	m²	1760		
7.14		Supply and place on top of filter sand common clay bricks (3 hole) in herring bone pattern.	m²	1760		
7.15	8.2.3	Waste water manhole to Dwg No: 18-023-V -A-05-02 complete with earthworks, floor slab, benching, brickwork, concrete rings and cover, etc. for depths over and up to				
7.15.1		1.5 m 2.5 m	No.	6		
7.16		Masonry Brickwork to consist of SABS aproved burnt clay plaster bricks, on 85mm gauge, in stretcher bond, with equal horizontal and vertical joints.				
7.16.1		230mm Foundation walls. (NFX)	m²	1750		
		Welded mesh brick reinforcement built horizontally into walls and lintels:				
CARRIED FORWARD						

SECTION 7 : SLUDGE DRYING BEDS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
7.16.2		150mm Wide reinforcement	m	4360		
7.17		PLASTERING				
		Plaster, 15mm thick 1:5 Cement plaster finished with steel trowel:				
7.17.1		Walls	m²	850		
7.17.2		Supply and install 410 x 50mm precast concrete coping to top of masonary wall complete with mortar and joints.	m	730		
7.18	SABS 1200 MFL	BASE (LIGHT PAVEMENT STRUCTURES)				
	8.3.1	Construct base with material from commercial sources				
		a) G4 Cruched Stone type material and compaction to 98% Mod AASTHO density.				
7.18.1		125 mm thick to paving area	m³	21		
7.19	8.3.3	Construct sub base with G6 material from designated excavations				
7.19.1	1200DM 8.3.7	a) Excavate and stockpile for sub base	m³	21		
	1200 MFL 8.3.3	b) Construct sub base with G6 material from stockpile:				
		1) Selected material				
7.19.2		125 mm parking/loading bay	m³	22		
	SABS 1200 MJ	SEGMENTED PAVING				
		Bedding sand				
7.19.3		30mm Thick layer of bedding sand	m³	40		
	8.2.2	Supply and construct clay paving complete (Champagne Paver with Burgandy edging:				
7.19.4		50mm Thick, SABS approved, Corobrick clay paving bricks laid to herring-bone pattern and dry jointing sand brushed into joints followed by final compaction to parking bay and walkway.	m²	160		
7.20		GALVANISED METAL PIPEWORK				
		PIPEWORK				
		PIPING, FITTINGS & VALVES Supply, manufacture / procure, deliver & install the following pipes, pipe fittings & valves. All welds to comply with the API 1104 Standard. *Piping in accordance to SABS 62 Part 1-1989: Table 2 - medium class steel pipes. *All flanges to be as detailed				
		Refer to detailed drawing 18-023-V-A-05-01, for the following:				
CARRIED FORWARD						

SECTION 7 : SLUDGE DRYING BEDS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
7.20.1	PD2	150mm Dia wedge gate valve to SANS 664, T10 flanged, as detailed No: 5-01.	No	24		
7.20.2		150mm Dia. Straight with 2 x T10 flanges and 1 x puddle flange manufactured from Gr.304 Stainless Steel, as detailed No: 5-02.	No	24		
7.20.3		150mm Dia. uPVC flange adaptor, T10 flanged, as detailed No: 5-03.	No	48		
7.20.4		250mm Dia. manifold with 2×150mm Ø branches, T10 flanged manufactured from Gr.304 Stainless Steel, as detailed No: 5-04.	No	4		
7.20.5		250mm Dia. manifold with 4×150mm Ø branches, T10 flanged manufactured from Gr.304 Stainless Steel, as detailed No: 5-05.	No	4		
7.20.6		250mm Dia. uPVC flange adaptor, T10 flanged, as detailed No: 5-06.	No	14		
7.20.7		250mm Blank flange, T10 flange, as detailed No:5-07.	No	2		
7.20.8		Supply and install 8.5m long x 3mm thick Stainless Steel weir plate as per detail	No	24		
7.21		Sundries				
7.21.1		Allow for galvanised bolts for pipe connections as measured above.	sum	1		
7.21.2		Allow for I-Rings, gaskets etc. for pipe connections measured above.	sum	1		
7.22		GALVANISED STEEL WORK				
		Manufacture / procure and install the following hot dipped galvanised items:				
7.22.1		Supply and install galvanised 1200mm x 1050mm Rectagrid RS40 x 40 x 4.5 cover complete with 60x60x6mm angle iron support and anchor bolts to scour chamber.	No	18		
7.23		ALUMINIUM WORK				
		Manufacture / procure and install the following aluminium items:				
7.23.1		Manufacture supply and install by specialist a removable aluminium handgate with seals as per typical drawing. Gate to be 300mm wide x 400mm high.	No	48		
		GENERAL				
7.23.2		Supply and deliver to site 'Turner Morris" Tonelada Dumper S-1000-FY10A.	No	1		
TOTAL FOR SECTION 7 CARRIED FORWARD TO SUMMARY						

SECTION 8 : ELECTRICAL PROVISIONAL SUMS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		ELECTRICAL PROVISIONAL SUMS				
8.1	.	ELECTRICAL SWITCHGEAR & CABLES All electrical installations must be done by a certified electrician in accordance with the latest issue of the South African Institute of Electrical Engineer's Standard Regulations.				
8.2		PROVISIONAL AMOUNTS				
8.2.1		Allow and provisional amount of R350 000.00 for payment to ESKOM for a new electrical supply and transformer.	Sum	1		
8.2.2		Profit mark-up and attendance	%	350000		
TOTAL FOR SECTION 8 CARRIED FORWARD TO SUMMARY						

SECTION 9 : COMMISSIONING OF WORKS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		COMMISSIONING OF WOKS				
9.1	PS.3.19	Allow for liason with Mechanical / Electrical contractors and Commission equipment and works as a whole.	Sum	1		
TOTAL FOR SECTION 9 CARRIED FORWARD TO SUMMARY						

SECTION 10 : FENCING

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		FENCING				
		PERIMETER FENCING: THE FOLLOWING FENCING IS TO BE ERECTED AS PERIMITER FENCE				
10.1		De-fence MID or similar approved mesh panels fencing system: Panels - 2500mm wide x 2050mm high galvanised & powder coated • 4.5mm Horizontal / Verticle wires with aperture size (centres) at 100mm x 50mm panel formation. • Panel reinforced with 4 x 50mm deep 'V' formation horizontal recessed bands (rigidity) Interlocking tamperproof fixing system to posts Refer to drawing.	m	820		
10.2		E.O for Spike toppings (Shark Tooth) supplied and installed along fence top perimetre.	m	820		Rate Only
		FENCE POSTS				
10.3		Supply and install: Posts - 2.4m long, 60mm x 60mm x 2mm Tube, galvanised & powder coated, complete with PVC post.	No	327		
		CONCRETE				
10.4		20Mpa Concrete to post bases: 400 x 400 x 600mm deep. Top of concrete base to be 50mm above natural ground level.	No	327		
10.5		20Mpa Concrete gate rail beam 300 x 300mm x deep. Top of concerete to be 50mm above natural ground level.	m	26		
		GATES				
		Pedestrian Gate				
10.6		Supply and install single pedestrian gate, manufactured from 60mm Sq Tubing, Mesh panelling. Complete with Gate posts and lockset. All galvanised and powder coated.	No	3		
		Sliding Vehicle Gate				
10.7		Supply and install galvanised sliding gate max 4.5m long, 2.05m high. Complete with rail beam etc. Manufactured from Sq Tubing, Mesh panelling. Complete with Gate posts, Lockset and guid wheels. All galvanised and powder coated. Refer to Drw: 18-023-V-A-06-01	No	3		
		PERIMETER FENCING: THE FOLLOWING FENCING IS TO BE ERECTED AS PERIMITER FENCE AROUND FUTURE EXTENSION				
CARRIED FORWARD						

SECTION 10 : FENCING

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Refer to drwing details on Drw No: 18-023-V-A-06-04 for:				
		Earthworks - In all materials.				
10.8		Excavate holes for poles 350x350x600mm deep, position pole and compact backfill with excavated material.	No	355		
		Treated timber Posts & Stays Supply, deliver, cut, drill etc.				
10.9		125-150mm dia. Treated timber posts, 2400mm long as corner posts and gate posts	No	35		
10.10		100-125mm dia. treated timber posts, 1800mm long as stays.	No	99		
10.11		75-100mm dia. treated timber posts, 2400mm long as Intermediate posts.	No	330		
		Fencing - Supply, deliver, erection, tensioning etc.				
10.12		1.88m High x 13/300-68kg 'Veldspan' tensioned and fixed to posts with binding wires.	m	1655		
		Galvanised Metal Work				
10.13		Supply and install vehicle gate (min. 4m) as per drawing including barrel bolt set in 150 x 150 x 300mm concrete base and all hinges.	No	3		
		Consumables				
10.14		Binding Wire	Sum	1		
10.15		Drill holes in timber posts	Sum	1		
TOTAL FOR SECTION 10 CARRIED FORWARD TO SUMMARY						

C2.2 Bills of Quantities

SUMMARY OF BILL OF QUANTITIES

SECTION 1	PRELIMINARY & GENERAL	.....R.....
SECTION 2	SITE WORK	.....R.....
SECTION 3	INLET CHAMBER	.....R.....
SECTION 4	CLARIFLOCCULATOR	.....R.....
SECTION 5	RAPID GRAVITY SAND FILTER	.....R.....
SECTION 6	SAND FILTER – BUILDING WORKS	.....R.....
SECTION 7	SLUDGE DRYING BEDS	.....R.....
SECTION 8	ELECTRICAL PROVISIONAL SUM	.....R.....
SECTION 9	COMMISSIONING OF WORKS	.....R.....
SECTION 10	FENCING	.....R.....
SUBTOTAL		.....**R.....**
ADD CONTINGENCIES @ 10%		.....R……
SUBTOTAL		**.....R.....**
ADD FOR CONTRACT PRICE ADJUSTMENT @ 10%		R ……..
SUBTOTAL		**R ……**
ADD VAT @ 15 %		.....R.....
TOTAL CARRIED TO THE FORM OF OFFER ON PAGE C.2		.....**R.....**

CONTRACT PERIOD ……..…MONTHS (MAXIMUM 14 MONTHS) (Carried Forward to Page C.2).

SIGNED ON BEHALF OF TENDERER:……

PART C3: SCOPE OF WORK

CONTENTS

C3.1 STANDARD SPECIFICATIONS

The standard specifications on which this contract is based are the **SABS 1200 Standardized Specifications.**

Although not bound in nor issued with this Document, the following Parts of the SABS 1200 Standardized Specifications shall apply:

SABS 1200 A:	General (1986)
SABS 1200 C:	Site Clearance (1980)
SABS 1200 D:	Earthworks (1988)
SABS 1200 DB:	Earthworks (Pipe Trenches) (1989)
SABS 1200 DE:	Small earth dams (1996)
SABS 1200 DK:	Gabions and pitching (1996)
SABS 1200 DM:	Earthworks (Roads, Subgrades) (1981)
SABS 1200 G:	Concrete (Structural) (1982)
SABS 1200 GA:	Concrete (Small Works) (1982)
SABS 1200 L:	Medium-Pressure Pipelines (1983)
SABS 1200 LB:	Bedding (Pipes) (1983)
SABS 1200 M:	Roads General (1996)
SABS 1200 ME:	Subbase (1981)
SABS 1200 MF:	Base (1981)
SABS 1200 MFL:	Base (Light pavement structures) (1996)
SABS 1200 MJ:	Segmented paving (1984)
SABS 1200 MK:	Kerbing and channeling (1983)

Variations and additions to the various SABS 1200 Standardised Specifications are given in Portion B of the Project Specifications

The following SANS specifications are also referred to in this document and the Contractor is advised to obtain them from Standards South Africa (a division of SABS) in Pretoria.

SANS 10396:2003:		Implementing Preferential Construction Procurement Policies using Targeted Procurement Procedures
SANS 1914-1 to 6 (2002)	:	Targeted Construction Procurement
SANS 1921-1 (2004):		Construction and Management Requirements for Works Contracts Part 1: General Engineering and Construction Works and where accommodation of traffic is involved:
SANS 1921-2 (2004):		Construction and Management Requirements for Works Contracts; Part 2: Accommodation of Traffic on Public Roads Occupied by the Contractor.
SANS 10298 (2004):		Indirect small to medium-sized gas chlorination systems for the disinfection of water.

Other documents:

The latest edition of "Standards and Guidelines" from the National Home Builders Registration Council.

Model Preamble for Trades from the Association of SA Quantity Surveyors

General Conditions of Contract 2015 (Third edition, 2015) Obtainable from the SA. Association of Consulting Engineers

C3.2 PROJECT SPECIFICATIONS

STATUS

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

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

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

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

The standard specifications which form part of this contract have been written to cover all phases of work normally required for road contracts, and they may therefore cover items not applicable to this particular contract.

PART A: GENERAL

PS.1 PROJECT DESCRIPTION

The scope of work for this tender will consist of the Civil and Building works of the Water Treatment Works expansion i.e. site clearance, excavations, pipeline and building works, Concrete structures etc. The completion, testing and commissioning of the following components of work inclusive of the following:

- Inlet works chamber alterations;
- Construction of 2 x clariflocculators;
- 5 x Rapid gravity filters' civil and building work;
- New Sludge Drying Beds;
- Additional drainage pipelines;
- Fencing.

PS1.2 ASPECTS REQUIRING SPECIAL ATTENTION

PS1.2.1 Survey Pegs

All survey and site pegs must be protected against damage. The contractor must check all the pegs and report all missing pegs to the Engineer.

Any survey or site pegs disturbed by the contractor must be replaced by a Land Surveyor at the cost of the contractor.

PS1.2.2 Existing services

There are underground existing services on site. The contractor must verify all existing services with the municipality before any excavations are done. All indicated services must be protected against damage and any damage caused to such services will be repaired at the cost of the contractor. Also refer to booster pump specifications below.

PS1.2.3 Surveying

The Contractor must use the services of, or employ a competent engineering surveyor to set out of the Works to ensure that the specified tolerances are adhered to.

Payment for the setting out will be deemed inclusive in the rates and no additional payment will be made in that regard.

No beacons, reference pegs, corner pegs, etc may be disturbed or removed without the prior consent of the Engineer.

PS1.2.4 **Source of Materials**

The Contractor will be responsible for locating of all materials complying with the relevant minimum requirements to be used in this contract. No separate payments shall be made for this as all costs related thereto shall be deemed to be covered by the tendered rates. All materials must comply with the relevant SANS specifications where applicable.

PS1.2.5 **Setting out and approval for excavation**

The contractor must set out the works in accordance with the plans and dimensions provided. After setting out the layout must be approved in writing in the site book by the engineer before any excavations are done. No excavations will be allowed without a Permission To Excavate notice signed by the Engineer's Representative and Client.

PS1.2.6 **Quality Management Plan**

The contractor must submit his own QMP to the engineer for approval. The engineer may issue QMP schedules, and these must be kept to date at all times.

PS1.2.7 **Closing down documentation**

The following documentation must be submitted to the engineer and approved by him:

- as-built drawings
- safety file
- quality management file

PS1.2.8 **Disruption of existing services**

The existing sewer connections, as well as, the outfall sewer including syphon must remain in operation at all times. Any disruption of service required for the Works under this contract must be approved in writing by the Client and Engineer's Representative. The Tenderer must allow in his tender rates for the provision of temporarily toilet facilities and / or deviation pipes in order to maintain the existing services.

PS1.2.9 **Excavation**

Excavations are required and the Contractor must take the necessary steps to ensure site workers and plant safety and keep the site drained for construction. The Contractor must submit a detail construction methodology statement for approval prior to Construction.

PS1.3 ITEMS NOT COVERED IN THE SPECIFICATIONS

Some of the items in the Schedule of Quantities may not be covered by the Standard Specifications. These items are detailed on the drawings or described in the Schedule of Quantities. The rates tendered must include all labour, material, etc and no additional payments will be considered.

PS.2 DESCRIPTION OF THE SITE AND ACCESS

PS.2.1 Location of Site

The existing Middledrift Water Treatment Works site is located approximately 45 km West of Eshowe town.

The Water treatment works is North adjacent the Mkhalazi Pumpstation.

Refer to locality map below:

PS.2.2 Access to Site

Access to the site is per normal vehicle on tar and dust or gravel roads. Access could become problematic during the rainy season.

PS.2.3 Nature of the Ground and Subsoil Conditions

The Contractor will be expected to make his own assessment in this regard and to price the rates accordingly.

PS.3 CONSTRUCTION AND MANAGEMENT REQUIREMENTS

PS.3.1 General

The Contractor is referred to SANS 1921: 2004 parts 1, 2 and 3: Construction and Management Requirements for Works Contracts. These specifications shall be applicable to the contract under consideration and the Contractor shall comply with all requirements relevant to the project.

Certain aspects however require further attention as described hereafter.

PS.3.2 Labour Intensive Competencies of Supervisory and Management Staff

Contractors shall only engage supervisory and management staff in labour intensive works who have completed the skills programme outlined in Table 1.

Table 1: Skills programme for supervisory and management staff

Personnel	NQF level	Unit standard titles	Skills programme description
Team leader / supervisor	2	Apply Labour Intensive Construction Systems and Techniques to Work Activities	This unit standard must be completed, **and**
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	any one of these 3-unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Foreman/ supervisor	4	Implement labour Intensive Construction Systems and Techniques	This unit standard must be completed, **and**
		Use Labour Intensive Construction Methods to Construct and Maintain Roads and Stormwater Drainage	any one of these 3-unit standards
		Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services	
		Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures	
Site Agent / Manager (i.e. the contractor's most senior representative that is resident on the site)	5	Manage Labour Intensive Construction Processes	Skills Programme against this single unit standard

PS.3.3 Employment of Labour

It is the intention that this Contract should make the maximum possible use of the labour force which is at present underemployed.

To this end it will be expected of the Contractor to employ and train labour on this Contract.

The Contractor shall fill in the forms relating to Key Personnel and state how many key personnel he intends to employ in the various categories. The numbers stated in the above-mentioned form will be strictly controlled during the contract period and any increase in numbers shall be subject to the approval of the Engineer.

It is a condition of contract that the data sheets detailing the employment of human resources, expenditure and employment of SMMES as detailed in the tables below be submitted together with the monthly certificate timorously to the Engineer by the 10th of each month.

The definition of youth being determined by age up to and including 35 years.

The unit of measurement is person days being the total number of persons in that category multiplied by the number of days worked by each person respectively.

Labour intensive construction will be used to implement the Works and will include all of the following operations: -

1) Excavation of soft/ intermediate / hard material in pipe trenches not deeper than 1,2 m if the uninterrupted trench length of soft material is not greater than 50 m, and the total depth of the trench consists of soft material.
2) Excavation of soft/ intermediate/ hard material in all pipe trenches for erf connections with no limitations.
3) Preparation of pipe bedding.
4) Laying and jointing of all pipes with a nominal diameter smaller than 300 mm:
5) Backfilling of all trenches with compaction excluded.
6) Placing of concrete for anchor blocks and toilet foundations.
7) Brickwork in manholes.
8) Basic plumbing installation in toilets.
9) Location of existing services.

Plant may be used to deliver bedding to the trench at 100m intervals from where labour must be used to load, haul and off-load the material using wheelbarrows.

All work to be executed by labour intensive methods will be demarcated as **(LI)** in the bill of quantities. Any work so designated or specified in this specification as being done labour intensively but which is not executed by labour, notwithstanding any payment made to the labour, will not be paid for.

Local labour shall be recruited by the contractor with the assistance of the project manager, locally elected labour desk, and CLO. Wage tariffs must comply with Dept. of Labour rates as set for the Civil Engineering Construction Industry for KZN.

Labour Return : (Current Month)

Municipal Infrastructure Grant			
Register of Beneficiaries Employed and Trained on (RBIG) Projects for EPWP reporting			
Municipality Name		**Prov Reference No:**	
Project Name		**Municipal Ref No:**	
MIS Form ID No: ***(DM use only)***		**National Ref No:**	

Beneficiary Employment Data. This refers to job opportunities provided to local communities employed on (RBIG) projects
Beneficiary Training Data. This refers to training opportunities provided to local communities employed on (RBIG) projects

Name & Surname	ID Number	Male/Female	Youth/Adult	Disabled	Employment: Occupational category	Non Accredited Training: Type of Training	Accredited training: Course Module Details
e.g. Joe Blogg	6604093795812	Male	Adult	No	Labourer	Technical	N/A

The data sheets must be submitted monthly irrespective of whether or not a payment certificate is submitted in terms of the latest cash flow.

PS.3.4 Construction Programme

(a) Preliminary Programme

It is a prerequisite of this contract that minimal disruption of the public is ensured during construction.

Construction methods must be of such a nature that no property or life is endangered. The Municipality accepts no responsibility for any work done outside the site boundaries without the Engineer's approval. The Contractor himself is responsible for liaison and arrangements with the Engineer in connection with the finalization and approval of the construction programme.

The Contractor is responsible for liaison with residents and house owners via the CLO and Project Steering Committee in respect of the programming of construction. No additional payment will be made in this regard and it shall be deemed to be covered by the relevant items.

Sufficient digital photographs of all existing structures and obstructions in the pump station area must be taken by the Contractor, compiled electronically, indexed and handed over to the Engineer before construction commences. A special payment item is included for a digital photo record in the Schedule of Quantities under other fixed-charge obligations.

The Contractor shall submit a programme of work to the Engineer not later than 14 (fourteen) days after the Contractor has been notified of the acceptance of his tender. This programme must take into account, and allow for phased completion of the work. The Engineer may instruct the Contractor to stop construction work at any stage and time, as may be dictated by financial constraints highlighted by the Clients *Cost Control Programme*.

If necessary, the Engineer may instruct the Contractor to adjust his programme to suit other activities.

The programme shall not be in the form of a bar chart only, but shall clearly show the anticipated quantities, the production rates and value of work to be performed each month.

A network-based programme according to the precedence method shall also be provided showing the various activities and critical path in such detail as may be required by the Engineer. The programme shall be updated monthly in accordance with the progress made by the Contractor.

Failure to comply with these requirements will entitle the Engineer to use a programme based on his own assumptions for the purpose of evaluating claims for extension of time or additional payments.

If the programme submitted by the Contractor in terms of the General Conditions of Contract, has to be revised because the Contractor is falling behind in his programme, he shall submit a revised programme of how he intends to regain lost time to ensure completion of the Works within the period defined in the General Conditions of Contract or within a granted extension of time. A proposal to increase the tempo of work must incorporate positive steps to increase production either by more labour and plant on the site, or by using the available labour and plant in a more efficient manner.

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

The approval by the Engineer of a programme shall have no contractual significance other than the Engineer will be satisfied if the work is carried out according to the programme. The said approval shall not limit the right of the Engineer to instruct the Contractor to vary the programme if necessary. The Contractor shall allow for the effect of normal rainfall and special non-working days in his programme.

(b) Programme in terms of Clause 5 of the General Conditions of Contract

It is essential that the construction programme, which shall conform in all respects to Clause 5 of the General Conditions of Contract, be furnished within the time stated in the Contract Data. The preliminary programme to be submitted with the tender shall be used as basis for this programme.

PS.3.5 Drawings *(Read with SANS 1921 – 1: 2004 clauses 4.1.7; 4.1.11 and 4.1.12)*

The reduced scale drawings which form part of the tender documents shall be used for tendering purposes only.

The contractor shall be supplied with three complete paper copies of the construction drawings free of charge. The Contractor shall at his own expense produce there from all further paper prints required for the construction of the work.

Any information which the Contractor has control over and which is required by the Engineer to complete the drawings of record shall be made available to the Engineer before the Completion Certificate is issued.

Only written dimensions may be used. Dimensions are not to be scaled from drawings unless ordered by the Engineer. The Engineer will supply all figures / dimensions which are not shown on the drawings. The levels or dimensions given on the drawings are subject to confirmation on site.

PS.3.6 Quality Assurance (QA) *(Read with SANS 1921 – 1: 2004 clause 4.4)*

The Contractor will be solely responsible for the production of work that complies with the Specifications to the satisfaction of the Engineer. To this end it will be the full responsibility of the Contractor to institute an appropriate Quality Assurance (QA) system on site. The Engineer will audit the Contractor's quality assurance (QA) system on a regular basis to verify that adequate independent checks and tests are being carried out and to ensure that the Contractor's own control is sufficient to identify any possible quality problems which could cause a delay or failure.

The Contractor shall ensure that efficient supervisory staff, the required transport, instruments, equipment and tools are available to control the quality of his own workmanship in accordance with his QA-system. His attention is drawn to the fact that it is not the duty of the Engineer or the Engineer's representative to act as foreman or surveyor.

PS.3.7 Management and Disposal of Water *(Read with SANS 1921 - 1 : 2004 clause 4.6)*

The Contractor shall pay special attention to the management and disposal of water and storm water on the site. It is essential that all completed works or parts thereof are kept dry and properly drained. Claims for delay and for repair of damage caused to the works as a result of the Contractor's failure to properly manage rain and surface water, will not be considered.

PS.3.9 Spoil Sites *(Read with SANS 1921 - 1 : 2004 clause 4.10)*

The spoil sites shall be determined on site in conjunction with the Engineer. The Contractor shall be permitted to use only those spoil areas approved by the Engineer.

Should the Contractor wish to use any other tip area for the disposal of soil, rubble, vegetation, etc, its use shall be subject to the approval of the Engineer.

PS.3.10 Testing *(Read with SANS 1921 – 1 : 2004 clause 4.11)*

(a) Process control

The Contractor shall arrange for all tests required for process control to be done by a laboratory acceptable to and approved by the Engineer.

The Contractor may establish his own laboratory on site or he may employ the services of an independent commercial laboratory. Whatever method is used, the Contractor must submit the results of tests carried out on materials and workmanship when submitting work for acceptance by the Engineer. The costs for these tests shall be deemed to be included in the relevant rates and no additional payment will be made for testing as required.

(b) Acceptance Control

The process control test results submitted by the Contractor for approval of materials and workmanship may be used by the Engineer for acceptance control. However, before accepting any work, the Engineer may have further control tests carried out by a laboratory of his choice. The cost of such additional tests will be covered by a provisional sum provided in the schedule of quantities, but tests that failed to confirm compliance with the specifications, will be for the account of the Contractor.

PS.3.11 Site Establishment *(Read with SANS 1921 - 1 : 2004 clause 4.14)*

This contract is to be executed in a semi-rural area. All due courtesy must be exercised in so far as local resources are concerned (labour and materials). Water abstraction for example from a local source for construction purposes must first be discussed and agreed with the Inkosi.

The Engineer and the appointed ISD Consultant will facilitate all communication with the tribal authority.

(a) Water and Electricity

The Contractor is to make his own arrangements in this regard and should note that the Employer shall not be held responsible for any shortages of either water or power due to unforeseen circumstances.

All other water required for construction purposes is to be sourced by the Contractor and is to be allowed for in his rates.

(b) Location of Site Office

A suitable site will be indicated at the Site Inspection. The contractor will need to allow for the fencing of the site.

Watchmen only may be housed on site.

The contractor is to provide adequate sanitary and waste facilities for his staff and is to ensure that the camp is kept clean and neat at all times. No littering is to take place at either the camp or on the site.

The site is to be left in a neat, landscaped condition without any improvements on completion of the contract and final retention will not be released until such time as this condition has been complied with.

(c) Telephone

The contractor shall make his own arrangements in this regard. Cellular phone coverage is available in the area.

PS.3.12 Survey Beacons *(Read with SANS 1921 - 1 : 2004 clause 4.15)*

The Contractor shall take special precautions to protect all permanent survey beacons or pegs such as bench-marks, stand boundary pegs and survey beacons, regardless whether such beacons or pegs were placed before or during the execution of the Contract. If any such beacons or pegs have been disturbed by the Contractor or his employees, the Contractor shall have them replaced by a registered land surveyor at his own cost.

PS.3.13 Existing Services *(Read with SANS 1921 - 1 : 2004 clause 4.17)*

The Contractor shall make himself acquainted with the position of all existing services before any excavation or other work likely to affect the existing services is commenced.

No work may proceed on road crossings under the provincial main roads until the necessary approvals are in place as confirmed by the Engineer. All work within the road reserve shall comply with the specifications of the Provincial Department of Transport as will be issued to the Contractor by the Engineer.

The Contractor will be held responsible for any damage to known existing services caused by or arising out of his operations and any damage shall be made good at his own expense.
Damage to unknown services shall be repaired as soon as possible and liability shall be determined on site when such damage should occur.

Prior to commencing construction activities in a particular area, the Contractor shall also diligently enquire of local landowners as to whether there are any other known services which have not been shown on the drawings but which may be affected by the construction activities in that area, and any such services shall be brought to the attention of the Engineer immediately.

The Contractor shall take note of the requirements of clause 1202 of the standard specifications with regard to services.

PS.3.14 Health and Safety (*Read with SANS 1921 - 1: 2004 clause 4.18)*

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the OHSA 1993 Construction Regulations 2003 issued on 18 July 2003 by the Department of Labour.

For the purpose of this contract the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of the Occupational Health and Safety Act in the form as included in section C1.2.2

The rates and prices tendered by the Contractor shall be deemed to include all costs for conforming to the requirements of the Act, the Construction Regulations and the Employer's Health and Safety Specification as applicable to this contract.

Should the Contractor fail to comply with the provisions of the Construction Regulations, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

The Contractor’s failure to comply will also be recorded on the King Cetshwayo District Municipal data base and will affect the award of adjudication points to the Contractor on future work tendered for.

PS.3.15 Requirements for Accommodation of Traffic (Read with SANS 1921 - 2 : 2004)

The Contractor will be responsible for the safe and easy passage of public traffic past and on sections of roads of which he has occupation or where work has to be done near traffic.

The travelling public shall have the right of way on public roads, and the Contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.

Accommodation of traffic, where applicable shall comply with SANS 1921-2: 2004: Construction and Management Requirements for Works Contracts, Part 2: Accommodation of Traffic on Public Roads occupied by the Contractor. The Contractor shall obtain this specification from Standards South Africa.

The Contractor shall ensure that all road signs, barricades, delineators, flagmen and speed controls are effective and that courtesy is extended to the public at all times.

Failure to maintain road signs, warning signs or flicker lights, etc, in a good condition shall constitute ample reason for the Engineer to suspend the work until the road signs, etc, have been repaired to his satisfaction.

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

The Contractor shall construct and maintain all temporary drainage works necessary for temporary deviations.

The Contractor shall provide and grant access to persons whose properties fall within or adjoin the area in which he is working.

The Contractor's tendered rates for the relevant items in the Bill of Quantities shall include full compensation for all possible additional costs which may arise from this, and no claims for extra payment due to inconvenience as a result of the modus operandi will be considered.

PS.3.16 Management of the Environment *(Read with SANS 1921 - 1 : 2004 clause 4.19)*

Respect for the environment is an important aspect of this contract and the Contractor shall pay special attention to the following:

(a) Natural Vegetation

Only those trees and shrubs directly affected by the works and such others as the Engineer may direct in writing shall be cut down and stumped. The natural vegetation, grassing and other plants shall not be disturbed other than in areas where it is essential for the execution of the work or where directed by the Engineer.

(b) Fires

The Contractor shall comply with the statutory and local fire regulations. He shall also take all necessary precautions to prevent any fires. In the event of fire the Contractor shall take active steps to limit and extinguish the fire and shall accept full responsibility for damages and claims resulting from such fires which may have been caused by him or his employees.

(c) Environmental Management Plan

In addition to the above, all requirements of the Environmental Management Plan (EMP) as detailed in the Particular Specifications, will be adhered to.

Failure to adhere to the EMP in all respects will be recorded on the King Cetshwayo District Municipal database and will affect the award of adjudication the Contractor on future work tendered for.

PS.3.17 Abnormal Climatic Conditions

Refer to the conditions of contract page C12.

PS.3.18 Drawings of Record

Any information in the possession of the Contractor, which is necessary for the Engineer's Representative to complete his "drawings of record", must be submitted to the Engineer's Representative before a final payment certificate and a certificate of completion will be issued.

Included in the information to be provided by the contractor shall be the co-ordinated position of all above ground visible features including:

a) Manholes;
b) Valve positions;
c) All change of direction in the pipe alignment including tees.

PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS

INTRODUCTION

In certain clauses in the Standard Specifications, allowance is made for a choice to be specified in the project specifications between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract.

Details of such alternative or additional requirements applicable to this contract are contained in Part B1 of the project specifications.

The number of each clause and each payment item in this part of the project specifications is prefixed “PS” and numbered sequentially followed by a number corresponding to the relevant clause or payment item in the standard specification in parentheses.

New clauses and payment items not covered by clauses or items in the Standard Specifications have also been included.

Additional particular specifications are also included in Part B2 and are prefixed “P” and numbered alphabetically.

PART B1: AMENDMENTS TO THE STANDARD SPECIFICATIONS

PSA GENERAL

PSA.1 MATERIALS

PSA 1.1 QUALITY

All materials used in this contract shall comply with the relevant SABS Specification (as amended) or particular specification as noted.

PSA.2 PLANT

PSA.2.1 PLANT FOR CONSTRUCTION PURPOSES

The Contractor's plant for construction purposes shall be of modern design, adaptable for the purpose for which it is required, in sound condition, and ample in capacity for carrying out the Works expeditiously.

Should the Engineer be of the opinion that the plant in use is in any way unsuitable for carrying out the Works in a manner or at a rate commensurate with the requirements of the Contract, they shall have the right to call on the Contractor at any time during the progress of the works to provide additional or improved plant and tools as may be necessary to meet these requirements.

PSA.2.2 CONTRACTOR'S CAMP

No housing is available for the Contractor's employees, and the Contractor shall make his own arrangements with the Local Authority regarding the housing of his employees and transporting them to site.

The Contractor shall provide in locations approved by the Engineer, adequate sanitary facilities for the use of all persons engaged on the Works. Such conveniences, which shall comply with Local Authority regulations, shall be maintained in a clean and hygienic condition and shall be properly secluded from public view and their use shall be strictly enforced.

The Contractor shall make his own arrangements with the municipal authorities for any bucket removals and shall bear all the costs in connection with such service. On removal of such conveniences the sites thereof shall be left in a clean, sanitary and tidy condition.

PSA 8.2 PAYMENT

PSA 8.2.1 FIXED – CHARGE AND VALUE RELATED ITEMS

Replace the contents of this sub-clause with the following: -

Payment for the sum tendered under item PSA 8.2.1 will be made in three separate installments as follows: -

a. The first instalment which is 50% of the sum, will be paid when the Contractor has met all his obligations to date under this Specification, the General Conditions of Contract and the Special Conditions of Contract, and where the value of work certified for payment, excluding Materials on Site and any payments under 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 35% of the sum, will be made when the amount certified for payment, including retention monies but excluding the second installment referred to herein, exceeds 50% of the tender sum.

c. The final payment, which is 15% 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 Special Conditions of Contract.

No adjustment will apply to item 8.3.1 in respect of variations in the value of work done or the time for completion finally authorised.

Payment for the sum tendered under PSA 8.3.2 will be made in monthly installments in relation to the value of the work done (excluding the value of any price adjustments in terms of Clause 6.10 of the General Conditions of Contract).

Should the value of the measured work finally completed be more or less than the tender sum (excluding the value of any price adjustments in terms of Clause 6.8 of the General Conditions of Contract), then the sum tendered under Item PSA 8.3.2 will be adjusted pro-rata up or down and this adjustment shall be applied to the final instalment.

PSA 8.2.2 TIME –RELATED ITEMS

Replace the contents of this sub-clause with the following:

"Subject to the provisions of Item 8.2.3 and Item 8.2.4, payment under item PSA 8.4.1 (time- related item) will be made monthly, pro rata for parts of a month, from the Commencement Date, until the end of the period for completion of the works, plus any extension of time awarded provided always that the total of the monthly amounts so paid for the item is not more than in proportion to the progress of the work as a whole.

Should the Engineer Grant an extension of time for completion of the Works, the Contractor will be entitled to an increase in the sum tendered for the time-related item, which increase shall be in the same proportion to the original tendered sum as the extension of time is to the original time for completion of the Works.

Payment for such increased amounts will be taken to be in full compensation for all additional time-related preliminary and general costs that result from the circumstances pertaining to the extension of time Granted."

PSA 8.3 SCHEDULED FIXED-CHARGED AND VALUE RELATED ITEMS

Replace the item with the following: -

"PSA 8.3.1: Fixed Preliminary and General Charges .....…..… Unit: Sum

PSA 8.3.2: Value-Related Preliminary and General Charges .....…..… Unit: Sum

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

PSA 8.4 SCHEDULED TIME-RELATED ITEMS

Replace the items with the following: -

"PSA 8.4.1: Time-Related Preliminary and General Charges

(a) General Obligations .....…..… Unit: Sum

(b) Health and Safety Obligations.....…..… Unit: Sum

The sum tendered for item PSA 8.4.1(a) shall include full compensation for all time-related preliminary and general charges as described in sub-clause PSA 8.1.2.2, excluding health and safety.

The sum tendered for item PSA 8.4.1 (b) shall include full compensation for any and all costs related to complying with the Occupational Health and Safety Act and in particular with its Construction Regulations 2014 and Part PG of the Project Specification.

Payment will be made as described in sub-clause PSA 8.2.2."

PSAB ENGINEER'S OFFICE

PSAB.1 NORMAL PROJECTS

PSAB.1.1 OFFICE BUILDINGS (Engineers Site Office)

One site office shall be provided of at least 20m2 area, complete with a level, 85mm concrete floor over 250micron USB green water proofing, insulated roof / ceiling, lockable door and be supplied with a table of at least 3.0m x 1.8m and 12 chairs. Allowance shall be made for the proper display and storage of plans.

In addition, this office shall be fitted with:

- An air conditioning unit of at least 12000 BTU capacity and powered by the contractor's electrical provision.
- Office furniture to be supplied by the Contractor:
- Fridge minimum 94L with refreshments supplied at R1500/month
- Dell – 12th Generation Intel Core i7, 17" screen 512 solid state hard drive laptop with minimum 50GB/month LTE or better connection. Windows 11 Pro 64 bit, Office 365 Business (includes Excel, Word, Outlook, PowerPoint) Microsoft Projects 365, laptop carry bag
- One Printer/Scanner Combo (& Printer Cartridge allowance for 150 Pages Colour and 150 Pages Black per month)
- Smart Cellphone to the value of R10 000 supplied with airtime value of R2000/month
- Free Wifi access at the site office to be supplied by contractor
- Shade cloth covered Carports
- One kettle, microwave and tea/coffee set.

This office shall not be used for the contractor's storeroom.

This office will be paid for per month and only once it is erected and approved.

At least one pit latrine or chemical toilets, suitably enclosed, shall be maintained close to all the engineer's office at all times. All possible measures shall be taken to control odour.

PSAB.1.2 NAMEBOARDS

The Contractor shall supply one name board in accordance with the details indicated in this document. (2.4m x 1.2m on metal frame on timber posts)

The board shall be placed in a position designated by the Engineer.

This board shall remain the property of the Contractor who shall dismantle and remove the said board on completion of the contract.

PSAB.1.3 LABORATORY (3.2.3)

Provide a suitably sized concrete curing pit / bath, filled with water and maintained, to keep all concrete test cubes submerged prior to delivery to an independent test laboratory.

PSAB.1.4 SURVEY FACILITIES (3.2.4)

The Contractor shall make available on site and maintain for use by the Engineer and / or his representative the following: -

a) Two survey assistants as and when required.
b) Two automatic levels (new, with calibration certificates) each with tripod;
c) Two level staffs, all graduated metrically;
d) Two 5m and one 30m tape measure;
e) four ranging rods;
f) steel pegs – No: 50, 12 mm dia. x 400 mm long; and
g) Two x 1.8kg hammer.

PSC **SITE CLEARANCE**

PSC.1 **MATERIALS (**3)

PSC .1.1 DISPOSAL OF MATERIAL (3.1)

Suitable spoil sites will be located on site by the Engineer and confirmed by the issue of a site instruction. The Contractor may not make his own arrangements in this regard without the written approval of the Engineer.

PSC.2 **CONSTRUCTION** (5)

PSC.2.1 AREAS TO BE CLEARED AND GRUBBED (5.1)

Areas to be cleared and grubbed shall be classified as follows:

a) General Clearing and Grubbing

Any areas requiring particular clearing and grubbing must be agreed with the Engineer prior to any such clearing taking place. Any area cleared without the consent of the Engineer will not be measured in terms of this Clause and may result in further action being taken against the Contractor in terms of any contravention with the environmental management plan. Where the Engineer has instructed that clearing must take place or is required, it shall be measured as a strip 3m wide.

PSD EARTHWORKS

PSD.1 MATERIALS (3)

PSD .1.1 CLASSIFICATION FOR EXCAVATION PURPOSES (3.1)

Classification of material other than "soft excavation" shall be agreed with the Engineer before excavation may be commenced.

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 for further excavation is warranted. Failure on the part of the Contractor to advise the Engineer thereof in good time shall entitle the Engineer to classify, at his discretion, such excavation as may have been executed in material of a different nature.

For the purpose of this contract all material will either be classed as soft, hard rock or Boulder Class A.

No differentiation shall be made between “soft”, “Boulder Class B” and “Intermediate” excavation.

PSD.1.2 **Classes of excavation** (3.1.2)

(b) Intermediate excavation - Shall be classified as soft excavation

(e) Boulder excavation Class B - Shall be classified as soft excavation

PSD.2 CONSTRUCTION (5)

PSD.2.1 **Disposal (**5.2.2.3)

All excess material shall be disposed of at the designated spoil sites leveled in layers not excluding 300 mm and compacted to 90% MOD AASHTO density.

The free haul distance shall be:
1,0km for machines

PSDB **EARTHWORKS (PIPE TRENCHES)**

PSDB.1 **MATERIALS (3)**

PSDB.1.1 CLASSES OF EXCAVATION (3.1)

The classification of excavated materials shall be as specified in Subclause 3.1 of SABS 1200 D and PSD.1.2.

PSDB.1.2 CONTROL OF WATER (4.2)

The Contractor will encounter water & seepage water in some of the trench excavation. The contractor is required to assess the condition and nature of the site and to price a "lump sum' item to take care of water in trenches. No other payment will be made for measures required to deal with this water.

PSDB.2 **CONSTRUCTION (**5) PSDB.2.1

MINIMUM BASE WIDTHS (5.2)

Base widths shall be as detailed on SABS 1200DB.

PSDB.2.3 BACKFILLING (5.6)

PSDB.2.3.1 **General** (5.6.1)

ADD the following to the clause:

No thrust block or pipe requiring special wrapping may be covered by either the fill blanket or the main backfill until inspected and passed by the Engineer.

PSDB.2.3.2 **Disposal of unsuitable and make up of deficiency of backfill material (**5.6.3 and 5.6.5)

The freehaul distance shall be: -

1.0 km for machines

PSDB.2.3.3 **Completion of backfilling** (Clause 5.6.6)

Backfilling around the pipe shall not be allowed to fall more than 250m behind the laying of the pipe.

After the pipes have been laid, no backfilling shall be undertaken until the pipes have been inspected and approved by the Engineer.

The Contractor may use his discretion as to whether to backfill around joints before the pipeline is tested and should he decide to backfill the joints he shall be responsible for the locating of any leaks and no extra payment shall be made for any re-excavation and subsequent reinstatement.

PSDB.2.4 COMPACTION (5.7)

PSDB.2.4.1 **Areas subject to traffic loads (** 5.7.2)

Areas subject to traffic loads will be instructed by the Engineer in writing. No other areas will be considered for payment. The contractor will be expected to provide test results from an approved laboratory demonstrating that the additional compactive effort has been achieved. No additional payment will be made for these tests.

PSDB.2.5 SHORING (5.11)

In view of the fact that the excavation will take place in open areas, no additional payment will be made for shoring. The measurement width will also remain as specified herein although the Contractor may wish to batter the sides to avoid the need for shoring.

The provision for shoring shall be deemed to be included in the relevant rates for excavation. The Contractor's attention is drawn to the need to operate safely and to ensure that trenches are either shored or battered to a safe slope.

PSDB.3 MEASUREMENT AND PAYMENT (8)

PSDB.3.1 BASIC PRINCIPLES (8.1)

In addition to the activities listed in 8.1.1, excavation shall also include for the cost of piping and compacting the trench bottom to a minimum of 90% MOD AASHTO density in all materials irrespective of whether the base has been loosened or not during excavation.

PSG **STRUCTURAL CONCRETE**

PSG 2 **FORM WORK (5.2)**

PSG 2.2.1 FORMED FINISHES

Are those concrete surface finishes developed using formwork and whose standard of finish in each class shall be as described.
The Contractor shall inform the Engineer of any defect in terms of this Specification and the Contractor without the prior approval of the Engineer shall carry out no remedial work. Any defect shall be made good at the Contractor's expense by either removing and replacing the defective concrete, or, in certain instances only, by patching, all as approved by the Engineer and to the standard of finish required.

PSG 2.2.2 CLASS F1 ORDINARY FINISH

Formwork panels shall be of such quality that upon removal, the concrete is true and even, free from fins and recesses greater than 5mm size, honeycombing, large air holes and the like. Blowholes shall be filled if so required by the Engineer.

PSG 2.2.3 CLASS F2 SMOOTH FINISH

This class of finish requires a high standard concrete work, formwork and technique.
Concrete placed in any one structure to give this finish shall be made from cement and aggregates from the same source, and similarly, the grading of the aggregate shall be kept constant.
Formwork shall be metal or wrot timber in a new condition designed and constructed to suit the particular job in hand and with shutter bolts and joints between panels in a regular pattern approved by the Engineer. Joints between panels shall be watertight.
Construction joints shall be in the position and of the detail shown upon the working drawings. Should the Contractor wish to incorporate further construction joints or amend the position of those shown to suit his own requirements or technique, this may be allowed provided that all design considerations are met, that the prior approval of the Engineer is obtained and that any extra costs are borne by the Contractor. In the case of horizontal construction joints, the top edge of the concrete on the Class F2 smooth finish is to be struck true and level with a trowel.
Special care shall be taken to ensure that forms are clean of all pieces of tying wire, nails and other debris at the time of concreting.
The standard of finish shall be such that, upon removal of the formwork, no further treatment, other than treatment of bolt holes if required, shall be found necessary to provide a straight, smooth and uniform finish of good quality and consistent colour and texture, free of all honeycombing and large air holes.

PSG 6 CONCRETE STRUCTURES (5.5.11)

PSG6.2 DESIGN OF CONCRETE MIX

The design of the concrete mix should be based on the following:

- A maximum water / cement ratio of "0.5" should be used and;
- The 28 day characteristic cube strength should not be less than 35 N/mm2.
- 600g/m3 Polypropylene Microfibers should be added to the concrete mix.
- Oxygen Permeability & Water Sorptivity test of the concrete structure will be evaluated as per the following table: (Average of 4 x core samples)

Acceptance	Oxygen Permeability Index (log scale)	Water Sorptivity (mm√h)
Full Acceptance	Greater than or equal to 9.15	Less than or equal to 8
Conditional Acceptance	From 9.0 to 9.15	From 8 to 12
Rejection	Less than 9.0	Greater than 13

PSG6.5 REQUIREMENTS AND TESTS FOR WATERTIGHTNESS OF CONCRETE STRUCTURES

PSG6.5.1 The completed structure shall be watertight, and the quality and finish of the work shall be such that no after-treatment of the work such as plastering or cement wash is necessary to ensure compliance with this requirement.

The works will not be certified complete until the structures have been proved by testing to be watertight.

PSG6.5.2 Upon completion of construction and when so agreed by the Engineer, the structure shall be filled by the gradual admission of water until the water level reaches the designed maximum level. The water level shall then be carefully noted and recorded by the Engineer in relation to a fixed bench mark, and the structure shall be allowed to remain filled for a period of two (2) weeks or such longer time as may be required to permit complete saturation of the concrete. During this period, readings will be taken by the Engineer and the results so obtained will be available for the information of the Contractor.

At the end of this period more water shall be added, if necessary, to bring the water level back to the designed maximum level and the water shall be left undisturbed for a period of ninety-six (96) hours during which time the level shall again be recorded by the Engineer at regular intervals. The structure shall be considered to be watertight if the drop in water level does not exceed 6 mm in ninety-six (96) hours in the case of a roofed structure and if no leakage is apparent.

The acceptable drop in level in the case of an unroofed structure shall be such that it allows for normal evaporation during the time of the test.

PSG6.5.3 If appreciable leakage is evident at any stage of the filling or testing or if, in the opinion of the Engineer, the degree of water-tightness is unsatisfactory, the Contractor shall, when so ordered by the Engineer, discontinue the test immediately and at his own expense take approved steps to rectify the work. The work of rectification shall be continued assiduously until, on repetition of the test procedure, a satisfactory test result is obtained and the degree of water-tightness is acceptable.

PSG6.5.5 The Engineer shall have the right to retest the structure before the expiry of the period of maintenance and the results of these tests will be made available to the Contractor. If these tests indicate to the Engineer that the degree of water tightness is unsatisfactory, the Engineer (before issuing the final certificate) will be entitled to order the Contractor to rectify the work at his own expense in such a manner as will cause least interruption to the running of the works and will ensure that the degree of water-tightness of the structure is satisfactory.

PSG STRUCTURAL CONCRETE

PSG7.1 CLASS U1 ORDINARY FINISH

Immediately after placing, the concrete shall be finished by screeding with the edge of a wooden board of straight and true line and working between guides set accurately to level. No mortar shall be added and noticeable surface irregularities caused by the displacement of coarse aggregate shall be made good by re-screeding after removing down the offending aggregate**.**

PSG7.2 CLASS U2 WOOD FLOAT FINISH

The concrete surface shall be brought to the standard Class U1 ordinary finish and then floated with a wood float. Floating shall be started as soon as the screeded finish is stiffened sufficiently and the bleed water has evaporated or been removed and it shall be the minimum necessary to produce a surface free from screed marks and uniform in texture.

PSG7.3 CLASS U3 STEEL TROWEL FINISH

The concrete surface shall be brought to standard of Class U2 wood floating finish with floating being continued until a small amount of mortar without excess water is brought to the surface and then when the floated surface has hardened sufficient to prevent any more excess fine material from being drawn to the surface, trowelling with a steel trowel. Trowelling shall be performed with a firm pressure such as will flatten the sandy texture of the floated surface and produce a dense uniform surface free from blemishes and trowel marks. Gradual surface irregularities shall not exceed 5mm over any 3m. The sprinkling of sand and/or neat cement on the surface to absorb excess moisture shall not be permitted.

PSG7.4 CLASS U4 POWER FLOAT FINISH

The concrete surface shall be first be brought to the standard of Class U1 ordinary finish using wooden screeding boards or steel rollers. After evaporation or removal of all bleed water and immediately the concrete is stiff enough to support the machine, the surface shall be closed with a mechanical power float and then finished with a mechanical power trowel. The texture of the finished surface shall be either non-slip or polished as shown on the drawings. Irregularities shall be of long wavelength not exceeding a curvature of 2mm in 600mm. Under no circumstances shall sand and/or neat cement be sprinkled over the surface either to absorb excess moisture or to fill surface blemishes of irregularities. Power floats and trowels shall be operated by skilled operators.

PSHA STRUCTURAL STEELWORK

PSHA.1 CONSTRUCTION (5)

PSHA.1.1 Add the following sub-clause:

5.5.6 Fasteners:

Erection shall include the supply of fasteners.

PSHA.2 MEASURMENT AND PAYMENT (8)

PSHA.1.2 **Erection on site** (8.3.3)

Add the following:

The unit rate for erection shall cover the cost of fasteners.

PSL MEDIUM PRESSURE PIPELINES

PSL.1 MATERIALS (3)

PSL.1.1 STEEL PIPES FITTINGS AND SPECIALS (3.4)

PSL.1.1.1 **Pipes of nominal bore up to 150mm (** 3.4.2)

AMEND to read: -

Unless otherwise scheduled, steel pipes and fittings of nominal bore up to 150mm shall be of heavy duty, shall be screwed or plain ended for welded fittings or connecting with flexible couplings and shall comply with the applicable requirements of SANS 62.

PSL.1.1.2 **Pipes of nominal bore over 150mm** (3.4.3)

Unless otherwise scheduled, steel pipes and fittings of nominal bore over 150mm shall be manufactured to conform to SABS 719/1971 from grade 300WA steel and shall have a minimum wall thickness of 4.5mm.

PSL1.1.3 **Steel Pipe Specials and Fittings** (3.4.4)

Steel specials shall be fabricated from straight steel pipe as specified in PSL.1.1.1 and PSL.1.1.2 and shall be manufactured and tested in accordance with BS 534 – Clause 4.

Where specified on the drawings or schedule of quantities, ANSI B16 curvature bends, tees and reducers shall be used.

PSL.1.2 OTHER TYPES OF PIPES (3.7)

PSL.1.2.1 **uPVC Pipes**

Where uPVC bends are specified, they shall have a minimum pressure rating of 16 bar irrespective of the rating of the pipe to which they are attached.

PSL.1.2.2 **Polyethylene Pipes** (3.7.2)

ADD the following: -

All HDPE piping used on this contract shall be manufactured to the latest SABS ISO 4427 specification in an ISO 9002 listed factory belonging to a company which is a member of SAPPMA. Pipes from manufacturers who are non-SAPPMA members will not be accepted. Random samples will be taken to check the MFI and OIT index of the material.

All HDPE piping is to be SABS ISO 4427: 1996E PE80.

The contractor will be required to submit certified proof of the above prior to bringing any pipe material to site. The Engineer may also call for certificates of compliance to be submitted to substantiate the origin of raw material used in the manufacture of the pipes.

Pipe shall be supplied in rolls of lengths of either 100m or 50m.

PS.L 2 JOINTING MATERIALS (3.8)

PSL.2.1 **Flexible Couplings** (3.8.2)

HDPE compression fittings, including both the coupling and the thread, shall be rated as being suitable for operating pressures of 12.5 bar and shall be manufactured of the following materials:

- Body: Virgin polypropylene in master batch UV, high stability copolymer (PP-B) with UV Protection;
- Seal: Nitrile rubber (NBR);
- Bush Ring: Polypropylene, high stability copolymer (PP-B) with UV Protection;
- Clamping Ring: Acetalic resin (POM); and
- Body Nut: Polypropylene, high stability copolymer (PP-B) with UV Protection.

Clamp saddles must comply with the following minimum specification:

- They must have a pressure rating ofminimum 16 Bar;
- The parallel thread may not exceed 2" BSP;
- They must be reinforced with a stainless-steel reinforcing ring; and
- They must have a minimum of 4 x galvanised steel bolts.

PSL.2.2 **Flanges and accessories** (3.8.3)

Unless otherwise indicated on the drawings or schedules of quantities, dimensions and drilling of flanges shall be in accordance with the requirements of SABS 1123 Table 1600/3 or 2500/3 as specified. All flanges shall be truly at right angles to the axis of the pipe fittings and shall be drilled with bolt holes off-centre.

Flanges for normal working pressures up to 2500 kPa shall be flat-faced with full-face gaskets. **All gaskets shall be of the "Klinker" type.**

Nuts and bolts for flanges shall comply with SABS 135 or SABS 136 as applicable.

All bolts, nuts and washers shall be mild steel, hot dip, galvanized in accordance with SABS ISO 1461.

The length of each bolt shall be such that after tightening at least one thread in addition to the thread run out and not more than the bolt diameter shall project. The threaded portion of bolts shall be clear of the shear plane.

All nuts and studs shall be fitted with two, steel, flat washers, under the bolt head and under the nut.

Any bolts not complying with this requirement shall be removed and replaced at the expense of the Contractor.

PSL.3 CORROSION PROTECTION (3.9)

PSL.3.1 **Steel pipes**(3.9.2.1)

These pipes, fittings, specials etc shall all be internally and externally hot-dip galvanized. All galvanizing shall be done in accordance with SANS 121: 2000/ISO 1461 2000. The minimum amount of zinc deposited shall be 760 g/m2. The Contractor shall submit certificates certifying that all galvanized pipes have been manufactured in a certified facility and meet the specifications noted above. Retention will not be released until such certificates are delivered to the Engineer.

All internal flanges and bolts shall be wrapped with a "Denso" mastic blanket applied in accordance with the manufacturer's instructions.

PART B2: PARTICULAR SPECIFICATIONS

PA: OHSA 1993 HEALTH AND SAFETY SPECIFICATION

PA.1 SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Regulations, and all other safety codes and specifications referred to in the said Regulations.

In terms of the OHSA Agreement in Section C1.2.4 of the Contract document, the status of the Contractor as mandatary to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and Regulations 2014.

This safety specification and the Contractor's own Health & Safety Plan as well as the Occupational Health & Safety Act, 85 of 1993 & Construction Regulations 2014, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

The following are possible risks associated with this project:

- Working in elevated positions, most of the time in a restricted environment with limited landings (working platforms);
- Working above a continuously flowing river and in a flood plain environment subject to flooding;
- Lifting and lowering of materials and equipment from the ground to the bridge and vice versa, exposed to cross winds;
- Steep and restricted access to the lower flood plain below the bridge
- Potentially dangerous existing services, i.e. gas lines, water and sewerage mains, electrical high voltage cables, on the bridge, buried and overhead
- Deep excavations in soils requiring shoring or reducing of slopes
- Blasting of hard rock or demolition of concrete
- High pressure during testing of the new rising main, which could result in potentially dangerous situations in the event of the pipeline of fittings failing
- Potentially harmful gasses when tying into the existing sewer mains
- Movement of construction vehicles on site, taking into consideration steep slopes, other traffic and existing services
- Exposure to possible injuries due to mishandling or failure of power and hand tools
- Falling debris, tools and materials from bridge
- Non-conformance to specifications with regards to fasteners and materials
- Risks related to general safety and security on site

Additional risks may arise from specific methods of construction selected by the Contractor which are not necessary covered in the above.

PA.2 DEFINITIONS

For the purpose of this contract the following shall apply:

Employer" where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as "**client**" as defined in the Construction Regulations 2014. "**Employer**" and "**client**" is therefore interchangeable and shall be read in the context of the relevant document.

(a) "**Contractor**" wherever used in the contract documents and in this specification, shall have the same meaning as "**Contractor**" as defined in the General Conditions of Contract.
In this specification the terms "**principal contractor**" and "**contractor**" are replaced with "**Contractor**" and "**subcontractor**" respectively.

For the purpose of this contract the **Contractor** will, in terms of OHSA 1993, be the mandatary, without derogating from his status as an employer in his own right.

(b) "**Engineer**" where used in this specification, means the Engineer as defined in the General Conditions of Contract. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

PA.3 TENDERS

The Contractor shall submit the following with his tender:

(a) a documented Health and Safety Plan as stipulated in Regulation 7 (1) (a) of the Construction Regulations 2014. The Safety Plan must be based on the Construction Regulations 2014 and will be subject to approval by the Employer;

(b) a declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Construction Regulations 2014;

(c) a declaration to the effect that he made provision in this tender for the cost of the health and safety measures envisaged in the Construction Regulations; and

(d) Failure to submit the foregoing with his tender, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely in accordance with the Construction Regulations.

PA.4 CONSTRUCTION WORK PERMIT & NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

PA.4.1 Construction Work Permit

Where the project value exceeds R 60 000 000-00 / CIDB grade 7 or the project duration exceeds 12 months / 365 days, the client will apply for a Construction Work Permit in accordance with Regulation 3 (1) of the Construction Regulations of 2014.

The contractor must provide the client / client's agent with the required documentation for the Application of the Construction Work Permit. Failure to provide the documentation timeously may cause undue delays on the contract. The contractor may not claim any time lost due to these delays.

The contractor may not commence any work until the Construction Work Permit is received from the Department of Employment & labour. The contractor must erect a sign board to display the Site-Specific Construction Work Permit. This board must contain the following information in at least 100 mm size alphanumerical:

- The Department of Employment & Labour Logo
- The Contractor's Company Name & Logo
- The Construction Health & Safety Agent's full name & Company Logo
- The Contract Name & Number
- The Site-Specific Construction Work Permit Number

PA.4.2 Notification of Construction Work

After award of the contract, but before commencement of construction work, the contractor who intends to carry out any construction work other than work contemplated in regulation 3(1) of the Construction Regulations 2014, must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2 if the intended construction work will-
(a) include excavation work;
(b) include working at a height where there is risk of falling;
(c) include the demolition of a structure; or
(d) include the use of explosives to perform construction work.

The notification must be done in the form similar to Annexure 2 included on page T.53 (Forms to be Completed by Successful Tenderer) of the tender document.

A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

PA.5 RISK ASSESSMENT

Before commencement of any construction work during the construction period, the Contractor must have a risk assessment performed and recorded in writing by a competent person. (Refer Regulation 9 of the Construction Regulations 2014).

The risk assessment must identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it must include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified and must include a monitoring and review plan.

The risk assessment must be available on site for inspection by inspectors, Employer, Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

PA.6 APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

PA.6.1 Health and Safety plan

The Contractor shall appoint his employees and any subcontractors to be employed on the contract, in writing, and he shall provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

PA.6.2 Health and safety induction training

The Contractor must ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site.

The Contractor must ensure that every employee on site is in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

PA.7 APPOINTMENT OF SAFETY PERSONNEL

PA.7.1 Construction Managers and Supervisors

Construction Manager and Alternate Manager – CR 8 (1)
The Principal Contractor must in writing appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate must be appointed in terms of Regulation 8 (1). The construction manager cannot manage any other site other than the single site for which he has been appointed. The construction manager must have at least a national diploma in civil engineering with a post graduate experience of five years in the Civil Engineering field.

Assistant Construction Manager(s) – CR 8 (2)
The Principal Contractor must in writing appoint one or more assistant construction managers for different sections thereof in terms of Regulation 8 (2): Provided that the designation of any such person does not relieve the construction manager of any personal accountability for failing in his or her management duties. The assistant construction manager cannot manage any other site other than the single site for which he has been appointed. The construction manager must have at least a national diploma in civil engineering.

Construction Supervisor(s) – CR 8 (7)
The Principal Contractor must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site in terms of Regulation 8 (7). The construction supervisor cannot supervise any other site other than the single site for which he has been appointed. The construction supervisor must have at least five years' experience supervising construction activities on site.

Assistant Construction Supervisor(s) – CR 8 (8)
The Principal Contractor must in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor contemplated in subregulation (7), and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor in terms of Regulation 8 (8): Provided that the designation of any such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties. The assistant construction supervisor cannot supervise any other site other than the single site for which he has been appointed. The assistant construction supervisor must have at least two years' work experience in his specific task in order to supervise employees.

PA.7.2 Construction health & safety officer – CR 8 (5)

Due to the nature of the work, the degree of danger likely to be encountered and the accumulation of hazards or risk on the site, the Principal Contractor must in writing appoint one full (Where a Construction Work Permit is Required) or part time (Where the Notification of Construction Work Required) Construction Health & Safety Officer to assist in the control of all health and safety related aspects on the site, in terms of Regulation 8 (5). The Construction Health & Safety Officer must be registered and in good standing with the South African Council for the Project & Construction Management Professions (SACPCMP). Each contractor must appoint his / her Construction Health & Safety Officer who is registered and in good standing with the SACPCMP. The contractors' Construction Health & Safety Officer must conduct at least a weekly site visits and submit weekly reports on the findings on the construction site. The contractor may appoint a consultant to oversee the health and safety on site who must perform the same duties as a part time Construction Health & Safety Officer.

Provision must be made by the Contractor in his rates, to cover the cost of this dedicated construction health & safety officer appointed after award of the contract.

PA.7.3 Health and safety representatives

In terms of **Section 17 and 18 of the Act (OHSA 1993)** the Contractor, being the employer in terms of the Act for the execution of the contract, must appoint a **health and safety representative** in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 50 employees. Although the Act requires 1, SHE representative from 20 employees onwards, this contract requires 1:50 She representatives irrespective of the number on employees on site. The same applies to contractors and sub-contractors.

The function of health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery etc. on a regular base, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

PA.7.4 Health and safety committee

In terms of Sections 19 & 20 of the Act (OHSA 1993) the Contractor (as employer), shall establish one or more health and safety committee(s) where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals, but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, and to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

PA.7.5 Competent persons

In accordance with the Construction Regulations the Contractor must appoint in writing **competent persons** responsible for each of the following work situations that may be expected on the site of the works.

(a) Construction Manager, Supervisor and Health & Safety Officer as described in Regulation 8;
(b) Risk assessments as described in Regulation 9;
(c) Fall protection as described in Regulation 10;
(d) Structures as described in Regulation 11;
(e) Temporary Works as described in Regulation 12;
(f) Excavation work as described in Regulation 13 & blasting for excavation work;
(g) Demolition work as described in Regulation 14;
(h) Tunneling as described in Regulation 15;
(i) Scaffolding work as described in Regulation 16;
(j) Suspended platform operations as described in Regulation 17;
(k) Rope Access as described in Regulation 18;
(l) Material hoists as described in Regulation 19;
(m) Batch plant operations as described in Regulation 20;
(n) Explosive powered tools as described in Regulation 21;
(o) Cranes as described in Regulation 22;
(p) Construction vehicle and mobile plant as described in Regulation 23;
(q) Temporary electrical installations and machinery on construction sites as described in Regulation 24;
(r) Use & temporary storage of flammable liquids on construction sites as described in Regulation 25;
(s) Water Environments as described in Regulation 26;
(t) Housekeeping & general safeguarding on construction sites described in Regulation 27;
(u) Stacking and storage on construction sites as described in Regulation 28;
(v) Fire precautions on construction sites as described in Regulation 29; and
(w) Construction employees' facilities as described in Regulation 30.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with **all** requirements of the Construction Regulations.

PA.8 RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials and subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

(q) A copy of the OHSA 1993 Construction Regulations 2014;
(r) A copy of this Health and Safety Specification;
(s) A copy of the Contractor's Health and Safety Plan (Regulation 7);
(t) A copy of the Notification of Construction Work (Regulation 4);
(u) A health and safety file in terms of Regulation 7(1) (b) with inputs by the Construction Health & Safety Officer - Regulation 8 (5&6);
(v) A copy of the risk assessment described in Regulation 9;
(w) A fall protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 10 and Regulation 18 (2) (b);
(x) Drawings pertaining to the design of structures (Regulation 11 (1) (c)) and Temporary works

(Regulation 12 (3) (c)) must be kept on site;
(y) Pronouncement of the safety of excavations must be recorded in a register to be kept on site (Regulation 13(2)(h));
(z) A copy of the certificate of the system design for suspended platforms (Regulation 17(3));
(aa) A notice must be affixed around the base towers of material hoists to indicate the maximum mass load, which may be carried at any one time by material hoists (Regulation 19 (5));
(bb) Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site (Regulation 19 (8));
(cc) A record of any repairs to or maintenance of a batch plant must be kept on site (Regulations 20 (8));
(dd) A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used (Regulation 21 (2));
(ee) A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant (Regulation 23(1)(k)).

PA.9 CONTRACTORS RESPONSIBILITIES

For this contract the Contractor will be the mandatary of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and Regulations.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status as mandatary (employer) for the contract under consideration.

Site Establishment

The Principal Contractor must find a suitable position within the construction zone to set up the site camp and laydown areas for construction material. These positions must be approved by the client, local councillor and the engineer. These positions must be agreed between all parties before the site camp and laydown areas are established. The site camp must be fenced using a Bonnox type fence with a minimum of 1,8 metres high with shade cloth. The site camp must have separate pedestrian and vehicular access which must be lockable. Laydown areas must be adequately barricaded using barrier netting of at least 1 metre in height fixed onto timbers poles or 50mm droppers.

The Principal Contractor must erect, separate from the contract sign board, at least 3^{No} construction sign boards. These sign boards must be constructed from sheet metal fixed on metal frames and be at least 1200 x 600mm in size. The sign boards must be fixed using clamps on a minimum of 100-125mm x 3,6 metre CCA treated gum poles. The poles must be inserted at least 800mm into the ground and the sign board must have a clearance of at least 2,2 metres from the ground. The sign boards must be erected at least at the following points:

One at the entrance to the site camp

Two upon approaching the construction site (one from each side where construction work with high risk activities are actively taking place).

The construction sign board must display the PPE required on site as well as the hazards to be encountered while on site. The sign board must also include “No Unauthorised Entry”, Visitors Report to Site Office” & “Danger – Construction Work in Progress”. The contractor must erect a sign board to display the Site-Specific Construction Work Permit. This board must contain the following information in at least 100 mm size alphanumerical:

The Department of Employment & Labour Logo

The Contractor’s Company Name & Logo

The Construction Health & Safety Agent’s full name & Company Logo

The Contract Name & Number

The Site-Specific Construction Work Permit Number

The Principal Contractor must make provisions for the set-up of an office container, stores container, portable drinking water, sufficient number of toilets for each gender as well as firefighting & first-aid equipment within the site camp.

Where a truck mounted crane is used to place the containers, the operator must be trained by an accredited training service provider on the SAQA Unit Standard 242978: Operate truck mounted cranes. The truck must be parked on level and stable ground and have suitable timber sole plates placed underneath the outriggers. All lifting gear / tackle must be inspected, used and maintained by a competent person who has been trained by an accredited training service provider on the SAQA Unit Standard 253575: Inspect, use and care for manual lifting equipment and tackle. No person must walk or stand under elevated loads. All lifting operations must be carried out under the control of a competent banksman.

Where the Principal Contractor requires electricity to the site camp, the electrical installation must be done by a registered electrical contractor who must issue a Certificate of Compliance (COC) in the form of Annexure 1 of the Electrical Installations Regulation of 2015, after the installation is completed. This installation must be inspected by a competent person at least weekly in terms of Regulation 24 (d) of the Construction Regulations of 2014 and the results of such inspections recorded in a register provided for that purpose. All electrical installations must comply with the Electrical Installations Regulation of 2015.

The site camp must be controlled by means of lockable gates as well as the placement of security personnel. The security must be trained on the use of the fire extinguisher and be provided with a list of emergency contact details, suitable shelter, welfare facilities and flashlight. The site camp is to be locked and remain secured after hours. No fuel, loose tools or equipment must be left unattended, these must be locked away in suitable storage facilities. All persons entering the site must undergo a site-specific induction.

All mobile plant which is parked at the site camp must have chock blocks and their blades, buckets and booms fully lowered when parked. Drip trays must be placed under the engine compartment of each mobile plant to contain any oil or fuel spills.

The Principal Contractor must ensure that sufficient bins are provided for the safe disposal of waste generated from the construction activities. All waste to be removed off site at least weekly and disposed of at a registered landfill site. Receipts must be obtained as proof of disposal.

The Principal Contractor must ensure that the site camp complies with the local bylaws.

Surveying

The surveying is to be done by a suitably qualified surveyor who has at least a National Diploma in Civil Engineering and specializing in Surveying. The survey team must be inducted & trained, by the appointed Construction Health & Safety Officer, on the company's plans, policies, procedures and risk assessments prior to commencing with work on site.

Traffic Accommodation

Due to the number of road crossings and work along public roads, the Principal Contractor must appoint a competent as a Traffic Safety Officer in terms of COLTO 1502 (i). The Principal Contractor must compile a site-specific Traffic Management Plan and submit it to the Client's Agent for approval. Once approved, the content of the Traffic Management Plan must be communicated to all site personnel.

Proving & Relocation of Existing Services

The Principal Contractor must obtain a copy of the updated services layout drawings from the local municipality which must be used as a guide for the proving of underground services. All identified services must be clearly identified and barricaded once located. Extreme care must be taken in order not to damage any of the existing services. The location and type of existing services must be communicated to all site personnel. The relocation of the services must be done by the local municipality or with instruction of the engineers by competent sub-contractor or persons appointed by the Principal Contractor.

Clearing & Grubbing

The Principal Contractor must ensure that the clearing and grubbing is done in accordance with the client's specification. All material to be spoiled at a suitable spoil site. Topsoil to be stored on site for future use and maintained during the construction phase. The Principal Contractor must ensure that dust is kept to a minimum during the construction phase. All construction vehicles must be operated in accordance with Regulation 23 of the Construction Regulations of 2014.

Excavation Work

The Principal Contractor must ensure that all excavation work is carried out under the supervision of a competent person who must be appointed in writing. All excavations must be suitably barricaded at the end of each shift or when not being worked on. All excavation work must be carried out in accordance with Regulation 13 of the Construction Regulations of 2014.

Installation of Bulk & Reticulation Pipelines

The Principal Contractor must ensure that all pipes are laid in accordance with the client's specifications. All pipes to be stacked on level ground with suitable chocks to prevent them from rolling. Half-filled sandbags can be used as chocks. All pipe stacks must be suitably barricaded to prevent the public from accessing them.

Construction of Thrust & Anchor Blocks

The Principal Contractor must ensure that all Thrust & Anchor Blocks are constructed in accordance with the engineers' specifications. All concrete to be shuttered by means of timber shutters or similar means of containing the concrete. All excavations where Thrust & Anchor Blocks are constructed must comply with Regulation 13 of the Construction Regulations of 2014. All steel fixing, shuttering and concrete work must be carried out under the supervision of a competent Construction Supervisor appointed in terms of Regulation 8 (7) of the Construction Regulations of 2014. Employees must be issued with and instructed to wear rubber (Gum) boots and plastic-coated gloves when working with concrete.

Installation of Valves & Fittings

The Principal Contractor must ensure that valves & fittings are supplied and installed in accordance with the designer's specifications. Correct lifting equipment must be used for the installation of the valves and fittings. All lifting equipment must be load tested and have supporting load test certificates. All lifting equipment must be tagged with a Safe Working Load (SWL). All lifting equipment must be inspected by a competent person at least every three months. The Principal Contractor must take into account pinch points and working space when installing valves and fittings and take the necessary precautions to prevent injuries.

Bridge Crossings

The Principal Contractor must ensure that all bridge crossings are constructed in accordance with the designer's specifications. The Principal Contractor must ensure that Regulations 10, 12, 16 and 26 of the Construction Regulations are complied with regarding fall protection, temporary works, scaffolding and water environments.

Road Crossings

The Principal Contractor must ensure that all road crossings are constructed in accordance with the designer's specifications. The road crossings must be done in accordance with the Principal Contractor's approved Traffic Management Plan. The Principal Contractor must ensure that no excavation is left open overnight in the road. All excavations must be backfilled within the same day. Where road crossings cannot be backfilled, steel plates with a minimum if 12mm thickness must overlap on the excavations so that vehicles van drive over without being damaged. The steel plates must extend at a reasonable length as determined by the engineer so that the plate does not slide off and fall into the excavation.

River Crossings

The Principal Contractor must ensure that all river crossings is constructed in accordance with the designer's specifications. When excavating for the riverbed, the Principal Contractor must ensure that all excavation work is carried out in accordance with Regulation 13 of the Construction Regulations, 2014. When working near or over water, the Principal Contractor must ensure that all work is carried out in accordance with Regulation 26 of the Construction Regulations, 2014.

Construction of Pressure Reducing Valve (PRV) & Meter Chambers

The Principal Contractor must ensure that all building works are in accordance with the National Building Regulations and the client's specifications. The Principal Contractor must ensure that steel piping and ladders are supplied and installed in accordance with the designer's specifications. All pipe fabrication to be done off site. Only minor adjustments to be done on site. The welders performing steel fabrication work must be trained by an accredited training institute on SAQA Unit Standard 119753: Perform basic welding/jointing of metals. All welding must comply with Regulation 9 of the General Safety Regulations, 2003.

All bricks to be stacked on level ground and stacks must not be placed on top of each other. Mixing of mortar must take place on an impermeable surface to prevent ground contamination. All employees working with dry cement powder must be issued with & instructed to wear dust masks and be trained on the MSDS for cement. The Principal Contractor must ensure that housekeeping is always maintained on site and that all damaged bricks, used straps, empty cements bags and general construction waste is disposed of correctly.

Construction of Air Valve Chambers

The Principal Contractor must ensure that all pre-cast rings are supplied and installed in accordance with the designer's specifications to construct the Air Valve Chambers. Correct lifting equipment must be used for the installation of the pre-cast rings. All lifting equipment must be load tested and have supporting load test certificates. All lifting equipment must be tagged with a Safe Working Load (SWL). All lifting equipment must be inspected by a competent person at least every three months.

Construction of Isolating & Scour Valve Chambers

The Principal Contractor must take into account pinch points and working space when installing concrete spacers to construct the Isolating & Scour Valve Chambers and take the necessary precautions to prevent injuries. The Principal Contractor must ensure that Regulation 28 of the Construction Regulations of 2014 are considered when stacking and storing concrete spacers.

Installation of Pipe Markers

The Principal Contractor must take into account pinch points and correct lifting procedures when installing concrete pipe markers and take the necessary precautions to prevent injuries. The Principal Contractor must ensure that Regulation 28 of the Construction Regulations of 2014 are considered when stacking and storing pipe markers.

Pipe Testing & Commissioning of Works

The Principal Contractor must ensure that pipe testing is carried out in accordance with the designer's specifications. All plant and equipment used for the testing must be operated by trained and authorised personnel who must inspect such equipment prior to each use and the results of such inspections recorded in registers provided for that purpose. The Construction Supervisor must sign off daily on the registers and action any deviations noted by the operators prior to using the plant or equipment.
On completion of the project, the Principal Contractor must ensure that the commissioning of the pipeline is done in accordance with the designer's specifications. The entire installation or parts thereof must then be handed over to the client upon completion.

1. Occupational Health & Safety Act, 85 of 1993

(a) Section 7 – Health & Safety Policy

The Principal Contractor must prepare a written policy concerning the protection of the Health & Safety of his employees at work, including the description of his organisation and the arrangements for carrying out and reviewing that policy. This policy must be signed by the Principal Contractor's CEO and prominently displayed at the site camp where it will be accessible to all employees. This policy must be communicated to all his employees during the start up of a project and whenever the policy is amended.

(b) Section 16 – CEO & Contracts Manager

The CEO will accept responsibility for health & safety in the organization in terms of Section 16 (1). The appointment of the CEO must be done in writing and may include a board resolution. Where the CEO cannot directly oversee the project, he / she may appoint a Contracts Manager to accept responsibility for health & safety on all sites allocated to him or her in terms of Section 16 (2).

(c) Section 17 – Health & Safety Representatives

The Principal Contractor must appoint in writing 1 SHE representative for every 50 employees or part thereof in terms of Section 17 (1). The SHE representative must attend formal training conducted by an accredited training service provider who is registered with the Department of Labour and the respective training authority. The SHE representative must be a full-time employee and must be familiar with the Principal Contractor's scope of work. The SHE representative must not be in a supervisory or management position. The SHE representative shall carry out regular inspections on site while performing normal duties at work. The SHE representative shall participate in incident investigations and will form part of the health & safety committee.

(d) Section 19 – Health & Safety Committees

The Principal Contractor must appoint a management representative in writing as a SHE committee member to attend health & safety committee meetings in terms of Section 19 (3). Where there are more than one SHE representatives, the Principal Contractor shall hold at least monthly SHE committee meetings. The number of management representatives shall not exceed that of the number of SHE representatives.

(e) Section 24 – Report to Inspector Regarding Certain Incidents

The Principal Contractor must report all incidents immediately, in relation to Section 24 of the Occupational Health & Safety Act, 85 of 1993, to the provisional director, Client and its agent:

(f) Section 37 – Acts or omissions by employees or mandataries

The client must engage in a mandatary agreement with the Principal Contractor to ensure that all aspects of health & safety are included within the Principal Contractor's scope of work and the agreement relieves the employer of any civil liability whenever an employee does or omits to do any act which it would be an offence in terms of this Act for the employer of such employee. This agreement shall be in writing and signed by both parties in terms of Section 37 (2). Where the Principal Contractor appointments sub-contractors, there needs to be an agreement as the sub-contractor is an employer in his own right.

2. General Administrative Regulations, 2003

a) Regulation 4 – Copy of the Act

The Principal Contractor must have a copy of the latest version of the Occupational Health & Safety Act, 85 of 1993 and Regulations, readily available at the site office for use by the Principal Contractor, employees, employer and inspectors.
In addition to the above, the Principal Contractor must prominently display size A1 laminated posters of the following Acts in the workplace:

- Occupational Health & Safety Act, 85 of 1993;
- Employment Equity Act, 55 of 1998, and
- Basic Conditions of Employment Act, 75 of 1997.

b) Regulation 9 – Recording & Investigation of Incidents

The Principal Contractor must appoint a competent person in writing as the accident and incident investigator to investigate all incidents on site. The reporting of incidents must be done in the form of WCL 1 (Diseases) / WCL 2 (Injuries) and investigated and recorded in the form of Annexure 1. The incidents must be investigated within 7 days by the appointed competent person with the assistance of the health & safety committee.

3. General Safety Regulations, 2003

a. Regulation 2 – Personal Safety Equipment & Facilities

The Principal Contractor must supply, free of charge, sufficient and suitable PPE to his employees for them to carry out their work safely. The Principal Contractor must demonstrate to the employee the safe use, care and limitations of such PPE. The employee must sign the PPE issue register for any PPE which was issued to him or her. The Principal Contractor must ensure that every reasonable effort has been taken to reduce if not eliminate the health & safety risk to his employees. PPE must and will always be the last resort.

b. Regulation 2 A – Intoxication

The Principal Contractor must ensure that no employee enters or remains in the workplace if he or she is under the influence of or in possession of intoxicating substances (Alcohol & Drugs). The Principal Contractor shall conduct random drug & alcohol tests to ensure that substance abuse is closely monitored in the workplace. Disciplinary action must be taken to employees who are found to guilty of misconduct.

c. Regulation 2 B – Substituted Notices & Signs

The Principal Contractor must display substituted notices and signs around the site which must be clearly visible and comply with the local bylaws. The Signage must include but not limited to the mandatary PPE requirements, First-Aid, Fire Equipment, Excavation Work, Hazardous Substances, Construction Activities and Public Notices.

d. Regulation 2 C – Admittance of Persons

The Principal Contractor must ensure that no unauthorized persons enter or remains in the work area. The Principal Contractor must strategically erect signage at the entrance to the site prohibiting entry. Where the site is on a public space, the Principal Contractor must ensure that adequate measures are in place to prevent unauthorized entry. The following information should also be included:

"No Unauthorized Entry"
"Visitors Report to Site Office"
"Construction Site" & indicate the specific hazards associated with the site.
"Induction to be Obtained Prior to Entry to the Site"

e. Regulation 3 – First Aid, Emergency Equipment and Procedures

The Principal Contractor must ensure that he / she has a fully stocked first aid kit on site. The first aid kit must contain the minimum contents as per the Annexure contained in this regulation. The Principal Contractor must appoint a trained & competent person as the first aider to attend to all injuries on site and to control the first-aid kit. The training of the first aider must be done by an accredited training provider who is registered with the department of labour and the respective training authority. The Principal Contractor must display the first aid signs at strategic points on the site to indicate the location as well as the name of the person in charge of the first aid kit.

f. Regulation 4 – Use & Storage of Flammable Liquids

The Principal Contractor must store all flammable liquids in a well-0ventilated store which is designed for this purpose. The store must be bunded and be able to contain 110% of the volume of the flammable liquids stored. The flammable liquids must not be stored with combustible material. The store must be clearly marked as to the content and approximate quantity of flammable liquids that are stored. The following signage (290 x 290 mm) must also be displayed at the entrance to the store:

"No Smoking"
"No Open Flames"
"Hazardous Chemicals"
"Flammable Store"

g. Regulation 6 – Work in Elevated Positions

No work at heights must be carried out unless it is done safely from a safe platform or scaffold. Ladders should be used only to gain access and not as a work platform. Only platform ladders are designed to be used as a safe work platform. Persons working at heights must undergo a Working at Heights evaluation during the medicals which will form part of the hazards listed in the Annexure 3. All persons working above 2 metres must wear and attach a safety harness to a suitable lifeline. All persons working at heights must undergo Working at Heights Training by an accredited training service provider who is registered with the department of labour and the respective training authority.

h. Regulation 8 – Stacking of Articles

The Principal Contractor must appoint a competent person in writing in accordance with Regulation 8 (1) (a) and to supervise the stacking of articles on site. All stacking and storage must be done safely, and stacks must not exceed three times the base width. Stacks must be wider or at the same size at the bottom than at the top. All storage areas must be adequately cordoned off.

i. Regulation 13 A – Ladders

The Principal Contractor must appoint a suitable person in writing to inspect the ladders on a regular basis. The Principal Contractor must ensure that every ladder is constructed of sound material and is suitable for the purpose for which it is used. Ladders should be used only to gain access and not as a work platform. Only platform ladders are designed to be used as a safe work platform. Ladders must not be painted as the paint may hide any cracks on the ladder. If the ladder is constructed from timber, the timber must be free from Knots and the rungs must be let into the styles.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations 2014,and are not repeated in detail but some important aspects are highlighted hereafter, without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations.

4. Construction Regulations, 2014

a) Regulation 3 – Application for the Construction Work Permit

If the project value is over R 40 000 000-00 or the duration of the project exceeds 12 months, then the client shall appoint an agent on its behalf to apply to the provincial director of the department of labour for a construction work permit. The permit application process takes up to 30 days and the Principal Contractor may only commence work once the construction work permit is received.

b) Regulation 4 – Notification of Construction Work

The Principal Contractor must, prior to commencing with any work, notify the provincial director of the department of labour, at least 7 days before, in the form of Annexure 2 of its intention to commence with construction work. If the client does an application for a construction work permit, the notification is not necessary.

c) Regulation 5 – Duties of Client

The Client will –

(g) ensure that potential principal contractors submitting tenders have made adequate provision for the cost of health and safety measures;
(h) ensure that the principal contractor to be appointed has the necessary competencies and resources to carry out the construction work safely;
(i) take reasonable steps to ensure co-operation between all contractors appointed by the client to enable each of those contractors to comply with these Regulations;
(j) ensure before any work commences on a site that every principal contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);
(k) appoint every principal contractor in writing for the project or part thereof on the construction site;
(/) discuss and negotiate with the principal contractor the contents of the principal contractor's health and safety plan contemplated in regulation 7(1), and must thereafter finally approve that plan for implementation;
(m) ensure that a copy of the principal contractor's health and safety plan is available on request to an employee, inspector or contractor;
(n) take reasonable steps to ensure that each contractor's health and safety plan contemplated in regulation 7(1)(a) is implemented and maintained;
(o) ensure that periodic health and safety audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;
(p) ensure that a copy of the health and safety audit report contemplated in paragraph
(o) is provided to the principal contractor within seven days after the audit;
(q) stop any contractor from executing a construction activity which poses a threat to the health and safety of persons which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site;
(r) where changes are brought about to the design or construction work, make sufficient health and safety information and appropriate resources available to the principal contractor to execute the work safely; and
(s) ensure that the health and safety file contemplated in regulation 7(1)(b) is kept and maintained by the principal contractor.

In accordance with Regulations, the Contractor shall liaise closely with the Employer or the Engineer on behalf of the Employer, to ensure that all requirements of the Act and the Regulations are met and complied with.

d) Regulation 7 – Duties of the Principal Contractor & Contractor

The Principal Contractor must provide and demonstrate to the client a suitable, sufficiently documented and coherent site-specific health and safety plan, based on the client's documented health and safety specifications. The plan must be submitted to the client / client's agent for approval. The approved plan will be submitted together with the application for the Construction Work Permit. Work may only

commence once the plan has been approved. This plan must be applied, reviewed and updated as the work progresses.

The Principal Contractor must provide a comprehensive health and safety file for review to the client / client agent. The health and safety file will be audited by the client / client agent prior to commencement with work on site. Once the file has been reviewed, the Principal contractor must address all outstanding items prior to commencement with work. The Principal contractor may only commence work if the outstanding items have been addressed. This health & safety file must be updated by the Principal contractor and must remain on site at all times. On completion of the project, the contractor must consolidate the health and safety file including that of the sub-contractors and submit it to the client / client agent.

The Principal Contractor must provide potential sub-contractors, who are tendering for any work to be performed on site (including that of the plant hire companies), with the relevant sections of the client's health & safety specifications.

The Principal Contractor must ensure that the sub-contractors have the necessary competencies, resources and made adequate provision to carry the work out safely.

The Principal Contractor and sub-contractor must enter into a health & safety agreement in terms of Section 37 (2) of the OHS Act and the Principal Contractor must appoint each contractor in writing for part of the project in terms of Regulation 7 (1) (c) (v) of the Construction Regulations, 2014. The Principal Contractor must have a comprehensive and updated list of all his contractors on site.

The Principal Contractor must ensure that the sub-contractors are in Good Standing with the Compensation Commissioner in terms Section 89 of the COID Act, 130 of 1993.

The Principal Contractor must audit the contractors at least monthly. The contractors must submit a close out report with supporting documents, within 7 days, for addressing outstanding items.

The Principal Contractor must ensure that where changes are brought about, sufficient health & safety information, including the necessary resources to carry out the work safely, is provided to the contractor.

The Contractor must provide and demonstrate to the Principal Contractor a suitable, sufficiently documented and coherent site-specific health and safety plan, based on the client's documented health and safety specifications. The plan must be submitted to the Principal Contractor for approval. Work may only commence once the plan has been approved by the Principal Contractor. This plan must be applied, reviewed and updated as the work progresses.

The Contractor must provide a comprehensive health and safety file for review to the Principal Contractor. The file will be audited by the Principal Contractor prior to commencement with work on site. Once the file has been reviewed, the contractor must address all outstanding items prior to commencement with work. The contractor may only commence work if the outstanding items have been addressed. This health & safety file must be updated by the contractor and must remain on site at all times. On completion of the project, the contractor must consolidate the health and safety file including that of his or her sub-contractors and submit it to the Principal Contractor.

The Principal Contractor must ensure that all his employees, including that of his / her contractors, have a medical certificate of fitness, for the type of work to be performed, issued by an Occupational Health Practitioner in the form of Annexure 3 and must include a general examination with the following test results, Blood Pressure, Snellen's Vision (20/20 Test), Spirometry (Lung Function) and Audiometry (Hearing Test). If employees are working at heights, then a 'Working at Heights" evaluation must be done.

The Principal Contractor must ensure that all his employees, including that of his / her contractors, have undergone induction training pertaining to the hazards prevalent site at the time of entry. The induction must be conducted by the Principal Contractor's appointed Construction Health & Safety Officer prior to entering the site.

The Principal Contractor must ensure that all visitors undergo an induction pertaining to the hazards prevalent on the site and that such visitors have the necessary PPE prior to entering the site. The PPE must include but not limited to: Hard Hats, Reflective Vests and Steel Toe Capped or similar approved Safety

Boots.

e) Regulation 8 – Management & Supervision of Construction Work

The Principal Contractor must in writing appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate must be appointed in terms of Regulation 8 (1). The construction manager cannot manage any other site other than the single site for which he has been appointed. The construction manager must have at least a national diploma in civil engineering with a post graduate experience of five years.

The Principal Contractor must in writing appoint one or more assistant construction managers for different sections thereof in terms of Regulation 8 (2): Provided that the designation of any such person does not relieve the construction manager of any personal accountability for failing in his or her management duties. The assistant construction manager cannot manage any other site other than the single site for which he has been appointed. The construction manager must have at least a national diploma in civil engineering.

Due to the nature of the work, the degree of danger likely to be encountered and the accumulation of hazards or risk on the site, the Principal Contractor must in writing appoint one full time Construction Health & Safety Officer to assist in the control of all health and safety related aspects on the site, in terms of Regulation 8 (5). The Construction Health & Safety Officer must be registered and in good standing with the South African Council for the Project & Construction Management Professions (SACPCMP). Each contractor must appoint his / her Construction Health & Safety Officer who is registered and in good standing with the SACPCMP. The contractors' Construction Health & Safety Officer must conduct at least a weekly site visit and submit weekly reports on the findings on the construction site. The contractor may appoint a consultant to oversee the health and safety on site who must perform the same duties as a part time Construction Health & Safety Officer.

The Principal Contractor must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site in terms of Regulation 8 (7). The construction supervisor cannot supervise any other site other than the single site for which he has been appointed. The construction supervisor must have at least five years' experience supervising construction activities on site.

The Principal Contractor must in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor contemplated in subregulation (7), and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor in terms of Regulation 8 (8): Provided that the designation of any such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties. The assistant construction supervisor cannot supervise any other site other than the single site for which he has been appointed. The assistant construction supervisor must have at least two years' work experience in his specific task in order to supervise employees.

f) Regulation 9 – Risk Assessment for Construction Work

The Principal Contractor must in writing appoint a competent person as a Risk Assessor to draw up risk assessments for the project in terms of Regulation 9 (1). The Risk Assessor must be trained on Hazard Identification & Risk Assessment (HIRA) by an accredited training service provider who is registered with the department of labour and the respective training authority on the Unit Standard 244383 – Conduct continuous hazard identification and risk assessment within a workplace.

The Risk Assessment must cover all activities performed by the Principal Contractor in site and must be based on the method statements. The Risk Assessments must contain a Risk Matrix, a Monitoring and Review Plan. The Risk Assessments must include control measures and safe work procedures to reduce if not eliminate the risk or hazard.

The Risk Assessments should be reviewed at least annually, when an incident has occurred, when there is a change in the scope of work or when there is a change in the design which may affect the health & safety of persons.

The Risk Assessments must be communicated to all site personnel involved with the activities for which the Risk Assessment has been done.
All Risk Assessments must be carried out in accordance with Regulation 9 of the Construction Regulations, 2014.

g) Regulation 10 – Fall Protection

The Principal Contractor must in writing appoint a competent person as the Fall Protection Plan Developer when work is to be carried out at an elevated position. The Fall Protection Plan Developer must be trained by an accredited training service provider who is registered with the department of labour and the respective training authority. The Training must cover both Unit Standards 229994 and 229998.

The Principal Contractor must in writing appoint a competent person as the safety harness inspector to inspect all safety harnesses.

The Principal Contractor must draw up, implement, maintain and amend where necessary, a Fall Protection Plan for all work to be carried out at an elevated position.

The Fall Protection plan must cover:

- A risk assessment for work at a fall risk position and the methods and procedures to address such risk;
- A process to evaluate the medical fitness of employees who work at a fall risk position;
- A programme for the training of employees working from a fall risk position and the records thereof;
- the procedure addressing the inspection, testing and maintenance of all fall protection equipment; and
- a rescue plan detailing the necessary procedure, personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.

The Principal Contractor must ensure that the construction manager appointed under regulation 8(1) is in possession of the most recently updated version of the fall protection plan.

All work carried out at a fall risk position must comply with Regulation 10 of the Construction Regulations, 2014.

h) Regulation 11 – Structures

The Principal Contractor must ensure where there are new or existing structures within the work zone, Regulation 11 of the Construction Regulations of 2014, must be complied with.

i) Regulation 12 – Temporary Works

The Principal Contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on site before use. The designer must have at least a National Diploma in Structural Engineering and be registered as a professional engineer with the Engineering Council of South Africa (ECSA). The designer & inspector must be trained on the following Unit Standards:
113974 – Understand and apply structural construction methods; and
263246 – Inspect falsework and formwork.

The Principal Contractor must ensure that all temporary works operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose. The temporary works supervisor must be trained by the temporary works supplier / manufacturer on the safe installation of the temporary works as well as on the Unit Standard 263027 - Supervise the erection and dismantling of falsework and formwork.

The temporary works erectors must be trained by the temporary works supplier / manufacturer on the safe installation of the temporary works as well as in the Unit Standard 263204 - Erect, use and dismantle falsework and formwork.

All temporary works must comply with Regulation 12 of the Construction Regulations, 2014

j) Regulation 13 – Excavation Work

The Principal Contractor must in writing appoint a competent person as the excavation work supervisor. The excavation work supervisor must be trained by an accredited training service provider who is registered with the department of labour and the respective training authority on the Unit Standard 365183 - Implement safety procedures for open hole or deep excavations.

All excavation work must be carried out under the constant supervision of the appointed excavation work supervisor. The excavation work supervisor must be able to evaluate the stability of the ground before excavation work begins. The excavation work supervisor must inspect the excavation prior to entry of any employees. All excavations deeper than 1,2 metres must be shaped to the maximum angle of repose relative to the horizontal plane. The Principal Contractor and his contractors must make provision in their tender rates for the shaping of the excavations.

All excavations up to 2 metres must be barricaded at least 1 metre away from the edge with barrier netting at a minimum height of 900mm. No danger tape to be used for barricading. All excavations deeper than 2 metres must be barricaded with a barrier in the form of hand and intermediate rails with barrier netting attached to it or Bonnox type fencing on posts with the barrier netting attached to it. Excavations along public roads that are deeper than 1,2 metres must be barricaded by means of a solid concrete barrier with delineators. Excavations along public roads that are less than 1,2 metres but deeper than 0,5 metres must be barricaded by means of a plastic new jersey barrier with delineators. Excavations along public roads that are less than 0,5 metres but above 100 millimetres must be barricaded by means of a barrier netting with delineators. Excavations along public roads that are less than 150 millimetres must be cordoned off by means of delineators.

All excavations deeper than 1,2 metres must be accessed by means of a ladder which is placed within 6 metres of the employees working inside and must extend at least 900mm above the top of the landing or natural ground level.

All excavated material must be placed at least 1 metre away from the edge of the excavation. No mobile plant must come within 1 metre from the top edge of the excavation or within 2 metres when employees are working inside.

All employees working in excavations deeper than 1,2 metres must wear hard hats.

All excavation work must comply with Regulation 13 of the Construction Regulations, 2014.

k) Regulation 14 – Demolition Work

The Principal Contractor must appoint a competent person in writing to supervise and control all demolition work on site. The demolition work supervisor must have at least five years' experience in demolition work and must be trained on Unit Standard 115457 – Conduct basic demolition tasks.

All demolition work must comply with Regulation 14 of the Construction Regulations, 2014.

l) Regulation 16 – Scaffolding

The Principal Contractor must appoint a competent person in writing as the scaffolding supervisor who must ensure that all scaffolding work operations are carried out under his or her constant supervision. The scaffolding work supervisor must be trained on the Unit Standard 263224 - Supervise the erection and dismantling of access scaffolding, by an accredited training service provider who is registered with the department of labour and the respective training authority.

The Principal Contractor must appoint competent persons in writing as scaffold erectors for erecting the scaffold. The scaffolding work erectors must be trained on the Unit Standard 263245 – Erect, use and dismantle access scaffolding, by an accredited training service provider who is registered with the department of labour and the respective training authority.

The Principal Contractor must appoint a competent person in writing as an inspector to inspect the scaffolding once erected. The scaffolding work inspector must be trained on the Unit Standard 263205

Inspect access scaffolding, by an accredited training service provider who is registered with the department of labour and the respective training authority.

All scaffold must comply with SANS 10085 with regards to the design, erection, use and inspection of access scaffolding.

m) Regulation 23 – Construction vehicles and mobile plant

The Principal Contractor must appoint a competent person in writing as a Construction Vehicles and Mobile Plant Supervisor to ensure that the said regulations are complied with.

The Principal Contractor must ensure that all construction vehicles and mobile plant-

(a) are of an acceptable design and construction;
(b) are maintained in a good working order;
(c) are used in accordance with their design and the intention for which they were designed, having due regard to safety and health;
(d) are operated by a person who-
(i) has received appropriate training, is certified competent and in possession of proof of competency and is authorized in writing to operate those construction vehicles and mobile plant;

The following Unit Standards must be considered with regards to training.

Rigid Body Dump Truck Operator	262731	Operate a rigid body dump truck
Articulated Dump Truck Operator	262745	Operate an articulated dump truck
Front End Loader Operator	262747	Operate front end loader.
Grader Operator	262735	Operate a grader.
Tracked Dozer Operator	262729	Operate a tracked dozer.
Tractor Loader Backhoe Operator	257028	Operate a Tractor Loader Backhoe.
Skidsteer (Bobcat) Operator	262712	Operate a Skidsteer.
Tractor Operator	262804	Operate a tractor.
Excavator Operator	262744	Operate an excavator
Water Cart Operator	262764	Operate a water cart.
Roller Operator	262805	Operate a roller.
Tipper Truck Operator	262734	Operate a tip truck.
Truck Mounted Crane Operator (DMR Code C32)	242978	Operate truck mounted cranes.
Hydraulic Mobile Crane Operator (DMR Codes C33 – C36)	116254	Operate a mobile crane.

(ii) has a medical certificate of fitness to operate those construction vehicles and mobile plant, issued by an occupational health practitioner in the form of Annexure 3.;
(k) are inspected by the authorized operator or driver on a daily basis using a relevant checklist prior to use and that the findings of such inspection are recorded in a register kept in the construction vehicle or mobile plant.

The Principal Contractor must provide drip trays to be placed under the engine compartment when the mobile plant is parked for more than 3 hours.

All plant hire companies must be appointed in writing, sign the Section 37 (2) agreement and provide a valid Letter of Good Standing with the Compensation Commissioner.

The Principal Contractor must comply with Regulation 23 of the Construction Regulations, 2014 when using construction vehicles and mobile plant.

n) Regulation 24 - Electrical Installations and Machinery on Construction Sites.

If the Principal Contractor intends on installing a temporary electrical supply, the installation must be done by a qualified registered electrician who must issue a Certificate of Compliance (COC). The electrician must be trained on at least the Unit Standard 113898 – Complete certificate of compliance for a single phased domestic installation. The Principal Contractor must appoint the electrician in writing in terms of Regulation 24 (c).

The Principal Contractor must appoint a competent temporary electrical installation inspector. The inspector must be trained at least on the Unit Standard 258966 - Inspect and test a single-phase domestic installation. The temporary electrical supply must be inspected by a competent person at least weekly.

The Principal Contractor must appoint a competent person in writing as the electrical machinery inspector in terms of Regulation 24 (e).

All portable electrical tools must be inspected daily by the authorized inspector. The authorized inspector of portable electrical tools must be trained on at least the Unit Standard 12878 – Use and maintain Power Hand Tools on a construction Site.

The Principal Contractor must ensure that all electrical installations and machinery on the construction site complies with Regulation 24 of the Construction Regulations, 2014.

o) Regulation 25 – Use and Temporary Storage of Flammable Liquids on Construction Sites

The Principal Contractor must provide a lockable ventilated store for the storage of flammable liquids. The store must contain a bund which can contain up to 110% of the volume of the liquid stored therein. The Principal Contractor must provide adequate fire-fighting equipment and signage within the store.

A competent person must be trained and appointed to manage hazardous substances on the construction site. This person must be at least trained on the Unit Standard 264454 – Manage hazardous substances.

The Principal Contractor must, in addition to compliance with the provisions for the use and storage of flammable liquids in the General Safety Regulations, 2003, ensure that Regulation 25 is complied with when using and storing flammable liquids on site.

p) Regulation 26 – Water environments

The Principal Contractor must ensure that where construction work is done over or in close proximity to water, provision is made for-
(a) preventing persons from falling into water by providing hand and intermediate rails or a similar barrier; and
(b) the rescuing of persons in danger of drowning by providing a floatation device attached to a rope of suitable strength and length, a person who is able to swim with ease and rescue another person and a person trained in resuscitation, preferably a first-aider.

The Principal Contractor must ensure that where a person is exposed to the risk of drowning by falling into the water, the person is provided with and wears a lifejacket.

Regulation 27 – Housekeeping and General Safeguarding on Construction Sites

The Principal Contractor must appoint a competent person in writing as the housekeeping supervisor to ensure that good housekeeping is maintained at all times on site.

The Principal Contractor must provide adequate and suitable bins to separate and contain waste on site. This must be disposed off at a registered landfill at least weekly.

The Principal Contractor must ensure that Regulation 27 or the Construction Regulations is complied with regards to housekeeping and general safeguarding on construction sites.

q) Regulation 28 – Stacking and Storage on Construction Sites

The Principal Contractor must appoint a competent person as the stacking & storage supervisor on site who is at least trained on Unit Standard 254098 – Supervise the procurement, use and storage of equipment and materials for construction and maintenance.

All items that are stacked or stored on the construction site must be inspected by a competent person at least on a monthly basis.

The Principal Contractor must, in addition to compliance with the provisions for the stacking of articles

in the General Safety Regulations, 2003, ensure that Regulation 28 of the Construction Regulations, 2014 is complied with regards to stacking and storage on construction sites.

r) Regulation 29 – Fire Precautions on Construction Sites

The Principal Contractor must appoint a competent person in writing as the Emergency Co-ordinator / Controller in case of a fire.

The Principal Contractor must provide sufficient and suitable firefighting equipment near flammables within 5 metres of any generator or similar equipment, near portable electrical tools and in all construction vehicles and mobile plant.

The Principal Contractor must appoint a competent person in writing as the fire equipment inspector in terms of Regulation 29 (h). The fire equipment inspector must be at least trained on the Unit Standard 12484 – Perform basic firefighting, by an accredited training service provider who is registered with the department of Labour and the respective training authority.

A fire team must be trained on the PASS sequence on site.

The Principal Contractor must ensure that adequate precautions are taken to prevent the risks of a fire and comply with Regulation 29 of the Construction Regulation, 2014.

s) Regulation 30 - Construction Employees' Facilities

The Principal Contractor must appoint a competent person in writing as the facilities inspector to ensure that all the employees' facilities on site are maintained in a clean and hygienic condition.

The Principal Contractor must, in addition to the construction site provisions in the Facilities

Regulations, 2004, provide at or within reasonable access of the construction site, the following clean, hygienic and maintained facilities:

(a) Shower facilities after consultation with the employees or employees' representatives, or at least one shower facility for every 15 persons;

(b) at least one sanitary facility for each sex and for every 30 workers; (Toilets must be tied down to prevent it from toppling over in the wind and cordoned off to ensure privacy)

(c) changing facilities for each sex; and

(d) sheltered eating areas.

The Principal Contractor must ensure that in addition to Regulation 30 of the Construction Regulations, 2014 the Facilities Regulations, 2004 must be complied with.

t) Non-compliance with the Construction Regulations, 2014

The foregoing is a summary of parts of the Construction Regulations applicable to all construction projects.

The Contractor, as employer for the execution of the contract, shall ensure that all provisions of the Construction Regulations applicable to the contract under consideration are complied with to the letter.

Should the Contractor fail to comply with the provisions of the Regulations 3 to 30 as listed in Regulation 33, he will be guilty of an offence and will be liable, upon conviction, to the fines or imprisonment as set out in Regulation 33.

5. Environmental Regulations for Workplaces, 2003

The Principal Contractor must ensure that the following Regulations are complied with regards to the Environmental Regulations for Workplaces.

i. Regulation 2 – Thermal Requirements

The Principal Contractor must take into consideration the extreme heat during the summer months and the precautions to be taken during this period to avoid possible heat strokes. These may include but not limited to:

- Drinking of ± 600ml of clean water every hour;
- Regular breaks within reason but avoiding possible delays on the project; and
- Training on of employees Heat Stroke Awareness.

The Principal Contractor must take into consideration the extreme cold temperatures during the winter months and the precautions to be taken during this period to avoid possible hyperthermia, cold sores, etc. These may include but not limited to:

- Provision of winter jackets and gloves;
- Running hot water; and
- Training of employees on working in cold temperatures.

While every effort should be made by the employee to keep warm, it must be noted that fires will not be allowed on site.

ii. Regulation 3 – Lighting

While there may be sufficient natural lighting, where work is carried out inside a building or closed space, sufficient artificial lighting must be provided and the above Regulation must be used as a guide for the number of lumens that will be required per square metre.

iii. Regulation 4 – Windows

Window must provide for sufficient natural lighting and the panes must not be painted over.

iv. Regulation 5 – Ventilation

Adequate ventilation must be provided in store rooms and work areas to prevent the accumulation of fumes. Note that all hazardous chemicals must be stored separately from combustibles in a ventilated store.

v. Regulation 6 – Housekeeping

The Principal Contractor and other Contractors must ensure that good housekeeping is maintained on site at all times. A responsible person must be appointed as the housekeeping supervisor, however this should be the responsibility of all site personnel.

vi. Regulation 8 – Fire Precautions & Means of Egress

The Principal Contractor and other Contractors must make adequate provisions for the prevention of fires and escape routes should a fire occur. These may include but not limited to:

The provision of a ventilated store with sufficient signage to warn persons of the dangers likely to be encountered and the control measures to be taken. The signage may include but not limited to:

- "No Smoking"
- "No Open Flames"
- "No Cell Phones"
- "Flammable Liquids"

6. Facilities Regulation, 2004

The Principal Contractor must ensure that the Facilities Regulations are complied with. These may include but not limited to the provision of clean & hygienic:

- Shower facilities for each gender clearly marked with pictorial signs and cordoned off for privacy. (1 Shower per 15 employees)
- Toilet facilities for each gender clearly marked with pictorial signs and cordoned off for privacy. (1 toilet per 30 employees)
- Clean Drinking water. (± 5 Litres per employee per day)
- Eye wash facility. (A portable eyewash bottle can be used)
- Changerooms Facilities for each gender clearly marked with pictorial signs and cordoned off for privacy.

- Lockers to be provided for employees to store their personal belongings.
- Sheltered eating areas free from dust, rain, wind and other natural elements.

7. Hazardous Chemical Substances Regulations, 2008

The Principal Contractor must appoint a competent person in writing for the control of Hazardous Chemical Substances on site.

The Principal Contractor must ensure that there are MSDSs readily available for all Hazardous Chemical Substances on site and that employees are issued with and instructed to wear appropriate PPE when handling the Hazardous Chemical Substances.

The Principal Contractor must ensure that all employees handling the Hazardous Chemical Substances on site are training on the safety precautions and MSDSs.

All Hazardous Chemical Substances on site must be placed on a suitable drip tray or bunded area.

The Principal Contractor must ensure that the Hazardous Chemical Substances Regulations are complied with.

8. Noise-Induced Hearing Loss Regulations, 2003

The Principal Contractor must ensure that adequate provisions are made to reduce the noise on site and to protect the employees who are exposed to the noise on site by providing adequate PPE and training on the use, care and limitations of the prescribed PPE.

The Principal Contractor must monitor those employees who are continuously exposed to high noise levels by means of periodic hearing tests done by an occupational health practitioner.

9. Driven Machinery Regulations, 2015

I. Regulation 18 – Lifting Machines, Hand-Powered Lifting Devices and Lifting Tackle

The Principal Contractor must appoint a competent person in writing to inspect all lifting tackle used on site. This person must be at least trained on the Unit Standard 253575 – Inspect, use and care for manual lifting equipment and tackle.

The Principal Contractor must ensure that the Provisions of Regulation 18 of the Driven Machinery Regulations, 2015 are complied with.

10. General Machinery Regulations, 1988

i) Regulation 2 – Supervision of Machinery

The Principal Contractor must ensure that where electrical machinery is used, it is used under the supervision of a competent person who is familiar with such machinery and understands the hazards and risks associated with using the machinery.

ii) Regulation 3 – Safeguarding of Machinery

The Principal Contractor must ensure that the machinery is installed, operated and maintained in such a manner that it does not pose a hazard to persons installing, operating or maintaining such machinery.

The Principal Contractor must ensure that all moving parts of the machinery which is within the normal reach of a person is effectively safeguarded by means determined in this regulation.

The machinery must be maintained in a good working condition and is used properly.

The Principal Contractor must ensure that no safety devices are removed from the machinery.

11. Electrical Installations Regulations, 2009

a. Regulation 6 – Electrical Contractor

The Principal Contractor must ensure that no person may do electrical installation work as an electrical contractor unless that person has been registered as an electrical contractor in terms of these regulations.

b. Regulation 7 – Certificate of Compliance

The Principal Contractor must ensure that the electrical installation done by the electrical contractor must have a Certificate of Compliance in the form of Annexure 1, which shall be accompanied by a test report approved by the chief inspector, in respect of every such electrical installation.

12. Electrical Machinery Regulations, 2011

a. Regulation 10 – Portable Electrical Tools

The Principal Contractor must ensure that the Provisions of Regulation 10 of the Electrical Machinery Regulations, 2011 are complied with regarding Portable Electrical Tools.

The Contractor is advised in his own interest to make a careful study of these Specifications and as ignorance of the Act and the Regulations will not be accepted in any proceedings related to non-conformance.

The following penalties will be imposed on any organisation that does not comply with the OHS requirements. Project Personnel must all acquaint themselves with the penalties and work in the best interest of their respective organisations.
You will be notified in writing of the non-conformance and penalties owing will be deducted from payment owed to you.

Please use the below as a deterrent as Safety is everyone's responsibility.

MINOR PENALTY-R50.00/count	MEDIUM PENALTY- R500.00/count & non-conformance	SEVERE PENALTY- R5,000.00/count & non-conformance and/or activity stoppage
Non-use of PPE supplied	Failure to address OHS File Review timeously.	NO OHS File provided for review.
Poor use of facilities provided (i.e. eating area, toilet).	No PPE provided. Repetitive non-use of PPE.	Contractor working without Health & Safety Plan approval
	Working without induction, training or the appropriate, approved H&S method statement , SWPs and RA's.	Workers transported in contravention of OHS Plan or legal requirement
	Legal nonconformance identified during the previous audit and not addressed during the agreed time frame	Working with Invalid Letters of good standing
	No monthly OHS report at site meeting to report on	
	No certificate of fitness as required (per person)	
	Working without approved method statement	
	Failure to attend OHS Committee meetings.	Plant/ Plant Operators on site in contravention of CR 23.
	Non-completion of registers for equipment on site	
	Tools & equipment identified in poor condition during inspection	Any serious breach of legal requirement.

Note that the contributions towards these fines are paid towards a Community Upliftment fund. These funds will be utilized for projects within the community and administered by the Project Managers on behalf of the Client. No payments will be made is cash however the full fund value will be utilized for these projects.

Novel Coronavirus (COVID-19)
Health & Safety Specifications

1. Introduction

Coronavirus Disease 2019 (COVID-19) is a respiratory disease caused by the SARS-CoV-2 virus. The symptoms of the COVID-19 are similar in nature to that of the common flu but are much more extreme. To reduce the impact of COVID-19 outbreak conditions on the organization, employees, clients, and the public, it is important to set out a strategy / plan to address the specific exposure risks, sources of exposure, routes of transmission, and other unique characteristics of SARS-CoV-2 (i.e., compared to influenza virus outbreaks). Lack of continuity planning may result in a cascade of failures as the organization attempts to address challenges of COVID-19 with insufficient resources and employees who might not be adequately trained for jobs they may have to perform under pandemic conditions.
It is the duty of the Principal Contractor to compile a health a safety plan based on the client's specifications. The COVID-19 pandemic has introduced a new hazard to the workplace and therefore the current health & safety specifications are not adequately designed to prevent persons from contracting or spreading the Coronavirus. Planning must include administrative changes or development of new policies, procedures, plans and risk assessments.

2. Scope

The addendum to the health & safety specifications covers the procedures that must be implemented by the principal contractor and contractors during government's intervention with the COVID-19 risk adjusted strategy for economic activity. The procedures set out below must be incorporated into the scope of work which must form part of the normal activities performed by the contractor. Construction work is labour intensive and is therefore regarded as high-risk due to the close contact between employees.

3. Administrative

Employment contracts need to be reviewed to include, where necessary, revised working hours, remuneration and health & safety precautions to be taken into consideration due to the Covid-19 pandemic. Based on the Covid-19 pandemic, a Risk Assessment must be developed to include the following:

i. A List of Activities to be performed by the employees;
ii. Identification of the Hazards Associated with each activity;
iii. Analysing the Risk Associated with each Hazard;
iv. Implementation of Control Measures to Mitigate or Reduce the Risks;
v. Delegation of Responsible persons to address the Control Measures.

Risk Assessments must include, but not limited to:

i. Transportation of Employees (Public Transport / Transport provided by the employer);
ii. Access into the Workplace;
iii. Placement of workers into their workstations / work areas;
iv. Working Hours, Tea Breaks and Lunch Breaks;
v. Employee Welfare Facilities (Toilets, Showers, Changerooms, Eating Areas, etc);
vi. Emergency Procedures (Infected Employees, First-Aid, Evacuation, etc); and
vii. Communication with employees.

The following hierarchy of controls must be considered when compiling the risk assessment:

i. Engineering Controls (Isolating employees from work-related hazards by installing Physical Barriers / Shields, etc)
ii. Administrative Controls (Changes in work policy or procedures to reduce or minimize exposure to a hazard)
iii. Safe Work Practices / Procedures (Procedures used to reduce the duration, frequency, or intensity of exposure to a hazard, i.e. social distancing, etc.)
iv. Personal Protective Equipment – PPE (Last Resort should other controls be inadequate)

The new risk assessments must be submitted to the Client's Health & Safety Agent for approval. Once approved, the risk assessments must be communicated to the employees prior to commencing work on site. Policies must be reviewed to incorporate the prevention of contact with and the spread of Coronavirus or similar diseases / viruses.
The Health & Safety Plans must be revised to incorporate these specifications and include a plan to prevent contact with and or contain the spread of the Covid-19 pandemic.

Evacuations plans must be updated to incorporate the COVID-19 pandemic and employees must be required to maintain social distancing while evacuating and assembling at emergency assembly points.
Employees who do not comply with the rules or those who contribute to the spread of the Coronavirus must be disciplined which may lead to dismissal and possible prosecution by authorities.

4. Responsibilities

In terms of Section 8 (1) of the Occupational Health & Safety Act, 85 of 1993:
8. General duties of employers to their employees
(1) Every employer shall provide and maintain, as far as is reasonably practicable, a working environment that is safe and without risk to the health of his employees.

Client – Employer :	Compensate the contractor for any additional costs incurred due to the implementation of the prevention of contact with and spread of the COVID-19 pandemic. (This may include but not limited to the supply of additional PPE, Sanitizers, Physical Barriers, administrative costs, training, signage and loss of production due to new work practices and social distancing).

In light of the above, The Principal Contractor must delegate the responsibilities to the various competent appointed persons within the organization and should be as follows.

CEO – OHSA 16 (1):	Set out the policies & procedures for addressing the prevention of contact with or spreading of the Coronavirus.
Contracts Manager – OHSA 16 (2):	Ensure that policies and procedures are implemented at the various sites allocated to him / her.

NB: The persons listed below must be on site full-time.

SHE Representative – OHSA 17 (1):	Assists employees in complying with the policies and procedures and is the Liaison between the employees and the employer.
Construction Manager – CR 8 (1):	Enforces the implementation of the policies and procedures on his / her site. Also appointed as the COVID-19 Manager in terms of Section 16 (5) of Disaster Management Act, 57 of 2002.
Assistant Construction Manager – CR 8 (2):	Assists the CR 8 (1) in enforcing the implementation of the policies and procedures.
Construction Health & Safety Officer – CR 8 (5):	Develops the procedures and assists the employer and employees in complying with the policies and procedures. Also appointed as the COVID-19 Compliance officer to monitor the controls set out by the principal contractor and co-ordinate emergencies.
Construction Supervisor – CR 8 (7):	Enforces the implementation of the policies in his / her work area.
Assistant Construction Supervisor – CR 8 (8):	Assists the CR 8 (7) in enforcing the implementation of the policies in that work area.
Risk Assessor – CR 9 (1):	Compiles a COVID-19 Risk assessment with the assistance from management and employee representatives and ensure that it is communicated to the employees.

To prevent unnecessary appointment of new employees, the current employees on site must be appointed to monitor and maintain the implementation of policies, plans, procedures and risk assessments.

5. Procurement

The Principal Contractor must procure the following:

- Services of an Occupational Health & Safety Professional to compile the required documentation and conduct training of employees. The Principal Contractor can utilize his / her own resources provided that the appointed person is registered with the SACPCMP in the Health & Safety Profession and at least one other occupational health & safety statutory body established in terms of Section 2 of the Project and Construction Management Act, No. 48 of 2000 (SAIOSH, IOSH, IOSM, etc).
- 70 % Alcohol based hand sanitizers for all entrances, offices, workstations, plant and welfare facilities;
- Disinfectants for surfaces, tools, plant, etc;

- 3 Ply Washable cloth face masks (Minimum of 2 per employee);
- FFP2 type masks and additional latex gloves for first-aiders
- Safety glasses to prevent droplets making contact with the eyes;
- Face Shields where social distancing is inadequate;
- Infrared Thermometers (Non-contact) for temperature screening;
- COVID-19 Awareness Posters & Signage;
- Additional security, where justified, to secure site entrances;
- Provision of an area or room to isolate employees showing symptoms of COVID-19.
- Bio-Hazard waste bins and provisions for safely disposing of waste.

The Construction Manager must ensure that there is adequate additional PPE for the COVID-19 pandemic. First-aiders must be required to wear the FFP2 type masks in addition to the latex gloves when attending to patients.

A preventative team must be established to ensure that all tools and equipment used on site are disinfected accordingly (70% JIK with 30% water can be used) to prevent the potential spread of COVID-19 virus.

6. Who must report for duty?

a) The Principal Contractor must ensure that employees who are most vulnerable to the Coronavirus must be the last to resume work on site and only when permitted by government. The return of employees to work must be staggered to prevent the sudden influx of staff. The essential employees must be first orientated into the workplace thereafter followed by support staff.

The following must be considered when selecting employees:

- The need / urgency for the employee to return to work;
- The age of the employee (employees 60 years and older must not be allowed to immediately resume work);
- The employee's current health condition based on their most recent Occupational Health Medicals (employees with respiratory problems or have chronic illnesses such as TB, Cancer, Diabetes, etc, must not be allowed to immediately resume work);
- Employees who have, or been in contact with a person who has, the symptoms of the Coronavirus (High Fever - 38ºC or higher, persistent cough, sore throat, difficulty in breathing). Only employees who test negative for the COVID-19 must be allowed to resume work (Employees must need to first self-isolate then get tested).

7. Screening

Non-contact Thermometers must be used by security personnel at the site entrances to monitor employees body temperatures before entry and before exiting the construction site on a daily basis. A daily questionnaire regarding the person's movements and current health condition must be completed for each person entering the site. It must be compulsory for all employees and visitors to complete a health declaration form before access is granted onto site. Employees showing signs of the Coronavirus must be immediately sent to the site isolation room / designated area and the necessary authorities must be contacted for instructions and further medical attention. **An area must be designated on site for isolation of employees who have the symptoms of COVID-19.**

If an employee develops a high temperature or a persistent cough while at work, they must be required to:

- Maintain a 2m distance from all other people and isolate until they are able to leave the workplace.
- Inform their manager and supervisor and get directive from them in terms of what to do.
- Not touch any surfaces (door handles, counter tops, tools, etc).
- Cough or sneeze into a tissue and put it in a bin, or if they do not have tissues, cough and sneeze into the crook of their elbow.

The Principal Contractor must keep on site all contact details (Cell Numbers, Physical Addresses, etc) of all employees or persons entering the site for the tracing by the Department of Health.

If a person has high fever and the symptoms of the COVID-19:

- The infected person must be safely escorted to and isolated or quarantined in a facility (room or area) provided on site for this purpose.
- This facility must be decontaminated on a regular basis or at least prior to the start of each shift.
- The facility must be well ventilated with adequate signage and controlled to prevent the unauthorized entrance of persons.
- Emergency contact details of the local health care facility and Department of Health to be on hand and must be contacted when a person displays symptoms of the Coronavirus.

- The person must be safely transported to the healthcare facility for further testing and treatment thereof.

The person may only return to work when he / she tests negative and is placed in quarantine for 14 days before returning to work. The Principal Contractor must continually monitor this person for symptoms of the Coronavirus.

If a person passes the screening process, i.e. no symptoms of COVID-19 and temperature below 37.5ºC must be required to sanitize their hands and enter the site while wearing a cloth face mask and maintaining social distancing.

8. Site access

Notices must be placed at the site entry indicating that there will be "No Unauthorised Entry" Access to the site must be controlled by gates and manned guards which must be limited to one entry and exit point. These must be site specific, the number of entry and exit points for each site may vary however they must be controlled. All persons entering the site must wear and continue wearing a cloth face mask throughout the day while at work or in public. No person must be permitted on site without the relevant / required PPE. Access to the site must be limited to site personnel and deliveries, i.e. no visitors must be allowed unless part of the professional team. Suppliers must be informed on the requirements for entry to the site and the rules to be complied with prior to any deliveries taking place. Delivery vehicle operators must be instructed to follow the same protocol as that of the contractor's employees. Employees must not be permitted to leave the site during the course of the day or during lunch & tea breaks and must limit contact with the general public. Employees must be encouraged to bring pre-prepared meals to work to avoid going to the local shops to buy food.

9. Washing Hands

Soap and water must be provided to employees and they must be encouraged to regularly wash their hands. Each person entering the site must be required to use hand sanitizers provided by the Principal Contractor at the entrances to the sites. The following process must be used when washing hands: arriving on site, before lunch, when leaving site; and when inadvertently touching another person or surface:

10. Sanitizing of the site

The Principal Contractor must ensure that all work surfaces, tools and machinery are sanitized using mist spray disinfectants. Where employees enter offices and enclosed workplaces, their shoes and hands must be sanitized. Hand sanitizers must be placed at strategic points around the site camp which must include the site office, storerooms, washing areas and eating areas. Soap must also be provided at all taps at the site camp. Hand sanitizers must also be placed inside all construction vehicles & mobile plant for use by the operators no other person must be permitted to enter the vehicle or plant unless carrying out services and repairs. The Principal Contractor must ensure that there is sufficient stock of 70 % Alcohol based hand sanitizers on site. Employees must be instructed to clean up their waste and eating areas immediately after they are done and not leave it for someone else to clear it which will reduce contact with contaminated surfaces. All cleaning material used to disinfect surfaces and used PPE must be disposed of into Bio-Hazard waste bins which must be clearly identifiable. These must be sent to a bio-hazard waste facility.

11. Social Distancing

All employees must be required to maintain a safe distance of at least 2 metres between each other. Tasks must be rearranged to incorporate social distancing in order to prevent the gathering of employees closer than two metres from each other and where gatherings are unavoidable, the period of contact must be reduced. Where social distancing is unavoidable, physical barriers must be put in place to prevent contact with other persons. The installation of physical barriers must first need to be discussed with the client as they must incur a major cost. The option of whether the task is necessary or not, must be determined by the practicality and cost of installing the barrier.

Delivery vehicle operators must be encouraged to remain in their vehicles and avoid contact with the contractor's employees except for receiving clerks who must sign off on the deliveries.

No unnecessary meetings must take place, either between managers or employees. Where meetings are unavoidable, only key participants must attend and attendees must maintain a safe distance of at least 2 metres between each other. Meetings must be held in open areas where possible.

Where possible, avoid professional meetings taking place at site offices. Conference calls or similar types of communication must be considered instead of holding site meetings.

12. Personal Protective Equipment (PPE)

a) All PPE must be issued free of charge to employees. All employees must be trained on the use, care and limitations of the PPE issued to them. In addition to the basic PPE issued to employees for construction work, they must also be issued with at least 2 washable cloth face masks. Wearing of the masks must be demonstrated to the employees. Where additional face protection is required, employees may be issued with and required to wear face shields. All employees must be required to wear suitable gloves for all tasks. The gloves must remain on the employee's hands for the duration of each task and must only come off when the employee uses any welfare facilities and during tea & lunch breaks. Washing and sanitizing of hands must be required when gloves are removed and prior to putting them on again. The cloth/fabric face mask must comply with the recommended guidelines of fabric face masks for the Clothing and Textile Manufacturing Industry for General Public Use. (Refer to the attached)

The face mask does not substitute a dust mask which is used for the purpose of preventing contact with dust particles. SABS FFP 1 / FFP 2 type dust masks to be worn by employees when working in dusty conditions or must be worn by first aiders when attending to patients on site.
Employees must be required to sign acknowledgement on a register for each item of PPE issued to him or her.

a) It is very important to note that in terms of Regulation 2 (2) of the General Safety Regulations of 1986, *"the employer or user of machinery, as the case may be, shall take steps to reduce the risk as much as is practicable, and* ***shall provide free of charge and maintain in a good and clean condition such safety equipment and facilities*** *as may be necessary to ensure that any person exposed to any such condition or situation at a workplace or in the course of his employment or on premises where machinery is used is rendered safe"*. This basically states that it is the employer's duty and not that of the employee to maintain the PPE, i.e. the cloth/fabric face masks must be washed regularly and ironed before use.

b) Surgical masks are discouraged however it must be accepted only where cloth/fabric masks are unavailable. Where surgical masks are issued, they must be reissued when they become unhygienic.

c) Employees need to care for the masks to prevent the unnecessary re-issue of these masks.

13. Employee Welfare Facilities

Employees must be required to use facilities provided by the Principal Contractor. Employees must practise safe hygiene (Washing of hands regularly and sanitizing). Social distancing must also be observed when employees utilise these facilities. The use of welfare facilities must be controlled to prevent the unnecessary gathering of employees. This may include the possible staggering of work start and finish times and tea & lunch breaks. Portable toilets must be serviced more frequently by the service providers (at least twice a week). Eating areas must be reorganized such that a 2-metre distance can be maintained between each employee.

14. Transportation of Employees

Where employees are transported to the site, the transportation of employees must be done from a designated area. The transportation of staff to site must be limited to only key personnel and the number of employees transported in a vehicle must be limited to 50% of the normal capacity. Note that the transportation of employees must be in accordance with Regulation 23 of the Construction Regulations of 2014 and the South African Roads Traffic Act.

Where staff use public transport to get to the site, employee awareness programs must be in place to inform employees of the precautions to be taken to avoid contact with and the spread of the Coronavirus while is public spaces.

15. Awareness

All employees must be contacted via cell-phone and requested to report for duty accordingly. They must be instructed to practice social distancing, sanitize and wear a cloth face mask when making their way to work. Staggered briefing sessions must be held regarding the resumption of work after or during the extended lockdown period.

Employees must be trained on the COVID-19 Policies, Plans, Safe Work Procedures and Risk Assessment. Additional Toolbox talks must be held at least once a week to discuss ways to prevent contact with or the spread of the Coronavirus. Toolbox talks to be held in small groups while maintaining social distancing. Posters should be displayed on employee notice boards, wash areas and other employee facilities to create awareness about the prevention of contact with and the spread of the Coronavirus.

16. Reporting

The following reporting process must be followed.

- Employee reports to the immediate supervisor and Construction Health & Safety Officer;
- Supervisor reports to manager on site;
- Manager reports to the Department of Health

Note that the above are minimum requirements, and where the contractor intends on implementing stricter controls to contain / prevent the spread of the Coronavirus, it must be Risk Based and at the contractor's own discretion.

PA.10 MEASUREMENT AND PAYMENT

PA.10.1 Principles

It is a condition of this contract that Contractors, who submit tenders for this contract, shall make provision in their tenders for the cost of all health and safety measures during the construction process. All associated activities and expenditure are deemed to be included in the Contractor's tendered rates and prices.

(a) Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons referred to in clauses 7.1 to 7.5 shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

(b) Records and Registers

The keeping of health and safety-related records and registers as described in 8 is regarded as a normal duty of the Contractor for which no additional payment will be considered, and which is deemed to be included in the Contractor's tendered rates and prices.

PB: ENVIRONMENTAL MANAGEMENT PLAN

PB.1 INTRODUCTION TO EMP

The EMP shall be bound into all contracts, and shall have contractual standing on the basis that its contents are an integral component of the environmental approval obtained in terms of the National Environmental Management Act, Act 107 of 1998 and shall be provided to the Project Engineer (Developer), Contractor, and Local Authority. The EMP shall be approved by the Department of Agriculture and Environmental Affairs (DAEA – the Authority).

King Cetshwayo District Municipality are the **Primary Developers** responsible for the construction of the Middledrift Bulk Augmentation: 10Ml/day Extension to the Middledrift WTW.

In addition, the Developer is responsible for the preparation of the EMP, and the various Management Plans, and the initial rehabilitation/establishment work.

The Authority is ultimately responsible for ensuring compliance with this EMP by all parties.

PB.2 LAYOUT OF EMP

The Environmental Management Plan identifies the two broad phases of development as:
- Pre-Construction Phase
- Construction Phase

PB.3 ASPECTS AND IMPACTS REGISTER

Environmental aspects are those elements of an organisation's activities, products, services or physical resources, which may have potentially beneficial or harmful effects on the environment. These may include discharges and emissions, raw materials and energy use, waste recycling, noise, dust, and visual pollution.

An environmental impact is the change that takes place from the occurrence of any given aspect. The relationship between the two is causal: an impact is the pollution that would result if an environmental aspect were not properly managed or controlled.

Aspects identification is important, since it is from this identification of the potential to impact the environment that the rest of the system is built. Identification of aspects is a continual process under any EMS system. The aspects identification process includes all past, present and future impacts that an organisation's activities have had, are having, and will have on the environment.

PB.4 OBJECTIVES OF THE EMP

The objectives of the EMP are to:

- Ensure that development is in accordance with the "Duty of Care" as per **Section 28 of the National Environmental Management Act, Act 107 of 1998.**
- Ensure that the development process is structured and implemented in a manner that ensures that all necessary approvals (in terms of the EMP requirements) are obtained from the Local Authority prior to development occurring onsite.
- Provide a pro-active, feasible and practical working tool to enable the measurement and monitoring of environmental performance on site.
- Guide and control the implementation of the findings and recommendations of the specialist reports conducted for the project (e.g. Vegetation Report, Engineering Report, Geotechnical Report and Hydrological Report).
- Ensure that the construction and operational phases of the project continue within the principles of Integrated Environmental Management.
- Provide guidance for the environmental auditing of the project.

PB.5 RESPONSIBLE AUTHORITY

The Project Engineer (Developer), Contractor, appointed to install services or to construct structures, shall be responsible for ensuring that the provisions contained within the EMP are implemented and adhered to, and shall be held accountable in terms of the EMP. The Developer shall appoint an Environmental Consultant (EC) and the Contractor shall appoint an Environmental Control Officer (ECO). All audit reports shall be submitted to the DAEA, and the King Cetshwayo District Municipality.

The ultimate responsibility for compliance rests with the Authority (Department of Agriculture and Environmental Affairs).

PB.6 EMP COMPLIANCE

This EMP is a key component of the management and implementation of the Water Treatment Works development. Non-compliance with the EMP will constitute non-compliance with the requirements of the Authority and therefore of the law.

The EMP will be made binding on all contractors operating within the Project Area and will be included within the Contractual Clauses. Non-compliance with, or any deviation from, the conditions set out in this document constitutes a failure in compliance. The Project Engineer (Developer), Contractor (Developer) shall ensure that the conditions of the Environmental Management Plan are adhered to. Should the Contractor (Developer) require clarity on any aspect of the EMP the Contractor shall contact the Environment Consultant for advice.

It should be noted that in terms of the National Environmental Management Act No 107 of 1998 (Section 28) those responsible for Environmental Damage must pay the repair costs both to the environment and human health and the preventative measures to reduce or prevent further pollution and/or environmental damage, i.e. The “Polluter Pays Principle”.

The Authority is responsible for ensuring compliance with the EMP.

PB.7 PRE-CONSTRUCTION ACTIVITIES: PRIMARY DEVELOPER

- The Developer is to appoint a Project Engineer (Developer) and Contractor. The contractor shall hire local labour, both male and female, where possible.
- The Developer is to appoint a suitably qualified Environmental Consultant (EC) to audit the implementation of the EMP.
- The Environmental Consultant shall ensure that the construction team (at a management level) is adequately trained in the provisions of the EMP and general environmental issues.
- The Contractor (Developer) shall identify a suitable site for the Construction Camp and storage areas for materials in consultation with the Project Engineer (Developer) and the Environmental Consultant prior to construction. These areas are to be fenced off appropriately.
- The Contractor (Developer) shall demarcate, in conjunction with the Environmental Consultant relevant areas of vegetation significance. Special emphasis is to be placed on the demarcation of the Protected Tree species to ensure that these species are clearly demarcated prior to the start of any construction activities on site.
- The Environmental Consultant has recorded the state of the environment prior to construction commencing, and has ensured that all baseline environmental data has been provided by the relevant specialists prior to construction commencing.
- Storm water drainage of the site must be ensured in the technical engineering design of the development. It is important that storm water runoff is properly managed during construction to ensure no impacts downstream. Provision for this must be made in this Planning Phase by way of a Storm Water Management Plan and approved by the Local Authority. The Storm Water Management Plan should ensure that the ultimate flow from the development does not result in any negative impacts on downstream properties or watercourses and must therefore ensure that storm water is managed within the overall site as effectively as possible.
- The Contractor (Developer) shall liaise, where necessary, with adjacent neighbours identified by the Environmental Control Officer, and provide them with reasonable advance notice of the nature, location and duration of the particular work concerned.
- Notices of the proposed development should be placed in prominent positions to inform the general public of the proposed construction activities, expected interruption in road traffic movement, presence of construction vehicles, and planned interruptions to existing supply of services, such as electricity and water.

PB.8 CONDITIONS OF CONTRACT (PRIMARY DEVELOPER)

The Primary Developer is responsible for:

- Adherence to the any conditions that may arise as a result of the submission of the Environmental Management Plan,
- Construction of infrastructure, temporary access / haulage roads.
- Appointment of Environmental Consultant to implement and audit the EMP.

PB.8.1 The Project Engineer (Developer)

The Project Engineer (Developer) is responsible for ensuring that the Developer's responsibilities within the EMP are implemented and adhered to (i.e. during the Construction Phase (Developer)).

The Project Engineer during the Construction Phase (Developer):

- Appointed by King Cetshwayo District Municipality for the implementation of this contract.
- Responsible for managing the Primary Contractors.
- Responsible for ensuring that all documentation pertaining to the proposed development, is in place at the site camp.
- Arranges information meetings for or consults with I&APs about the impending construction activities where necessary.
- Ensures that the conditions of the Vegetation Report and this EMP are provided for and adhered to.
- Maintains a register of complaints and queries by members of the public at the site office. This register is forwarded to the Environmental Consultant on a monthly basis.
- Enforces the EMP on site.
- Monitors implementation of the requirements of the EMP.
- Assesses the Primary Contractor's (Developer) environmental performance in consultation with the Environmental Consultant.
- Documents in conjunction with the Contractor, the state of the site prior to construction activities commencing. This documentation will be in the form of photographs or video record.

PB.8.2 Environmental Consultant

The Environmental Consultant (EC) during the Construction Phase (Developer):

- Undertakes site induction and staff training of the Project Engineer (Developer) and the Primary Contractor (Developer) at a management level about the requirements of the EMP, and holds a meeting with all primary suppliers and Contractors to discuss the EMP prior to start of construction.
- Advises the Project Engineer (Developer) about the interpretation, implementation and enforcement of the Environmental Specification and other related environmental matters.
- Attends site meetings and addresses ad hoc queries as necessary.
- Monitors the Contractor's (Developer) compliance with the EMP during the Construction Phase (Developer).
- Monitors, in a very general nature, the construction activities of the Contractor (Purchaser) where there is construction during the Construction Phase (Developer) and, where required, shall report instances of non-compliance to the Authority and the Primary Developer.
- Undertakes environmental audits once a month on the effectiveness of the environmental specifications on the site.
- Audit reports are to be submitted to the Primary Developer. The EC must schedule audit dates and ensure that all necessary parties are made aware of these dates, and consult with DAEA compliance officer to ensure the officer can attend ad hoc audits.
- Reports on the performance of the project during the Construction Phase (Developer), in terms of environmental compliance with the EMP, to the Project Engineer (Developer), the Developer, DWAF, King Cetshwayo District Municipality, EKZNW and the Authority (DAEA).
- Provides technical advice relating to environmental issues to the Project Engineer (Developer).
- The EC is responsible for checking availability of the documents proving proof of raw material sourcing from the Primary Contractor.

PB.8.3 Contractor (Developer)

The Contractor (Developer) is required to:

- Keep a hard copy of the EMP on site.
- Keep files for the following:
  - Complaints Register
  - Waste Disposal
  - Emergency Response details
  - Training Records
  - Incident Reports
- Must be able to produce all necessary documentation proving that all raw materials being used on site have been obtained in a sustainable manner. It is the Primary Contractor's responsibility to obtain this documentation from either the Sub-Contractor, Cartage Company or directly from the supplier of the material if necessary. No material will be used unless the responsible parties can provide the necessary permits or licences, and this documentation must be provided prior to material being brought on site and should be included into any contractual agreement.
- Supply method statements for all activities requiring special attention as specified and/or requested by the Project Engineer (Developer) or Environmental Consultant during the duration of the Contract.
- Be conversant with the requirements of the EMP.
- Comply with requirements of the Environmental Consultant in terms of this EMP.
- Ensure any sub-contractors/suppliers who are utilised within the context of the contract comply with the environmental requirements of the EMP. The Contractor (Developer) will be held responsible for non-compliance on their behalf.
- Bear the costs of any damages/compensation resulting from non-adherence to the EMP
- Comply with all applicable legislation as per section 2.2.6 below.
- Ensure that the Project Engineer (Developer) is timeously informed of any foreseeable activities that will require input from the Environmental Consultant.
- Conduct all activities in a manner that minimises disturbance to directly affected residents and the public in general, and foreseeable impacts on the environment.

PB.8.4 Compliance with Applicable Laws

The supreme law of the land is "The Constitution of the Republic of South Africa", which states: "Every person shall have the right to an environment which is not detrimental to his or her health or wellbeing". Laws applicable to protection of the environment in terms of Environmental Management (and relating to construction activities) include but are not restricted to:

- Laws applicable to protection of the environment in terms of Environmental Management (and relating to construction activities) include but are not restricted to:
- Atmospheric Pollution Prevention Act, No 45 of 1965
- Conservation of Agricultural Resources Act, No 43 of 1983
- Environmental Conservation Act, No 73 of 1989
- Explosives Act, No. 26 of 1956
- Fertilisers, Farm Feeds, Agricultural Remedies and Stock Remedies Act, No 36 of 1947
- Forest and Veld Conservation Act, Act No 13 of 1941
- Hazardous Substances Act, No 15 of 1973
- KwaZulu-Natal Heritage Act, No. 10 of 1997
- KwaZulu-Natal Planning and Development Act No 5 of 1998 (re: soil conservation)
- KwaZulu-Natal Nature Conservation Management Act, No. 9 of 1997
- Land Survey Act, No 9 of 1921
- Machinery and Occupational Safety Act, No. 6 of 1983
- Mines and Works Act, No. 27 of 1956
- Minerals Act, No 50 of 1991
- Mineral Development Draft Bill
- National Environmental Management Act, No. 107 of 1998
- National Environmental Management: Biodiversity Act, No. 10 of 2004
- National Forests Act, No 84 of 1998
- National Heritage Resources Act, No. 25 of 1999
- National Water Act, No 36 of 1998
- National Water Act (amendments)
- National Veld and Forest Fire Act, No 101 of 1998
- Occupational Health and Safety Act, No 85 of 1993
- Provincial and Local Government Ordinances and Bylaws
- Soil Conservation Act, Act No 76 of 1969
- Sub-division of Agricultural Land Act Repeal Act 64 of 1998 (re: soil conservation)
- Water Services Act No 108 of 1997
- and all regulations framed there under and amendments there to.

PB.9 CONSTRUCTION ACTIVITIES: DEVELOPER

PB.9.1 Construction Zone

- Movement of heavy-duty vehicles will be restricted to the construction zone as defined.
- The passage of vehicles not connected with work in progress shall be restricted, to prevent unnecessary soil compaction and damage in the Construction Zone.
- The Contractor shall provide a sufficient number of portable ablution facilities. Such facilities, which shall comply with local authority regulations, shall be maintained in a clean and hygienic condition and their use shall be strictly enforced. They shall be positioned in an appropriate place, e.g. away from watercourses and general view, in consultation with the ECO. The Contractor shall make his own arrangements for the necessary effluent removals and shall bear all the costs in connection with such services. On removal of such conveniences, the sites thereof shall be left in a clean, sanitary and tidy condition.
- The Contractor is to ensure that sufficient potable water shall be provided for consumption and watering of exposed surfaces to minimise dust (if deemed necessary by the ECO). The Contractor shall be solely responsible for the provision of all necessary water connections, meters, water storage and water transport facilities. Care is to be taken to ensure that the area around the water supply does not turn muddy.
- The Contractor shall make arrangements with the Primary Developer for obtaining electrical power and lighting requirements for the site. Lighting on site shall take cognisance of neighbouring communities and or developments.

PB.9.2 Building Construction: General

- The site shall be totally enclosed with a fence prior to commencement of construction and all construction activity shall occur within the site and all storage and equipment shall be within the site.
- All other aspects of the EMP are applicable to the Contractor must have been adhered to prior to any construction activity taking place on site.
- An ECO must have been appointed prior to construction work onsite commencing.

PB.9.3 Storage areas

- The Contractor (Purchaser) must exercise special care with the storage, handling and transport of all materials that could adversely affect the environment. Such materials include chemicals, cement, lime, oil and fuel. The materials shall be stored in watertight containers on a hardened and impervious surface graded to the middle.
- In locating stores consideration must be taken of the prevailing winds on site, topography, and water erosion impacts.
- The ECO shall advise the Contractor (Purchaser) on the location of the stores.
- If pollution of hazardous substances occurs it shall immediately be reported to the Environmental Consultant, and dealt with in the prescribed manner suitable to the substance and disposed of in a permitted landfill.
- If pollution of any surface or groundwater occurs, it shall immediately be reported to the Regional Representative of the Department of Water Affairs and Forestry, and appropriate mitigation measures employed.
- Security of storage areas is required.
- Documentation is required regarding the storage of hazardous materials on site, including Material Safety Data Sheets (MSDS's), etc.

PB.9.4 Stock pile areas

- Spoiling of unsuitable material shall take place at an approved spoil site, sheltered from the wind, and shall be shaped, trimmed and re-vegetated where necessary.
- The Contractor will need to import suitable material on site. Such material should be stockpiled in a suitable area agreed upon by the ECO.
- The stockpiling of soil or any other materials shall not be allowed near a watercourse or water body to prevent pollution or impediment to surface runoff, unless determined by the Project Engineer not to have any adverse impact on the watercourse/water body.
- The Contractor shall control the erosion of stockpiles. The ECO will assess the appropriateness of methods employed.
- The ECO shall determine the maximum stockpile height.

PB.9.5 Geotechnical Issues for consideration

- The recommendations contained in the Geotechnical Report must be adhered to.
- The Contractor is to ensure that imported soil materials are not contaminated.
- The Contractor is to be able to produce all necessary documentation proving that all raw materials being used on the site have been obtained in a sustainable manner.
- In certain cases, working space may be limited which may affect the method and/or type of plant used for excavations, as well as restrict the temporary storage space available for backfill material from excavations, etc.
- Unless otherwise permitted in writing by the Local Authority, not more than 200 metre of trench in any one place shall be opened in advance of pipe laying operations.

PB.9.6 Surface Runoff and Water Resources

- Drainage shall be controlled to ensure that runoff from the site will not culminate in off-site pollution or cause water damage to properties further down from the site.
- No impediment to the natural water flow other than approved erosion control works is permitted.
- No liquid or solid waste shall be allowed to be disposed of in any watercourses or water body. If this occurs, it shall be reported to the ECO and DWAF and cleaning up thereof will be undertaken at the Contractor's expense.
- The provisions of the National Water Act 36 of 1998 shall be complied with at all times.

PB.9.7 Supervision

- Adequate and constant supervision is required during construction.
- The Contractor shall keep a site diary detailing all incidences affecting the environment occurring on site.

PB.9.8 Employment

- Local workforce should be favoured in job selection.

PB.9.9 Site and Public Safety

- Provisions in the Occupational Health and Safety Act 85 of 1993 must be complied with at all times. The responsibility for compliance with this Act lies with the Contractor.
- The public must be given adequate notice in advance for noisy activities such as blasting, excavating, piling, etc.
- The Contractor shall control the access to the Project Area by the general public. No unauthorised persons may enter the construction site, including hawkers.
- The period that open excavations are left exposed shall be kept to the minimum. Where such exposure is unavoidable, the excavation shall be clearly demarcated and thoroughly protected against the passage of vehicles, pedestrians, or animals. Such protection shall be effective during the day and night. No excavations may be left open over holiday periods.
- The Contractor shall erect the necessary signs, notices and barricades for the duration of the Contract in order to safeguard both the workers and the public. Suitable conspicuous warning signs in English and Zulu must be placed at all excavations or areas where safety could be compromised. These signs must be in accordance with the local by-laws.
- SABS Standards and specifications governing dangerous processes must be strictly applied, to ensure proper protection of the public and workers.

- Workers have a right to refuse work in unsafe conditions.
- No cooking fires will be permitted on site.

PB.9.10 Vegetation

- Vegetation should be removed in a phased approach as it becomes necessary.
- Vegetation removed should be used where possible, e.g. as a brush mattress for erosion control or mulching.
- The Environmental Control Officer is responsible for implementing the "SOP for control and eradication of alien invasive vegetation".
- The Environmental Control Officer is responsible for implementing the Landscaping and Vegetation Rehabilitation Plan during the Construction Phase.

PB.9.11 Fauna

- No member of the construction team will be permitted to harm or kill/poach any animal, bird or reptile.
- Pests must be discouraged by keeping the construction site free of litter.

PB.9.12 Soil Management and Erosion Control

- During grubbing and clearing the Contractor (Purchaser) shall take care to remove as little topsoil as possible.
- Remove and separately stockpile any subsoil material that can be used for site backfilling.
- Topsoil shall be stockpiled (and seeded) in areas within the site boundary, and approved by the ECO for reuse and restoration.
- Avoid handling soil when wet as this may result in the loss of soil structure and compaction. Soils should not be handled during windy conditions, which may lead to the loss of soil through wind erosion.
- Soil erosion must be prevented at all times. Where evidence of soil erosion can and/or is taking place, this should be reported by the Contractor and ECO.
- Unnecessary compaction of construction areas must be prevented, to reduce run off velocity.
- Remove vegetation, only as it becomes necessary for work to proceed. Prevent unnecessary removal of vegetation especially on steep areas.
- Steep slopes should be terraced and horizontal areas vegetated.
- Areas that have become compacted must be deeply ripped to loosen soil.
- Appropriate mitigation during construction includes prompt rehabilitation of exposed soil areas with indigenous vegetation to ensure that soil is protected from the elements.
- Suitable erosion measures should be implemented in areas sensitive to erosion such as near water supply points, edges of slopes, etc. These measures could include the use of sand bags, hessian sheets, retention or replacement of vegetation.
- All the necessary precautions in terms of design and construction of earthworks, cuts and fills must be taken.

PB.9.13 Pollution Control

PB.9.13.1 General

- Should any incidence occur, the Contractor shall report it immediately to the ECO and the Contractor shall be responsible for containing and cleaning up the spillage.
- The Contractor and ECO shall ensure that correct mitigation of the pollution is undertaken.

PB.9.13.2 Air Pollution

- Excavations and other clearing activities should only be done during permissible weather conditions to avoid drifting of dust into neighbouring areas.
- Soil and sand stockpiles shall be located in sheltered areas not exposed to the wind.
- Retention of vegetation where possible will reduce dust travel.
- Exposed surfaces must be re-vegetated as soon as possible.
- Watering of exposed soil shall be instituted and maintained on a continuous basis.
- The movement of construction and other vehicles should be strictly controlled in order to reduce the impact of increased air pollution. Adherence to speed limits shall be enforced.
- Sensible and responsible use of equipment which generates dust.
- Adjacent roads are to be swept on a regular basis from up to 50 metres from any point of ingress/egress to avoid dust or mud build up on the roads.

PB.9.13.3 Noise pollution

- Noise levels shall be kept within acceptable limits. All noise and sounds generated shall adhere to SABS 0103 specifications for maximum allowable noise levels for residential areas. No pure tone sirens or hooters may be utilised except where required in terms of SABS standards or in emergencies.
- Noisy activities must be limited to between 06h00 to 18h00 to avoid disturbance of adjacent landowners. Noisy activities should not be allowed on weekends and public holidays unless specific arrangements have been made with Local Council and the neighbors have been timeously notified.
- Vehicles and operating equipment must be regularly serviced.
- Permission must be obtained from the relevant authorities if work is to proceed throughout the night.

PB.9.13.4 Waste Generation and Litter

- The construction site must be kept in an orderly and clean condition. Solid waste shall be collected on a daily basis from the construction zone and placed in a skip that shall be emptied on a weekly basis, or as necessary. The waste shall be disposed of at a permitted landfill site to the satisfaction of the ECO.
- All builders' rubble shall be removed from the site and suitably disposed of at a permitted disposal site unless considered suitable for infilling by the ECO on advice by an engineer.
- No burning of waste shall be permitted on site.
- Flammable, toxic or poisonous materials and waste must be stored separately on an impervious hardened surface, graded to the middle, and disposed of at an approved landfill site.
- Littering by employees of the Contractors and/or Sub-Contractors shall not be allowed.
- The Environmental Consultant shall monitor the work and construction-camp sites for cleanliness.

PB.9.13.5 Water Pollution

- Pollution of surface and ground water, and soil through accidental spillage of hazardous chemicals and other substances shall be avoided. Should spillage occur, the spillage shall be reported to the ECO, and cleaned up immediately and any contaminated soil removed and disposed in a permitted landfill.
- Contaminated wastewater shall be managed by the Contractor to ensure existing water resources on the site are not contaminated. All wastewater from general activities in the camp shall be collected and removed from the site for appropriate disposal at a licensed commercial facility.
- De-watering of vessels, tanks, etc is to take place in a controlled manner. No uncontrolled release of water shall be allowed onto the site area. Water wastage shall be kept to a minimum and where possible water shall be recycled. Dewatering of contaminated water shall only be done at an approved landfill site.

PB.9.14 Concrete

- Concrete mixing shall be restricted to certain areas within the Construction Zone, and mixed in areas that are not to be vegetated in future. Cement mixing should take place on plastic liners to avoid contamination of soil.
- Cleaning of cement mixing and handling equipment shall only be done using proper cleaning trays.
- Ready mix concrete should be used where possible and should occur in accordance with the requirements of the Specifications.
- All excess cement and concrete mixes are to be contained on the construction site prior to disposal off site to suitable landfill areas.
- All empty containers shall be removed from the site for appropriate disposal at a licensed commercial facility.
- Any spillage which may occur will be investigated and reported to ECO and immediate action shall be taken by the Contractor to remove and clean up any spillage.
- Cement-contaminated water shall not enter the water system as this disturbs the natural acidity of the soil and affects plant growth.

PB.9.15 Blasting Activities (if required)

- The Contractor shall notify the Local Council should blasting be required and shall adhere to the requirements of the Explosives Act, 1956. Notices shall be placed on site in order to inform the residents of blasting activities and the Contractor shall give all affected parties within a radius of 2km notice of intent to execute any blasting work.
- Blasting will be done at appropriate times of the day to ensure that noise disturbance and vibrations are kept to a minimum. Blasting will be undertaken using appropriate techniques. By restricting blasting to early afternoon, (14:00) noise impacts will be reduced, as the inversion layer is usually eroded or sufficiently elevated to have a negligible effect in the reflection of sound.
- Photographic evidence of houses, surrounding the development zone, pre and post blasting should be taken in order to prevent liability claims, which are not resultant from the blasting

PB.9.16 Disruption of Infrastructure and Services

- The Contractor (Purchaser) shall ensure minimal disturbance of roads, services and access.
- At all points of contact with the public, the Contractor and his staff are requested to handle discussions and disputes with deliberate courtesy and understanding. All complaints and correspondence must be recorded and reported to the ECO for inclusion in the Audit Report.
- Services such as electricity, telephones and water shall not be disrupted without prior notice to the affected community, and shall be avoided where possible. Where disruption of services is unavoidable, this will be undertaken to the satisfaction of the Local Council.
- All vehicles used by the Contractor on public roads or other routes used by any member of the public shall comply with the relevant by-laws and regulations in the Province of KwaZulu-Natal. The Contractor must avoid peak traffic times.

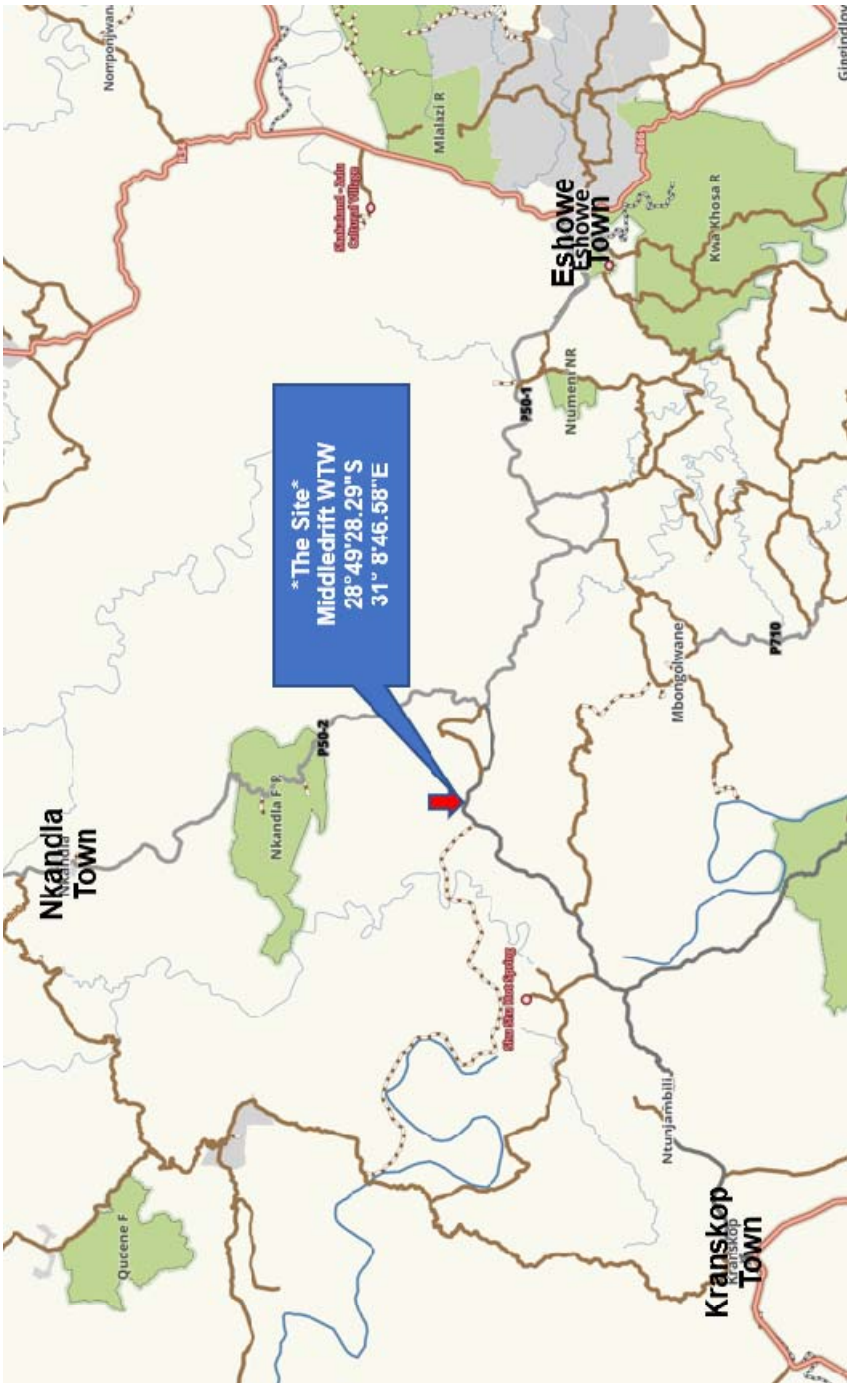
PB.10 CONCLUSION

Should all the issues contained within this document be complied with the environmental impact of this proposed development will be highly reduced and the mitigation proposed is adequate to ensure environmental sustainability.

PART C4: SITE INFORMATION

C4.1 LOCALITY PLAN

The site is located approximately 45 km West of Eshowe town.



ANNEXURES

A.1 DRAWINGS

The drawings issued to tenders as part of the tender documents must be regarded as provisional and preliminary for the Tenderer's benefit to generally assess the scope of work.

The work shall be carried out in accordance with the latest available revision of the drawings approved for construction (AFC)

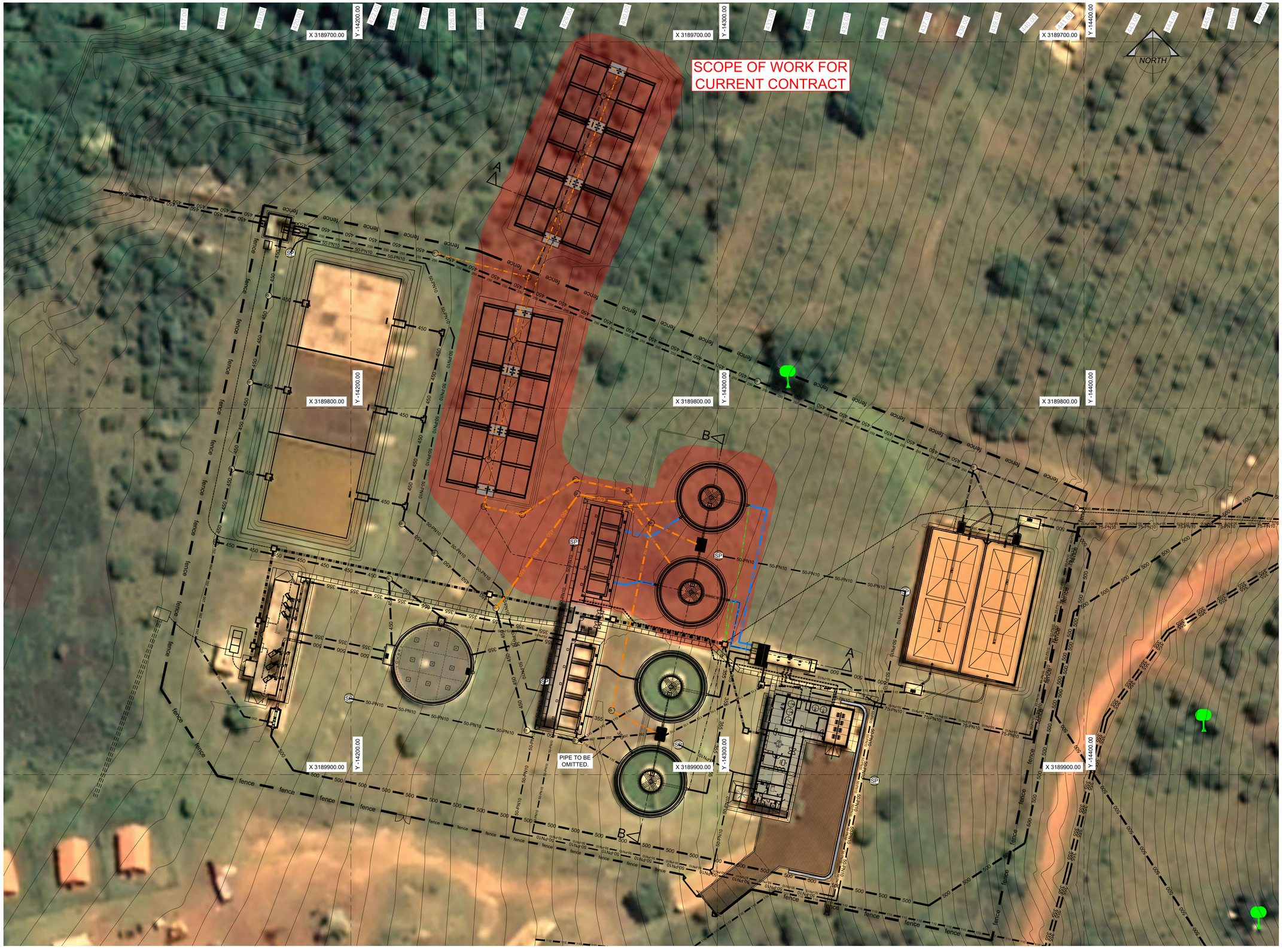
At commencement of the contract, the Engineer shall deliver to the Contractor copies of the AFC drawings and any instructions required for the commencement of the works. From time to time thereafter during the progress of the works, the Engineer may issue further drawings for construction purposes as may be necessary for adequate construction, completion and defects correction of the works.

All drawings and specifications and copies thereof remain the property of the Employer, and the Contractor shall return all drawings and copies thereof to the Employer at the completion of the contract.

The drawings listed in the table below have been bound and issued separately for tender purposes.

NUMBER	DESCRIPTION
18-023-V-A-01-01	SITE LAYOUT PLAN
18-023-V-A-02-02	ADDITIONS TO EXISTING INLET WORKS - SECTIONS, DETAILS AND PIPE SCHEDULE
18-023-V-A-03-01	CLARIFLOCCULATOR – PLAN & VARIOU DETAILS
18-023-V-A-03-02	CLARIFLOCCULATOR - SECTION & DETAILS
18-023-V-A-04-01	RAPID GRAVITY SAND FILTER – PLAN & SECTIONS
18-023-V-A-04-02	RAPID GRAVITY SAND FILTER – SECTION & DETAILS
18-023-V-A-04-03	RAPID GRAVITY SAND FILTER – SECTIONS
18-023-V-A-04-04	RAPID GRAVITY SAND FILTER – PLANS, SECTIONS & DETAILS
18-023-V-A-04-05	RAPID GRAVITY SAND FILTER – PIPE SCHEDULE & SECTIONS
18-023-V-A-05-01	SLUDGE DRYING BEDS – PLANS & SECTIONS
18-023-V-A-05-02	SLUDGE DRYING BEDS – SECTIONS & DETAILS
18-023-V-A-06-01	GENERAL DETAILS – FENCING DETAILS
18-023-V-A-06-02	GENERAL DETAILS – TRENCHING DETAILS
18-023-V-A-06-03	GENERAL DETAILS – VALVE & CHAMBERS DETAILS
18-023-V-A-06-04	GENERAL DETAILS – CABLE & WASTE WATER MANHOLE, TRENCHING & 'VELDSPAN' FENCING DETAILS.

Tenderers are to ensure that they receive a complete set of the tender drawings and must immediately inform the Engineer of any drawings that are missing so that further copies can be issued.



SITE LAYOUT PLAN

SCALE 1:500

Do not scale off drawing - ASK THE ENGINEER IF UNCERTAIN!
Any discrepancies between any drawings must be clarified before work is continued on site.

FOR TENDER PURPOSES ONLY

READ THIS DRAWING IN CONJUCTION WITH

Drawing Number	Drawing Description

AMENDMENTS

Rev.	Date	Description

ECA CONSULTING
Civil and Structural Engineers
Company Reg.: 2004/019299/07
ISO Registered 9001:2015

VRYHEID OFFICE:
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www.ecaconsult.co.za

OTHER OFFICES:
MBOMBELA | GAUTENG | PIETERMARITZBURG | LADYSMITH

Approved by Engineer: Signature:
Name: J.W. Janse v Rensburg
Designation: PrTechEng
ECSA Reg.: 201070143 Date: 26 Jul 2023

Project Funder/ Client:
mig Municipal Infrastructure Grant

Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

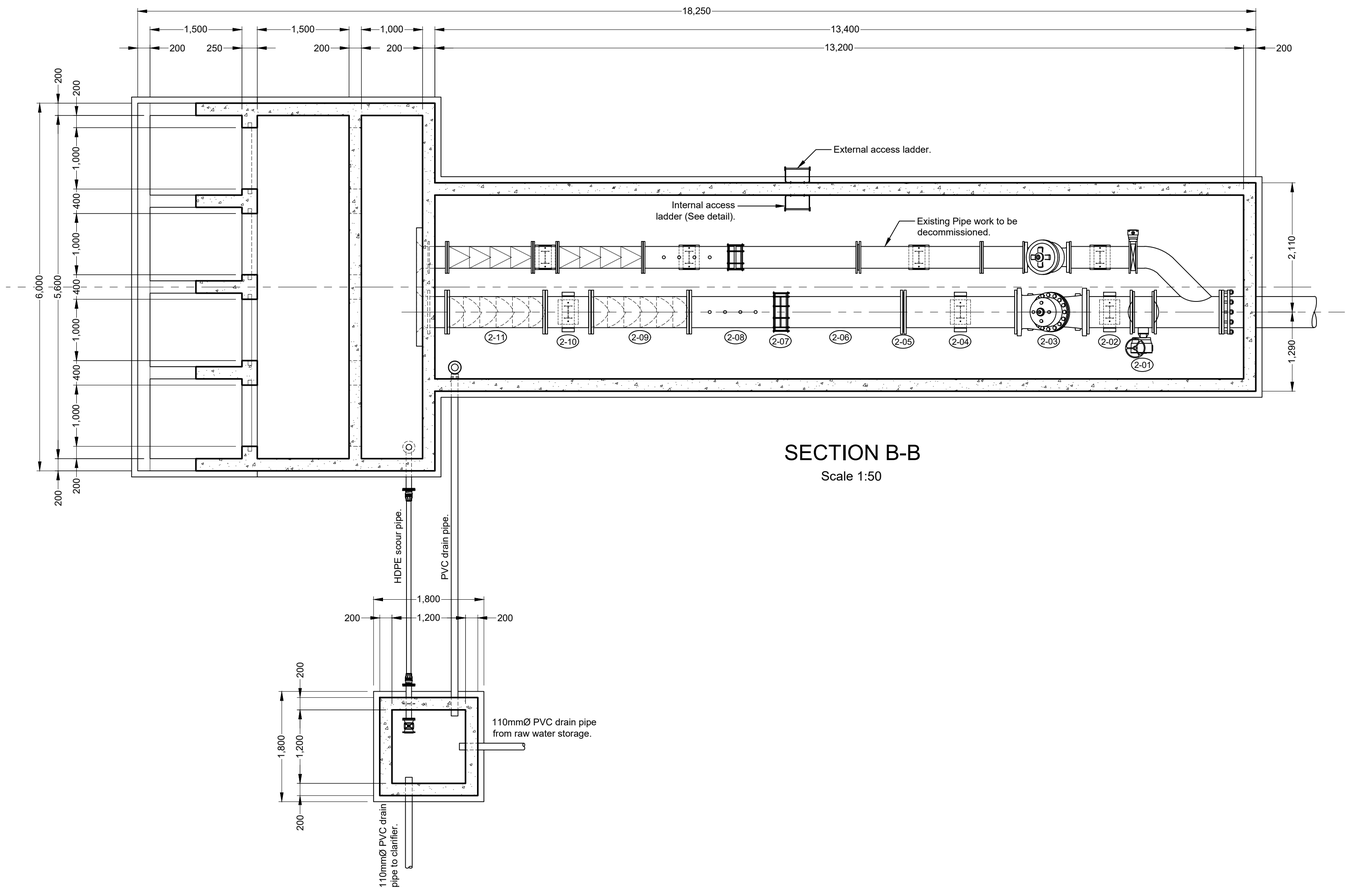
Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT BULK AUGMENTATION: 10Ml/DAY EXTENSION TO MIDDLEDRIFT WTW

Drawing description:
SITE LAYOUT PLAN

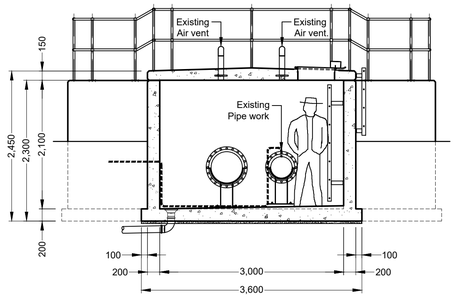
Drawn: A. Klingenberg Date: Sep 2020
Scale/s: As Shown

Drawing number:	Rev.:
18-023-V-A-01-01	00



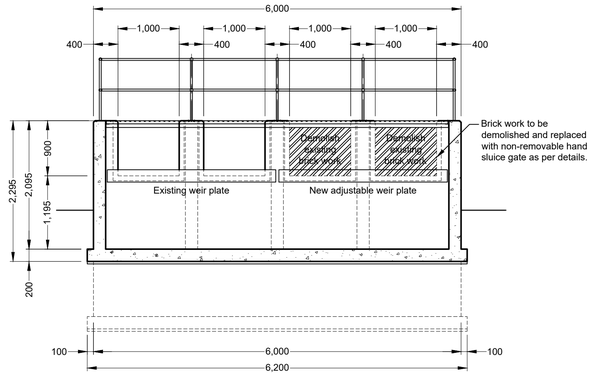
SECTION B-B

Scale 1:50



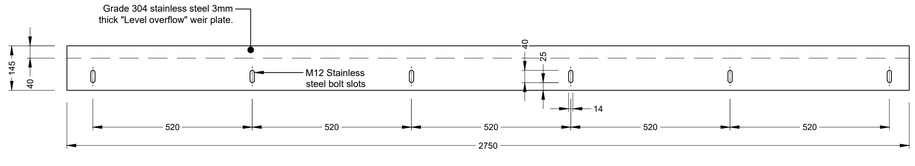
SECTION C-C

Scale 1:50



SECTION D-D

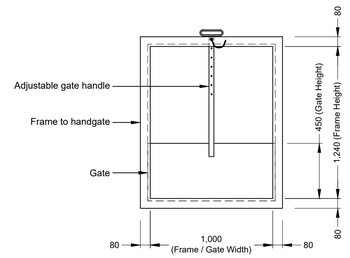
Scale 1:50



WEIR PLATE DETAIL

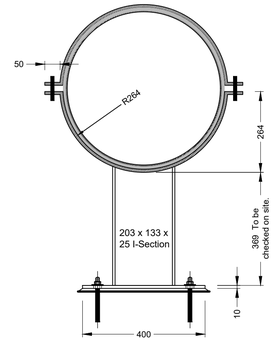
Scale 1 : 10

Item No.	No Off.	Dia(mm) ND	Description	Drawing
2-01	01	500Ø	500mmØ Butterfly isolating valve, gear operated.	
2-02	01	500Ø	500mmØ Straight, T10 flanged.	750
2-03	01	500Ø	500mmØ, 'Bermad (Model no. WW-14"-720-12-50-Y-C-ISO10-EB-00-NN-I) Flow control valve with Solenoid control, T10 flanged. Or similar approved.	
2-04	01	500Ø	500mmØ Straight, T10 flanged.	1,850
2-05	01	500Ø	500mmØ Flow metering orifice plate, 12mm thick.	
2-06	01	500Ø	500mmØ Straight with 1× T10 flange.	1,990
2-07	01	500Ø	500mmØ, Viking Johnson coupling, 10bar rated.	
2-08	01	500Ø	500mmØ Straight, with 1 × T10 flange & 4 × 1" female threaded sockets (Dosing points).	250, 250, 250, 400, 1,485, Grade 304 STAINLESS STEEL
2-09	02	500Ø	500mmØ Static inline mixer, T10 flanged. (G value > 1 000 @ 130 l/s)	1,600, Grade 304 STAINLESS STEEL
2-10	01	500Ø	500mmØ Straight, T10 flanged with 1× 1" female threaded sockets (Dosing points).	750, Grade 304 STAINLESS STEEL
2-11	02	350Ø	350mmØ VJ flange adaptor for uPVC, T10 flanged.	



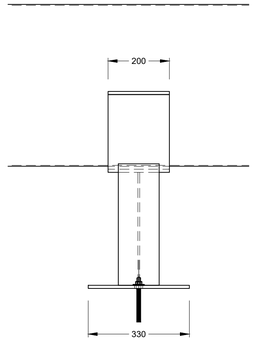
TYPICAL NON-REMOVABLE HAND SLUICE DETAIL

Scale 1:25



500Ø FLOOR MOUNTED PIPE BRACKET DETAIL

Scale 1:10



500Ø FLOOR MOUNTED PIPE BRACKET SIDE ELEVATION

Scale 1:10

Do not scale off drawing - ASK THE ENGINEER IF UNCERTAIN!
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FOR TENDER PURPOSES ONLY

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OTHER OFFICES:
MBOMBELA | GAUTENG | PIETERMARITZBURG | LADYSMITH

Approved by Engineer: Signature:
Name: J.W. Janse v Rensburg
Designation: PrTechEng
ECSA Reg.: 201070143 Date: 26 Jul 2023

Project Funder/ Client:
mig Municipal Infrastructure Grant

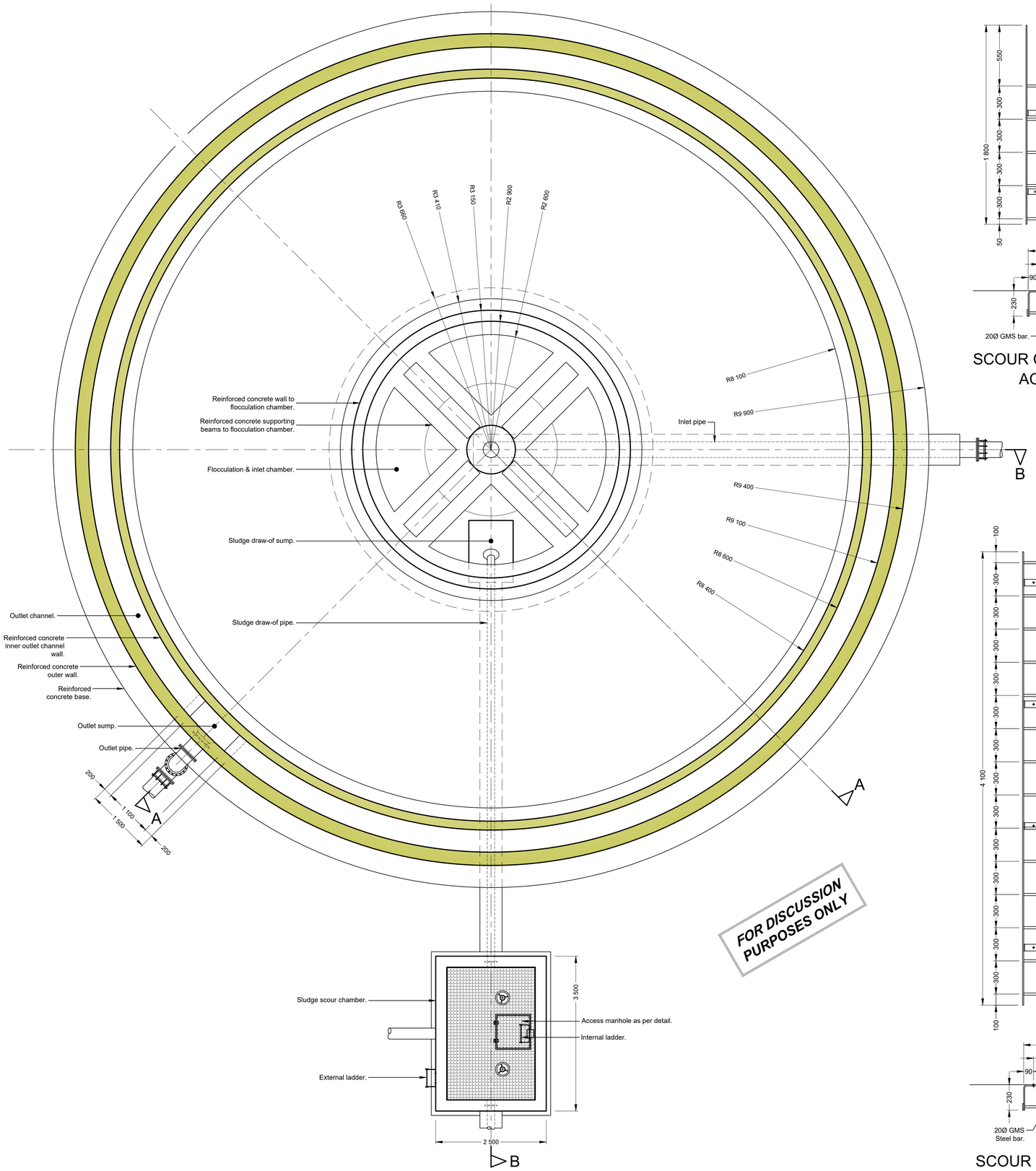
Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: EXTENSION TO MIDDLEDRIFT WTW (+10Ml)

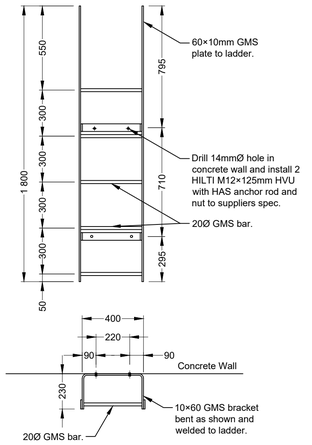
Drawing description:
ADDITIONS TO EXISTING INLET WORKS SECTIONS, DETAILS & PIPE SCHEDULE

Drawn: G.D Bezuidenhout Date: Oct 2020
Scale/s: As Shown
Drawing number: 18-023-V-A-02-02
Rev.: 00

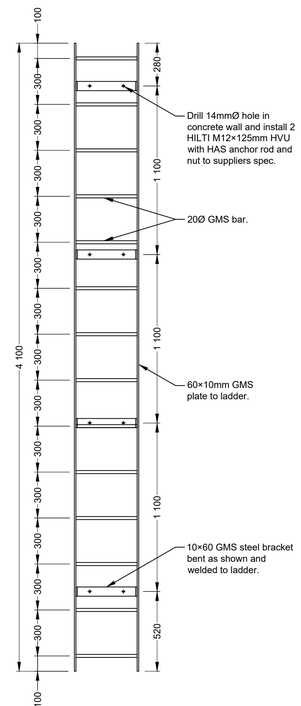


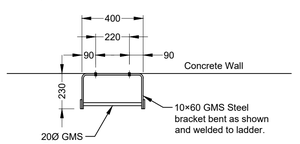
PLAN
Scale 1:50

FOR DISCUSSION PURPOSES ONLY



SCOUR CHAMBER EXTERNAL ACCESS DETAILS
Scale 1:25





SCOUR CHAMBER INTERNAL ACCESS LADDER
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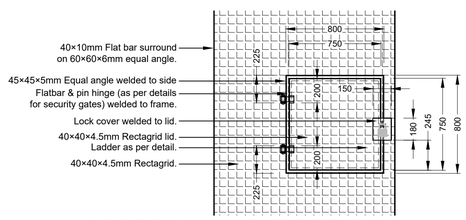
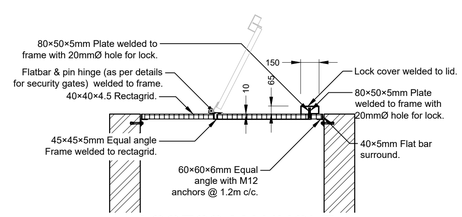


ACCESS MANHOLE DETAILS
Scale 1:25



ACCESS MANHOLE TYPICAL SECTION
Scale 1:25

NOTES:
Do not scale off the drawing.
If not sure -ask!

CONCRETE GRADE:
Concrete 28 day compressive strength to be as per list below.
- Blinding 15MPa / 13mm

Valve chamber
- Base 35MPa / 19mm
- Wall 35MPa / 19mm
- Suspended slab 35MPa / 19mm

Main Structure
- Base 35MPa / 19mm
- Wall 35MPa / 19mm
- Floor slab 35MPa / 19mm

General
- Thrust blocks 15MPa / 19mm
- Scour pipe incased 35MPa / 19mm
- Mass concrete 15MPa / 19mm

CONCRETE FINISHES:
Valve chamber
- Base top U3
- Base sides F2
- Wall both sides F2
- Wall top U3
- Roof slab soffit F2
- Roof slab top U2

Main Structure
- Base top U3
- Base sides F2
- Wall both sides F2 (Only Steel f/work)
- Wall top U3
- Floor slab top U4

General
- Thrust blocks sides Insitu
- Thrust blocks top U1
- Incased pipe sides Insitu
- Incased pipe top U1

CONCRETE COVER
- Bases / Found cast insitu: 50mm
- Bases against formwork: 40mm
- Walls (Water Ret. Struct): 40mm
- Roof Slabs (All Struct): 30mm
- Building - Ring Beams: 30mm
- Max. deviation : (+ / -) 5mm
- Cover blocks of 60 x 60mm must be made equal to the specific structural element, which must be properly compacted and cured.

GENERAL NOTES
- Provide synthetic fibres to all concrete for water retaining structures and as specified in the Bill of Quantities.
- Concrete to water retaining structures must have a cement / water ratio greater or equal to 2.0.
- Concrete must be cured for a min. period of 7 days.
- All concrete must be properly vibrated during placing.
- All inspections to be done, and written approval granted by Engineer or his representative before concrete may be cast.
- All exposed concrete edges to be chamfered 20mm x 20mm. Except if specified differently.
- PVC Water stops etc. to be maintained in position during each cast by means of galvanised wires etc.
- Wall consecutive lifts: Remove all loose concrete with electric breaker to expose solid concrete & clean before next lift is cast.
- Imported fill below main structure to be min. Grade G5/G6 or as approved by engineer.
- All steelwork must be thoroughly cleaned and hot dipped galvanised as per specification to SABS 763.

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KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

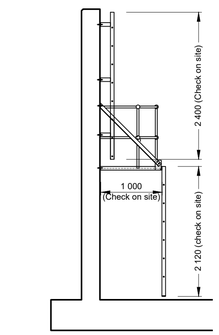
Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENSION TO MIDDLEDRIFT WTW

Drawing description:
CLARIFLOCCULATOR: PLAN & VARIOUS DETAILS

Drawn: R. Joubert Date: Sep 2020
Scale/s: AS SHOWN
Drawing number: 18-023-V-A-03-01
Rev.: 00

Item No.	No Off.	Dia(mm) ND	Description	Drawing
3-01	08	350Ø	350mm Ø VJ flange adaptor for uPVC, T10 flanged.	
3-02	02	350Ø	350mmØ Straight, T10 flanged with puddle flange.	Grade 304 STAINLESS STEEL; 350; 650; 1 000
3-03	02	350Ø	350mmØ Straight, with 90° long radius bend, T10 flanged, 2×puddle flanges & 7° bend	Grade 304 STAINLESS STEEL; 1 500; 650; 200; 550; 1 400
3-04	02	350Ø	350mmØ Straight, with 1×T10 flange.	Grade 304 STAINLESS STEEL; 2 800
3-05	02	350Ø	350mmØ Straight, 1×T10 flange, puddle flange & 550mmØ Bell mouth	Grade 304 STAINLESS STEEL; 425; 600
3-06	04	350Ø	350mmØ, 90° long radius bend, T10 flanged.	537; 537
3-07	02	350Ø	350mmØ Straight, T10 flanged.	545
3-08	02	150Ø	150mmØ Straight, with 45° long radius bend, 1×T10 flange, 2× puddle flanges & 300mmØ Bell mouth	Grade 304 STAINLESS STEEL; 295; 495; 8 830
3-09	02	150Ø	150mmØ Equal tee with 3×T10 flanges	500; 350; 260; 610
3-10	02	150Ø	150mmØ Wedge gate valve to SANS 664, T10 flanged.	
3-11	02	150Ø	150mmØ Straight, T10 flanged.	2 570
3-12	02	150Ø	350mmØ, 90° long radius bend, T10 flanged.	230; 230
3-13	02	150Ø	150mmØ Wedge gate valve, with extended spindle, 900mm high stand and hand wheel.	2 015
3-14	02	150Ø	150mmØ Straight, with 1×T10 flange.	350



SCOUR CHAMBER LADDER DETAILS PLAN
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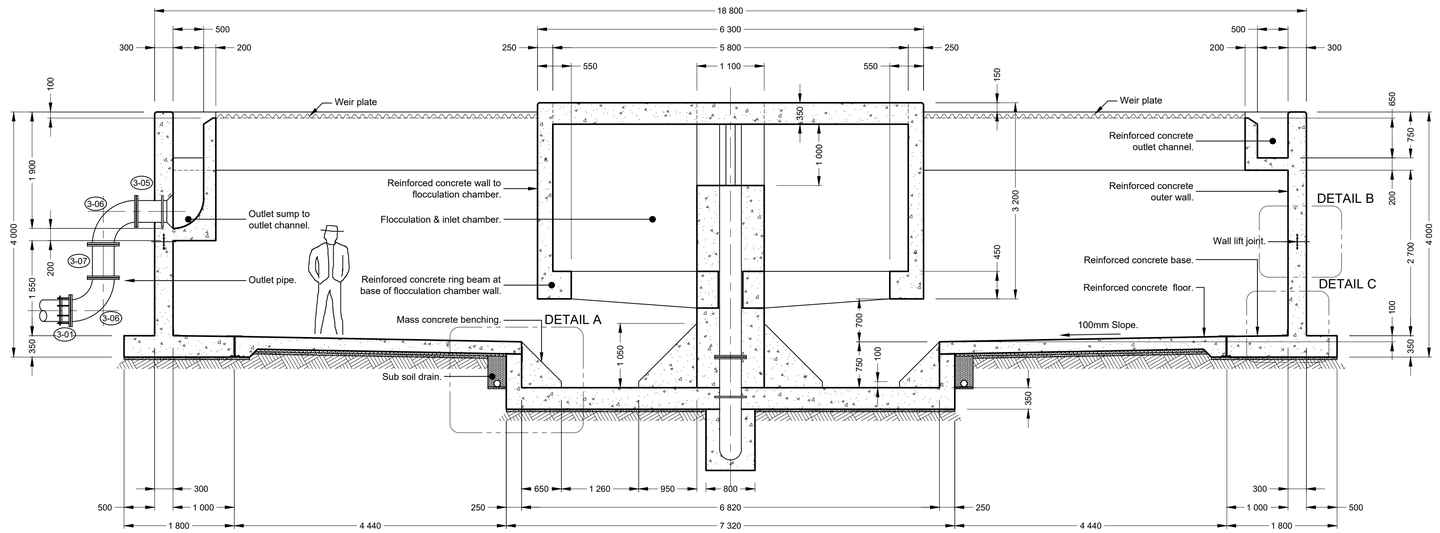

SECTION A-A
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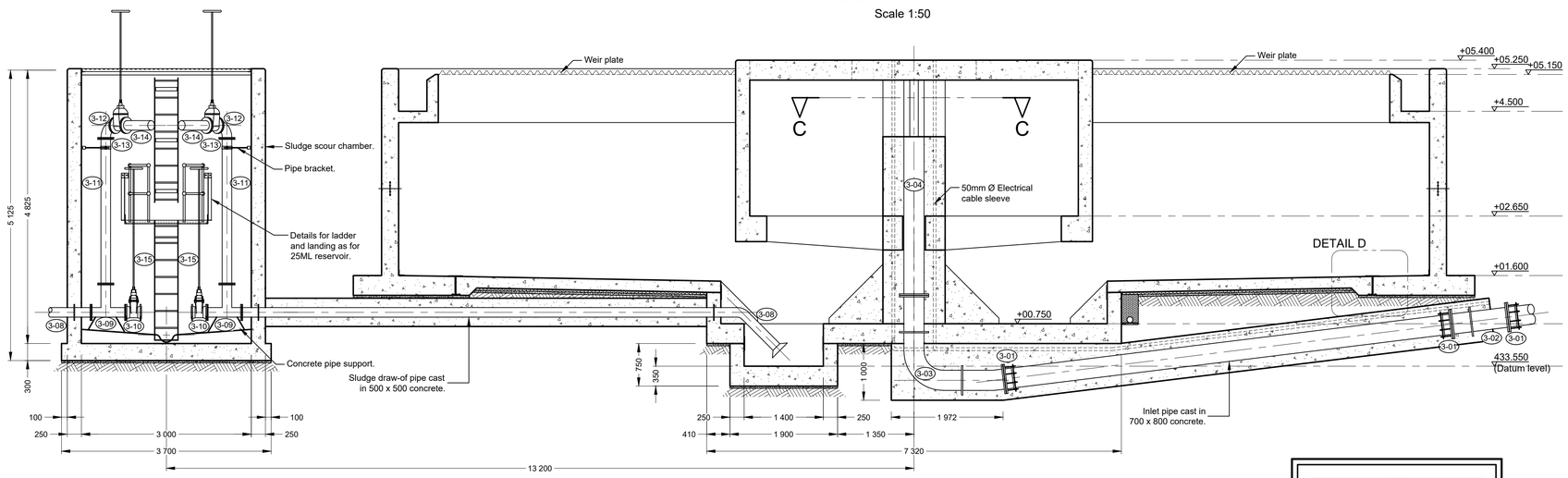

SECTION B-B
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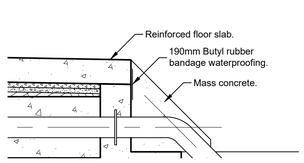
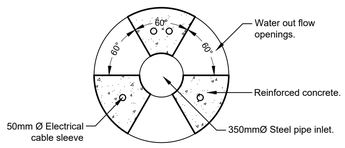
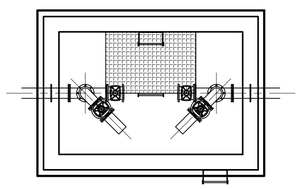


DETAIL A
Scale 1:25

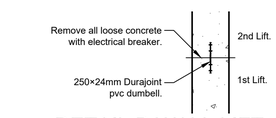


SECTION C-C
Scale 1:25

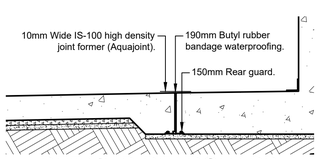
Item No.	No Off.	Dia(mm) ND	Description	Drawing
15	02	-Ø	Extended spindle and hand wheel 150mmØ Wedge gate valve schedule number 10.	



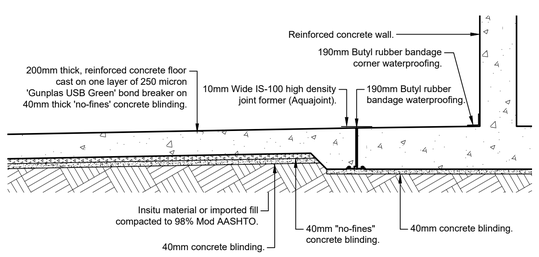
SCOUR CHAMBER PLAN
Scale 1:50



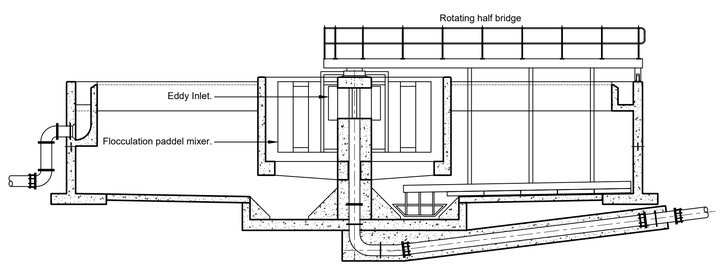
DETAIL B WALL LIFT JOINT DETAIL
Scale 1:25



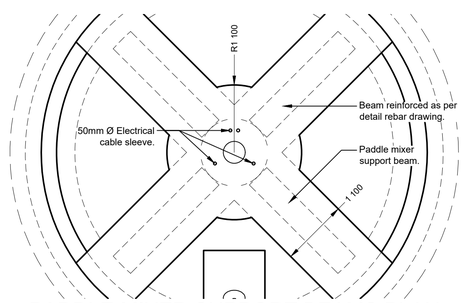
DETAIL D REARGUARD CONSTRUCTION JOINT
Scale 1:25



DETAIL C
Scale 1:25



SECTION A-A
(PROPOSED MECHANICAL LAYOUT)
Scale 1:100



PADDLE MIXER SUPPORT BEAMS PLAN
Scale 1:50

Do not scale off drawing - ASK THE ENGINEER IF UNCERTAIN!
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FOR DISCUSSION PURPOSES ONLY

READ THIS DRAWING IN CONJUCTION WITH

Drawing Number	Drawing Description

AMENDMENTS

Rev.	Date	Description

ECA CONSULTING
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Approved by Engineer: Signature:
Name: J.W. Janse v Rensburg
Designation: PrTechEng
ECSA Reg.: 201070143 Date: 26 Jul 2023

Project Funder/ Client:
mig Municipal Infrastructure Grant

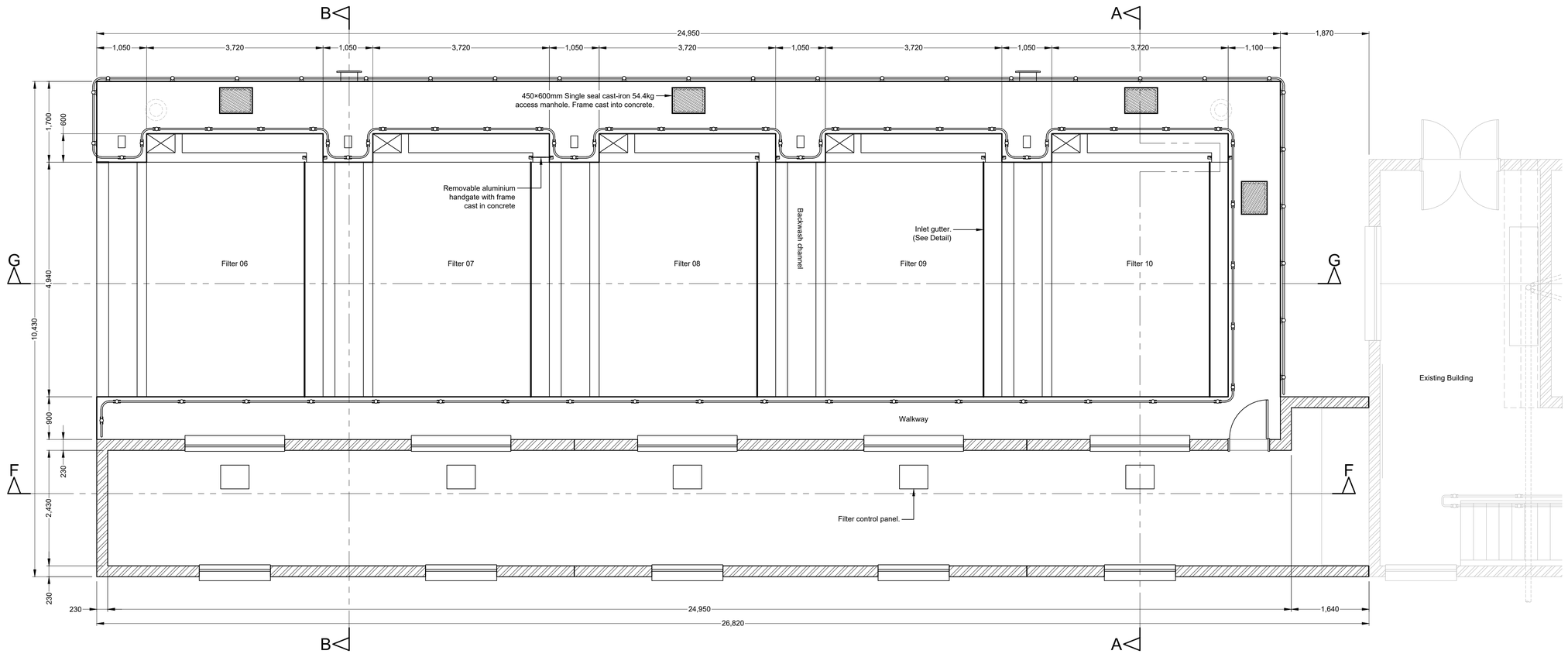
Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENSION TO MIDDLEDRIFT WTW

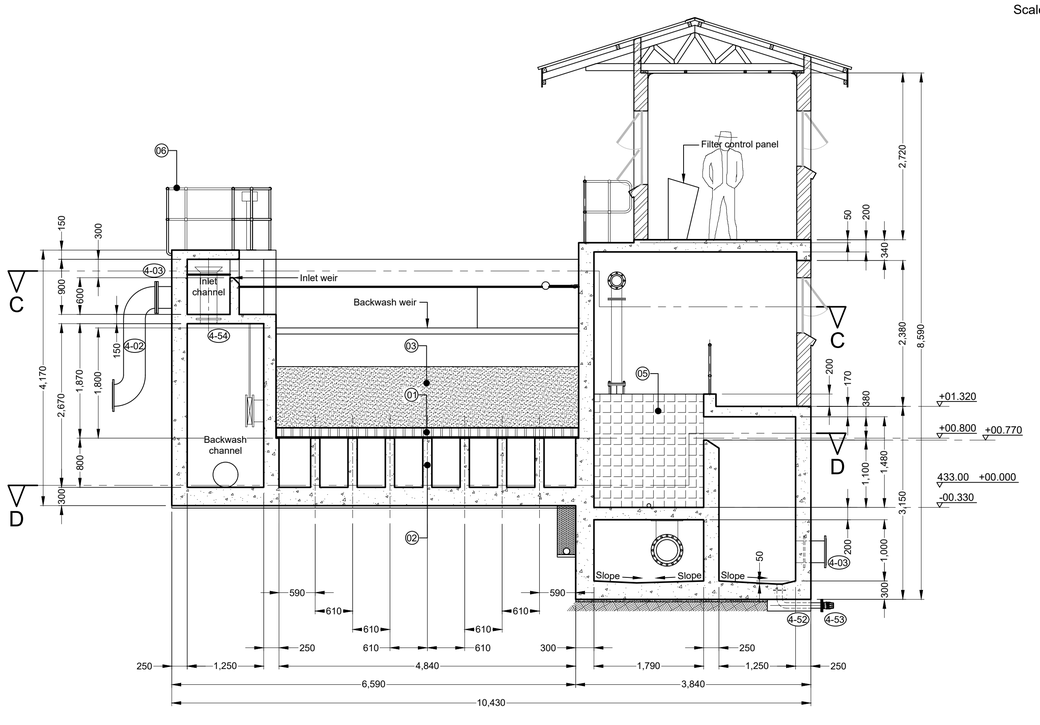
Drawing description:
CLARIFLOCCULATOR: SECTION & DETAILS

Drawn: R. Joubert Date: Sep 2020
Scale/s: AS SHOWN
Drawing number: 18-023-V-A-03-02
Rev.: 00



PLAN

Scale 1:50



SECTION A-A

Scale 1:50

NOTES:
Do not scale off the drawing.
If not sure -ask!

CONCRETE GRADE:
Concrete 28 day compressive strength to be as per list below.

• Blinding	15MPa / 13mm
Valve chamber	
• Base	35MPa / 19mm
• Wall	35MPa / 19mm
• Suspended slab	35MPa / 19mm
Main Structure	
• Base	35MPa / 19mm
• Wall	35MPa / 19mm
• Floor slab	35MPa / 19mm
General	
• Thrust blocks	15MPa / 19mm
• Scour pipe incased	35MPa / 19mm
• Mass concrete	15MPa / 19mm

CONCRETE FINISHES:

Valve chamber	
• Base top	U3
• Base sides	F2
• Wall both sides	F2
• Wall top	U3
• Roof slab soffit	F2
• Roof slab top	U2
Main Structure	
• Base top	U3
• Base sides	F2
• Wall both sides	F2 (Only Steel f/work)
• Wall top	U3
• Floor slab top	U4
General	
• Thrust blocks sides	Insitu
• Thrust blocks top	U1
• Incased pipe sides	Insitu
• Incased pipe top	U1

CONCRETE COVER

• Bases / Found cast insitu:	50mm
• Bases against formwork:	40mm
• Walls (Water Ret. Struct):	40mm
• Roof Slabs (All Struct):	30mm
• Building - Ring Beams:	30mm
• Max. deviation :	(+ / -) 5mm

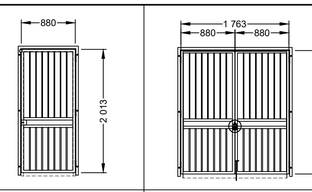
- Cover blocks of 60 x 60mm must be made equal to the specific structural element, which must be properly compacted and cured.

DRAWING NOTES:

01 CADAR GRC Monolithic flat panel filter floor & filter nozzles installed to 2mm accuracy as per manufacture specifications. If an alternative filter floor or nozzle design is proposed, it must not change or compromise the current design and layout.
02 150Ø Plastic sleeve filled with concrete supporting filter floor.
03 1.0m Layer high quality silica sand with a nominal size and a uniformity coefficient as per specialist's recommendation.
04 Stainless steel inlet gutter.
05 White ceramic glazed tiles 150mm x 150mm installed to clear well using white waterproof tile grout.
06 Galvanize Ball-type knee and handrail, top or side mounted. Handrail to be 1m above final floor level. Stanchion diameter at least 42mm and Handrail diameter at least 34mm.
07 25mm Thick fiber-cement permanent shutter.

GENERAL NOTES
- Provide synthetic fibres to all concrete for water retaining structures and as specified in the Bill of Quantities.
- Concrete to water retaining structures must have a cement / water ratio greater or equal to 2.0.
- Concrete must be cured for a min. period of 7 days.
- All concrete must be properly vibrated during placing.
- All inspections to be completed and written approval granted by Engineer or his representative before concrete may be cast.
- All exposed concrete edges to be chamfered 20mm × 20mm. Except if specified differently.
- PVC Water stops etc. to be maintained in position during each cast by means of galvanised wires etc.
- Wall consecutive lifts: Remove all loose concrete with electric breaker to expose solid concrete & clean before next lift is cast.
- Imported fill below main structure to be min. Grade G5/G6 or as approved by engineer.
- All steelwork must be thoroughly cleaned and hot dipped galvanised as per specification to SABS 763.

GATE SCHEDULE



	G1	G2
Door leaf.	Gate consisting of 40x40x3mm square tubing, with R12 and R18 bars @ 100mm c/c bars.	Gate consisting of 40x40x3mm square tubing, with R12 and R18 bars @ 100mm c/c bars.
Frame:	Purpose made 40x40x3mm square tubing frame rawl bolted to wall over brickwork opening. Gate and frame finished in hot dipped galvanising.	Purpose made 40x40x3mm square tubing frame rawl bolted to wall over brickwork opening. Gate and frame finished in hot dipped galvanising.
Handles:	R12 Bar formed into hadle and welded to frame.	R12 Bar formed into hadle and welded to frame.
Lockset:	Upright double throw security mortice deadlock in steel plate housing with extended cover plate.	Padlock
Hinges:	3 x Bullit hinges welded to gate and frame as shown.	3 x Bullit hinges welded to gate and frame as shown.
Glazing:	None.	None.
Special notes:	Cabin hook to hold gate in open position.	Cabin hook to hold gate in open position.

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Designation: PrTechEng
ECSA Reg.: 201070143 Date: 26 Jul 2023

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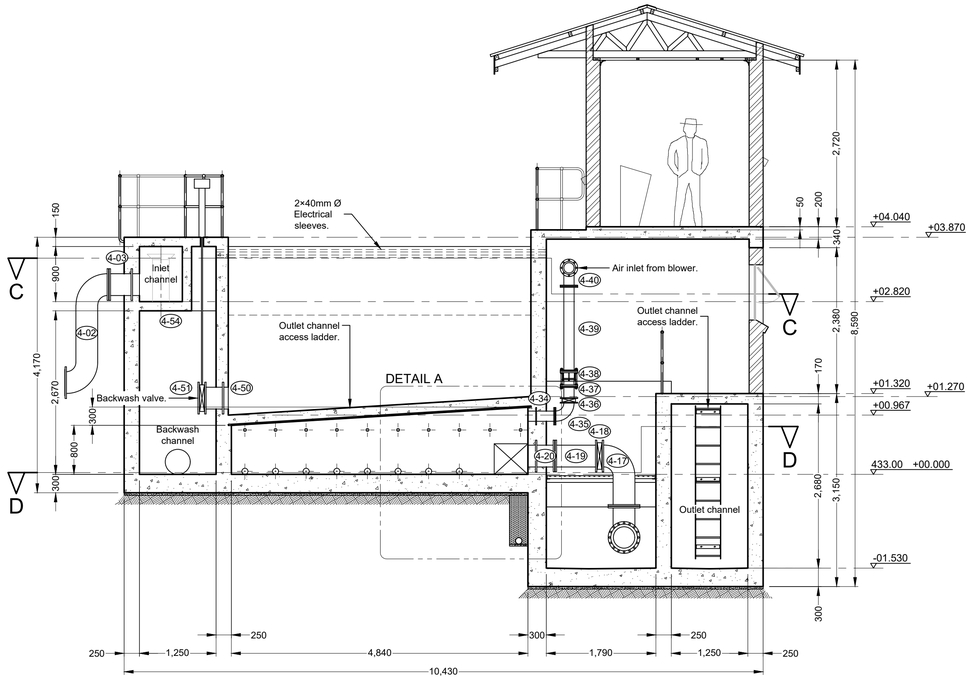
Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENSION TO MIDDLEDRIFT WTW

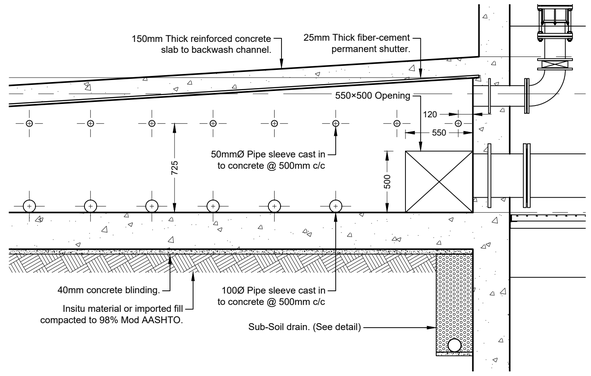
Drawing description:
RAPID GRAVITY SAND FILTER: PLAN AND SECTIONS

Drawn: R Joubert Date: Feb 2019
Scale/s: AS SHOWN
Drawing number: 18-023-V-A-04-01
Rev.: 00



SECTION B-B

Scale 1:50



DETAIL A

Scale 1:25

DRAWING NOTES:

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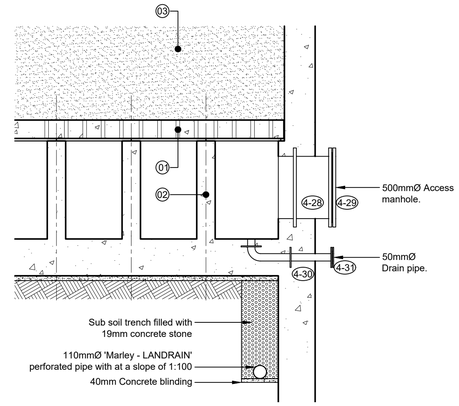
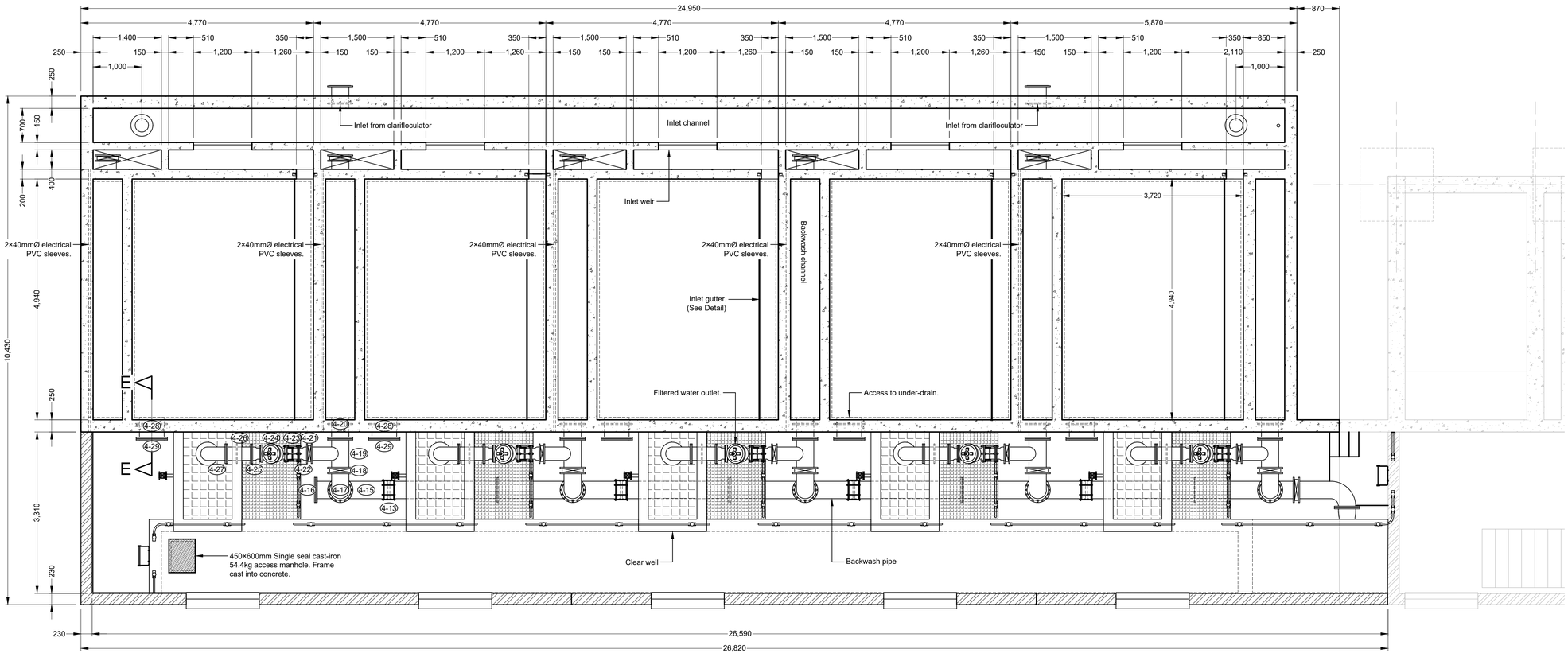


SECTION E-E

Scale 1:25



SECTION C-C

Scale 1:50

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Designation: PrTechEng
ECSA Reg.: 201070143 Date: 26 Jul 2023

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mig Municipal Infrastructure Grant

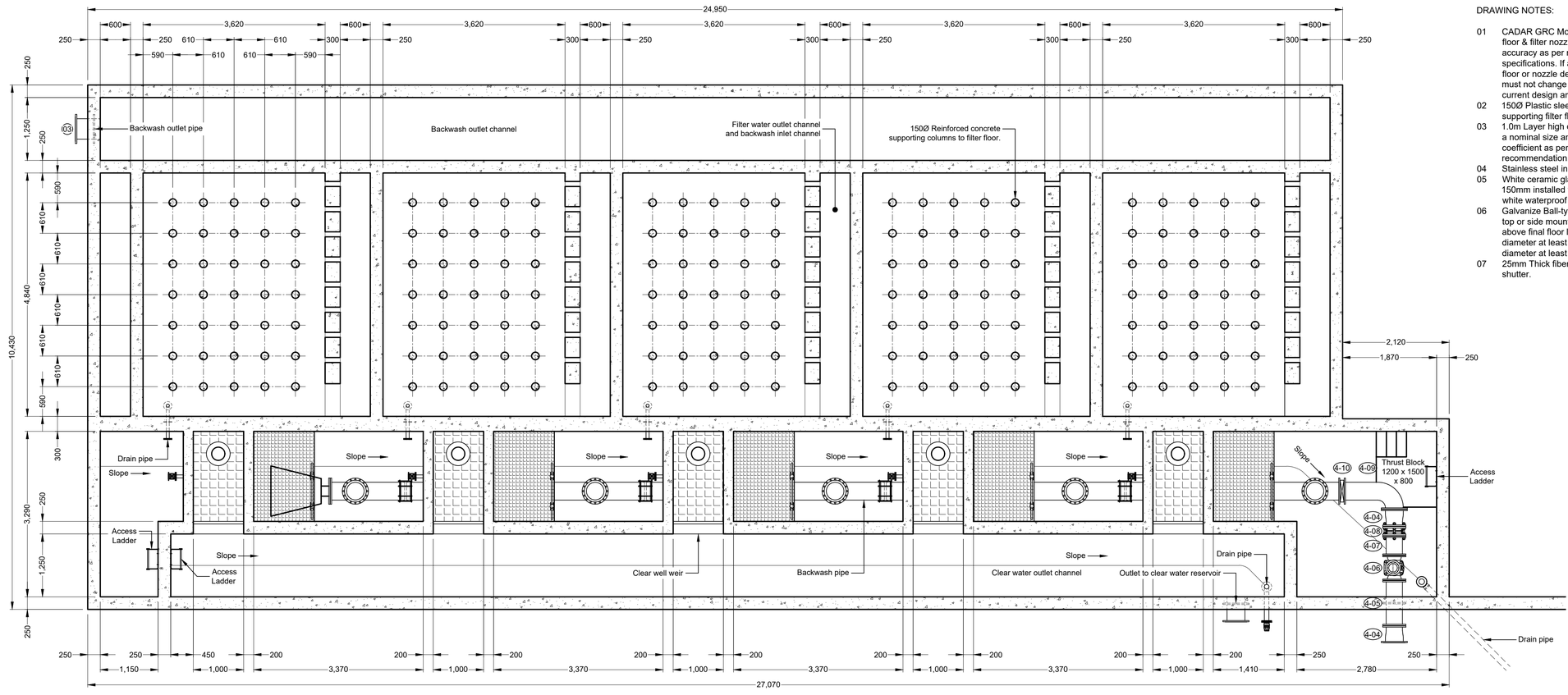
Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENSION TO MIDDLEDRIFT WTW

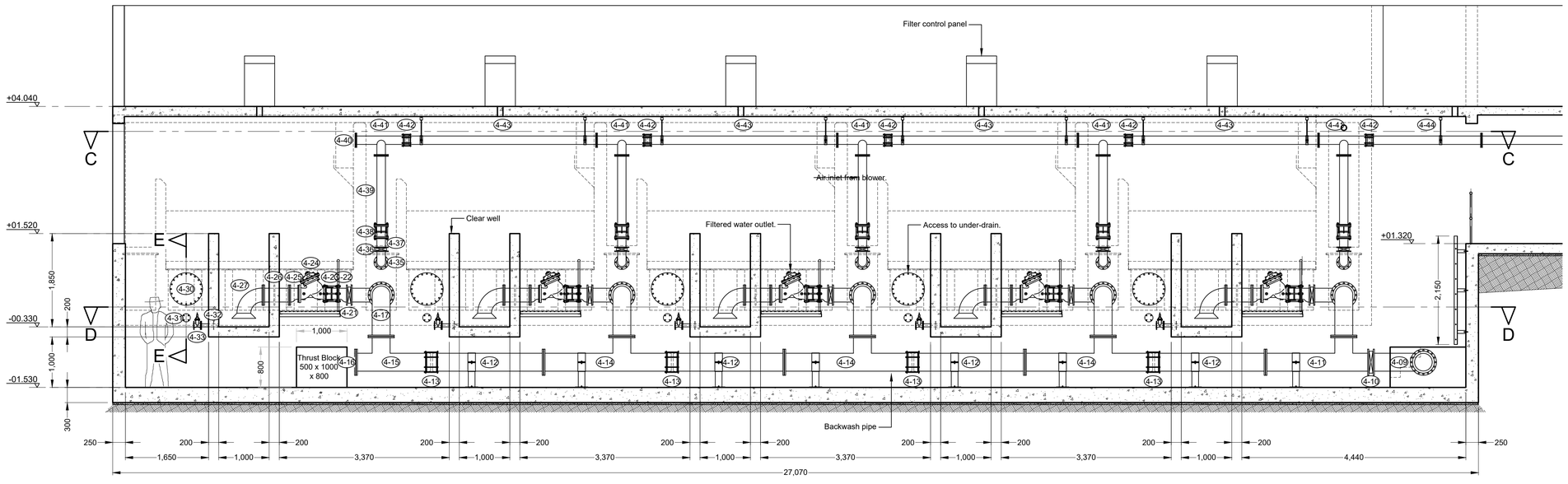
Drawing description:
RAPID GRAVITY SAND FILTER: SECTIONS AND DETAILS

Drawn: R Joubert Date: Feb 2019
Scale/s: AS SHOWN
Drawing number: 18-023-V-A-04-02
Rev.: 00



SECTION D-D

Scale 1:50



SECTION F-F

Scale 1:50

DRAWING NOTES:

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ECSA Reg.: 201070143 Date: 26 Jul 2023

Project Funder/ Client:
mig Municipal Infrastructure Grant

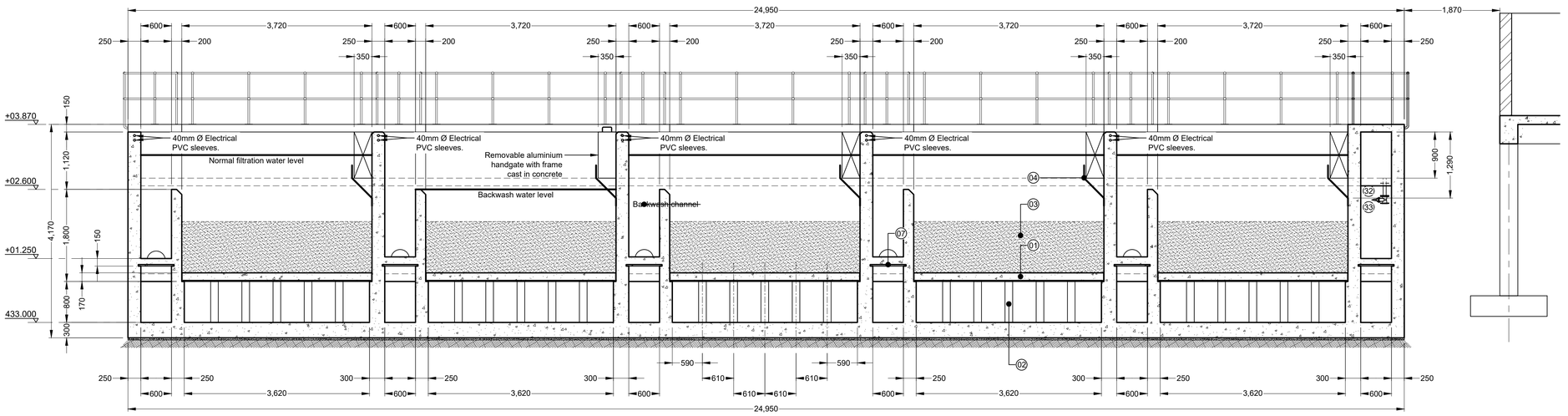
Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENSION TO MIDDLEDRIFT WTW

Drawing description:
RAPID GRAVITY SAND FILTER: SECTIONS

Drawn: R Joubert Date: Feb 2019
Scale/s: AS SHOWN
Drawing number: 18-023-V-A-04-03
Rev.: 00



SECTION G-G

Scale 1:50

DRAWING NOTES:

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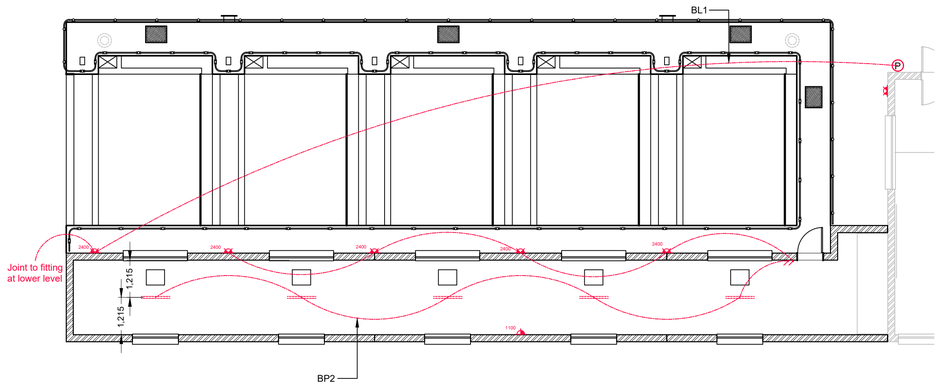
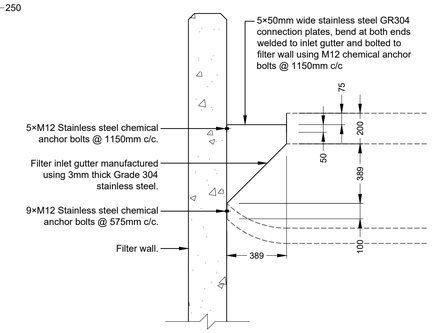


BUILDING WORKS & ELECTRICAL PLAN TOP STOREY

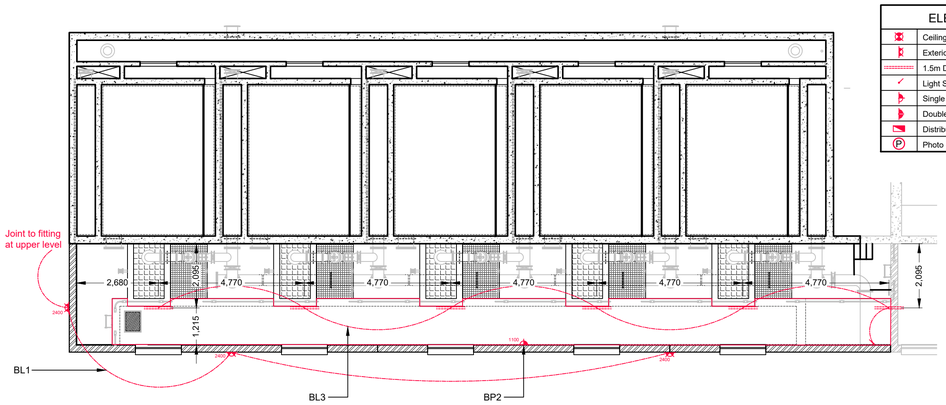
Scale 1:100



FILTER INLET GUTTER TYPICAL SECTION

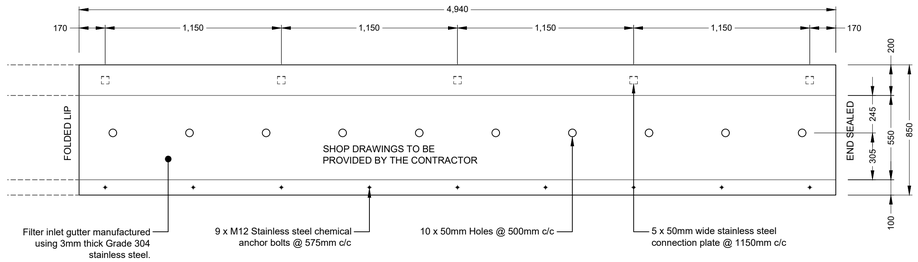
Scale 1:20

ELECTRICAL LEGEND	
	Ceiling light point, placed in centre or as shown
	Exterior wall light, height as indicated
	1.5m Double Fluorescent light
	Light Switch 1250 a.f.f.l.
	Single wall plug, 300 a.f.f.l. or as indicated
	Double wall plug, 300 a.f.f.l. or as indicated
	Distribution Board top 2100mm A.F.F.L.
P	Photo cell



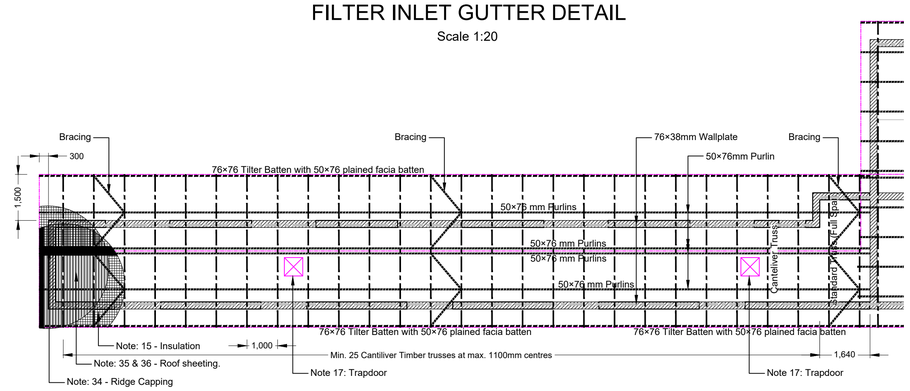
BUILDING WORKS & ELECTRICAL PLAN GALLERY

Scale 1:100



FILTER INLET GUTTER DETAIL

Scale 1:20



ROOF PLAN

Scale 1:100

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Approved by Engineer: Signature:
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Project Funder/ Client:
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Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENSION TO MIDDLEDRIFT WTW

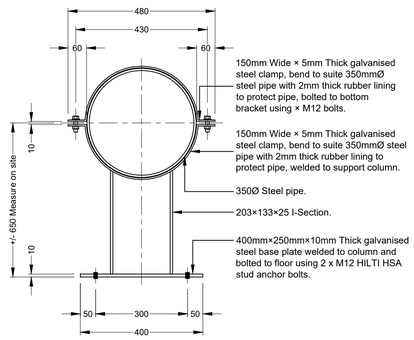
Drawing description:
RAPID GRAVITY SAND FILTER: PLANS, SECTIONS AND DETAILS

Drawn: R Joubert Date: Feb 2019
Scale/s: AS SHOWN
Drawing number: 18-023-V-A-04-04
Rev.: 00

Item No.	No Off.	Dia(mm) ND	Description	Drawing
4-01	4	350Ø	350mm Ø VJ Flange adaptor for uPVC, T10 flanged.	
4-02	2	350Ø	350mm Ø Straight, with 2 x 90° short radius bends, T10 flanged.	1,600; 360; 720; 360
4-03	4	350Ø	350mm Ø Straight, 1 x T10 flange with puddle flange.	Grade 304 STAINLESS STEEL; 500
4-04	2	350Ø - 300Ø	350-300mm Ø Eccentric Reducer, T10 flanged.	340
4-05	1	300Ø	300mm Ø Straight, T10 flanged with puddle flange.	450; 900
4-06	1	300Ø	300mm Ø WP Dynamic pulse output water meter DN300, T10 flanged.	
4-07	1	300Ø	300mm Ø Straight, T10 flanged.	386
4-08	1	300Ø	300mm Ø, Viking Johnson dismantling joint, T10 flanged.	191
4-09	1	350Ø	350mm Ø Straight, with 1 x 90° short radius bends, T10 flanged.	360; 1,000
4-10	1	350Ø	350mm Ø Butterfly isolating valve, gear opperated PN10.	
4-11	1	350Ø	350mm Ø Straight, with 1 x 350mm Ø branch, T10 flanged.	500; 1,550; 510; 2,050
4-12	4	350Ø	350mm Ø Straight with 1 x T10 flange.	2,200
4-13	4	350Ø	350mm Ø, VJ coupling for steel pipe.	
4-14	3	350Ø	350mm Ø Straight, with 1 x 350mm Ø branch, 2 x T10 flanges.	980; 1,550; 510; 2,530
4-15	3	350Ø	350mm Ø Straight, with 1 x 350mm Ø branch, 2 x T10 flanges.	980; 500; 510; 1,480
4-16	1	350Ø	350mm Ø Blank flange, T10 flanged.	
4-17	5	350Ø	350mm Ø Straight, with 1 x 90° short radius bends, T10 flanged.	360; 820
4-18	5	350Ø	350mm Ø Butterfly isolating valve, pneumatic operated PN10.	
4-19	5	350Ø	350mm - 250mm Ø reducing tee, T10 flanged.	610; 598
4-20	5	350Ø	350mm Ø Straight, 1 x T10 flange with puddle flange.	Grade 304 STAINLESS STEEL; 440
4-21	5	250Ø	250mm Ø Butterfly isolating valve, pneumatic operated PN10.	
4-22	5	250Ø - 200Ø	250-200mm Ø Eccentric Reducer, T10 flanged.	190
4-23	5	200Ø	200mm Ø, Viking Johnson dismantling joint, T10 flanged.	250

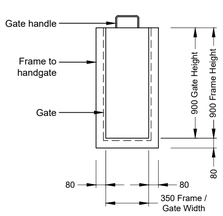
Item No.	No Off.	Dia(mm) ND	Description	Drawing
4-24	5	200Ø	200mm Ø, Bermad 750-66 level control with modulating float, T10 flanged. Or similar approved	524
4-25	5	250Ø - 200Ø	250-200mm Ø Eccentric Reducer, T10 flanged.	190
4-26	5	250Ø	250mm Ø Straight, T10 flanged with puddle flange.	Grade 304 STAINLESS STEEL; 300; 520
4-27	5	250Ø	250mm Ø Straight, with 1 x 90° short radius bends, 1 x T10 flange and 1 x 450mm Ø belmouth.	460; 385
4-28	5	500Ø	500mm Ø Straight, 1 x T10 flange with puddle flange.	Grade 304 STAINLESS STEEL; 305; 440
4-29	5	500Ø	500mm Ø Blank flange, T10 flanged.	
4-30	5	50Ø	50mm Ø Straight, with 90 deg bend, 2 x puddle flanges and 1 x T16 flange.	Grade 304 STAINLESS STEEL; 150; 60; 661; 340
4-31	5	50Ø	50mm Ø Blank flange, T16 flanged.	
4-32	6	50Ø	50mm Ø Straight, with 1 x puddle flange and 1 x T16 flange.	Grade 304 STAINLESS STEEL; 250; 350
4-33	6	50Ø	50mm Ø RS Gate Valve to SABS 664, T16 flanged.	
4-34	5	150Ø	150mm Ø Straight, with 1 x puddle flange and 1 x T10 flange.	Grade 304 STAINLESS STEEL; 305; 440
4-35	6	150Ø	150mm Ø 90 deg Long radius bend, T10 flanged.	230; 230
4-36	5	150Ø	150mm Ø Butterfly isolating valve, pneumatic operated PN10.	
4-37	5	150Ø	150mm Ø Straight, T10 flanged.	200
4-38	6	150Ø	150mm Ø, Viking Johnson dismantling joint, T10 flanged.	250
4-39	5	150Ø	150mm Ø Straight, T10 flanged.	1,384
4-40	3	150Ø	150mm Ø Blank flange, T10 flanged.	
4-41	5	150Ø	150mm Ø Straight, with 1 x 150mm Ø branch, 2 x T10 flanges.	1,000; 500; 300
4-42	6	150Ø	150mm Ø, VJ coupling for steel pipe.	
4-43	4	150Ø	150mm Ø Straight, with 1 x T10 flange.	3,750
4-44	1	150Ø	150mm Ø Straight, with 1 x T10 flange.	2,210
4-45	1	150Ø	150mm Ø Equal tee, T10 flanged.	230; 230; 460
4-46	1	150Ø	150mm Ø Straight, T10 flanged.	750
4-47	1	150Ø	150mm Ø Straight, with 1 x T10 flange.	780

Item No.	No Off.	Dia(mm) ND	Description	Drawing
4-48	1	150Ø	150mm Ø Straight, with 2 x 150mm Ø branch, 3 x T10 flanges.	306; 2,000; 384; 2,690; 300
4-49	2	150Ø	150mm Ø 90 deg Long radius bend, with straight and 1 x T10 flange.	345; 230
4-50	5	350Ø	350mm Ø Straight, 1 x T10 flange with puddle flange.	Grade 304 STAINLESS STEEL; 305; 390
4-51	5	350Ø	350mm Ø Flanged Butterfly isolating valve, with pneumatic actuator with extended spindle and 800mm actuator stand PN10.	800; 3 425
4-52	1	80Ø	80mm Ø Straight, with 90 deg bend, 1 x puddle flange and 1 x T16 flange.	Grade 304 STAINLESS STEEL; 350; 100; 685
4-53	1	75Ø	75mm x 3" HDPE Flanged adaptor.	
4-54	2	250Ø	250mm Ø Straight, with puddle flange and 1 x 450mm Ø belmouth.	Grade 304 STAINLESS STEEL; 75; 925



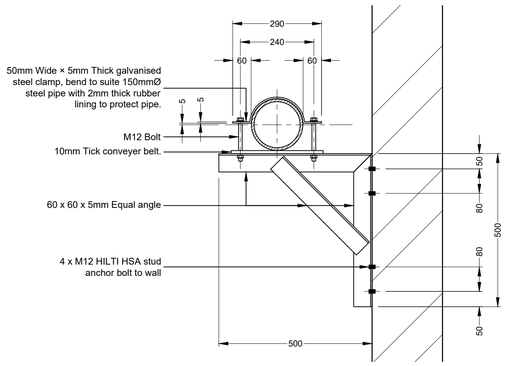
350Ø FLOOR MOUNTED PIPE BRACKET DETAIL

Scale 1:10



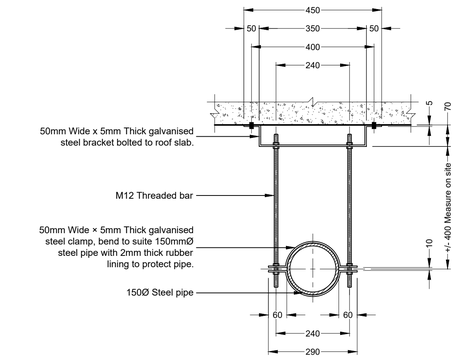
TYPICAL REMOVABLE HAND SLUICE DETAIL

Scale 1:25



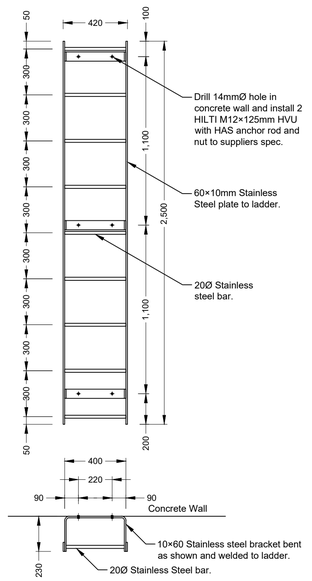
150Ø WALL MOUNTED PIPE BRACKET DETAIL

Scale 1:10



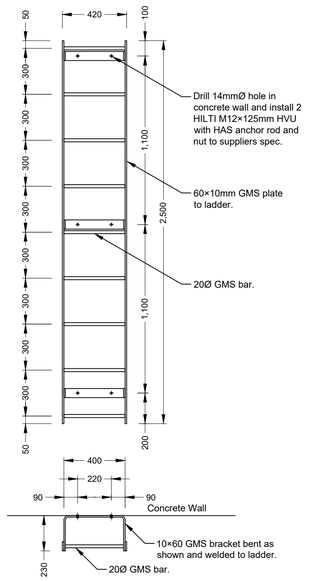
150Ø ROOF SLAB MOUNTED PIPE BRACKET DETAIL

Scale 1:10



OUTLET CHANNEL ACCESS LADDER (STAINLESS STEEL)

Scale 1:20



PIPE GALLERY ACCESS LADDER (GALVANISED)

Scale 1:20

Do not scale off drawing - ASK THE ENGINEER IF UNCERTAIN!
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FOR DISCUSSION PURPOSES ONLY

READ THIS DRAWING IN CONJUCTION WITH

Drawing Number	Drawing Description

AMENDMENTS

Rev.	Date	Description

ECA CONSULTING
Civil and Structural Engineers
Company Reg.: 2004/019299/07
ISO Registered 9001:2015

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OTHER OFFICES:
MBOMBELA | GAUTENG | PIETERMARITZBURG | LADYSMITH

Approved by Engineer: Signature:
Name: J.W. Janse v Rensburg
Designation: PrTechEng
ECSA Reg.: 201070143 Date: 26 Jul 2023

Project Funder/ Client:
mig Municipal Infrastructure Grant

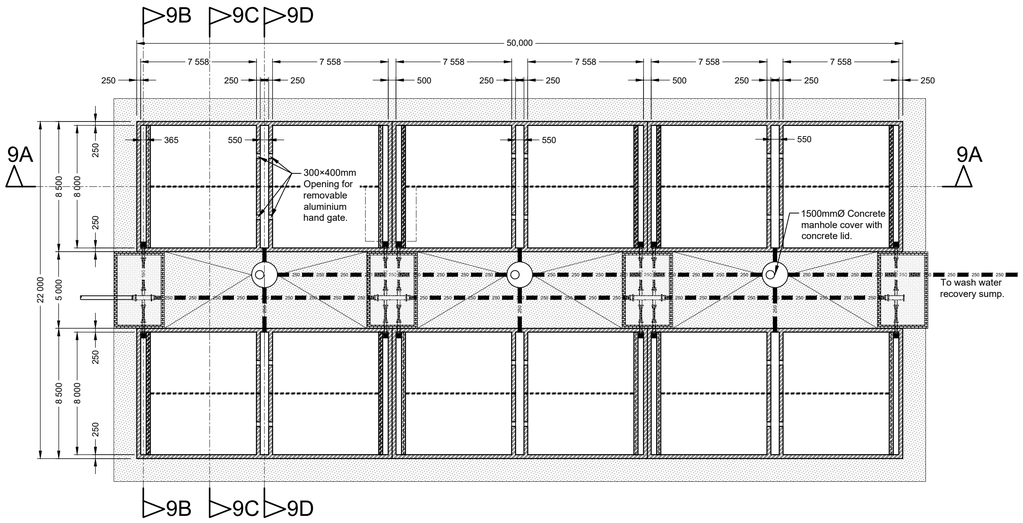
Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENSION TO MIDDLEDRIFT WTW

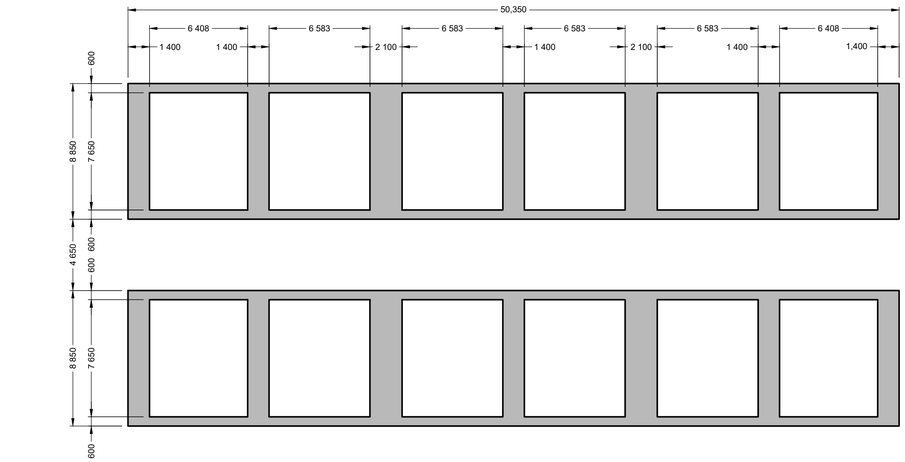
Drawing description:
RAPID GRAVITY SAND FILTER: PIPE SCHEDULE AND SECTIONS

Drawn: R Joubert Date: Feb 2019
Scale/s: AS SHOWN
Drawing number: 18-023-V-A-04-05
Rev.: 00

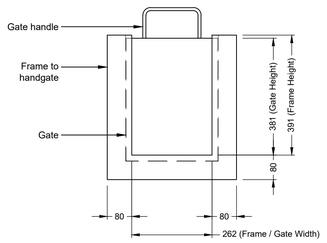


PLAN VIEW
Scale 1 : 200

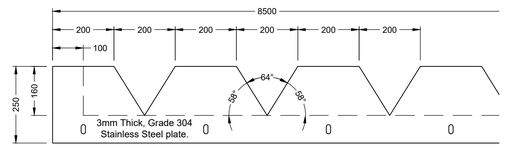
Item No.	No Off.	Dia(mm) ND	Description	Drawing
5-01	12	150Ø	150mm Ø wedge Gate Valve to SABS 664, T10 flanged.	
5-02	12	150Ø	150mm Ø 'Straight steel pipe with puddle flange, T10 flanged.	375, 750, Grade 304 STAINLESS STEEL
5-03	24	150Ø	150mm Ø uPVC flange adaptor, T10 flanged.	
5-04	02	250Ø - 150Ø	250mm Ø manifold with 2×150mm Ø branches, T10 flanged.	1000, 1000, 500, Grade 304 STAINLESS STEEL
5-05	02	250Ø - 150Ø	250mm Ø manifold with 4×150mm Ø branches, T10 flanged.	1865, 500, 865, 500, 1000, Grade 304 STAINLESS STEEL
5-06	7	250Ø	250mm Ø uPVC flange adaptor, T10 flanged.	
5-07	01	250Ø	250mm Blank flange, T10 flanged.	Grade 304 STAINLESS STEEL



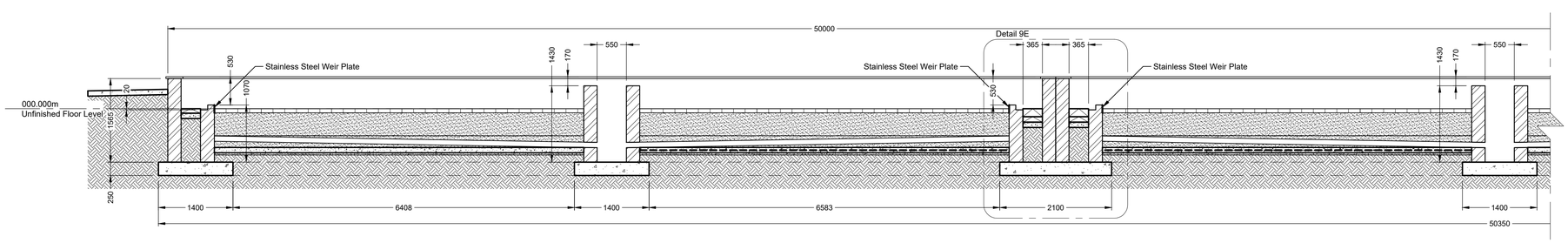
FOUNDATION PLAN
Scale 1 : 200



TYPICAL REMOVABLE HAND SLUICE DETAIL (ALUMINUM)
Scale 1 : 10



WEIR PLATE DETAIL (8,5m)
Scale 1 : 10



SECTION 9A - 9A
Scale 1 : 50

Do not scale off drawing - ASK THE ENGINEER IF UNCERTAIN!
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FOR TENDER PURPOSES ONLY

READ THIS DRAWING IN CONJUCTION WITH

Drawing Number	Drawing Description

AMENDMENTS

Rev.	Date	Description

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Approved by Engineer: Signature:
Name: J.W. Janse v Rensburg
Designation: PrTechEng
ECSA Reg.: 201070143
Date: 26 Jul 2023

Project Funder/ Client:
mig Municipal Infrastructure Grant

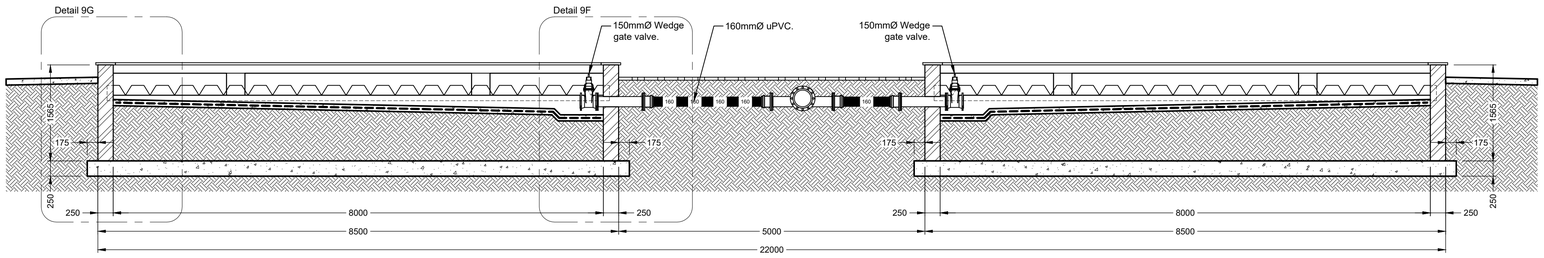
Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

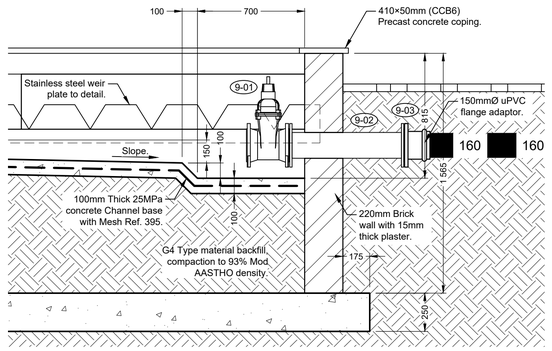
Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENSION TO MIDDLEDRIFT WTW

Drawing description:
SLUDGE DRYING BEDS: PLANS AND SECTION

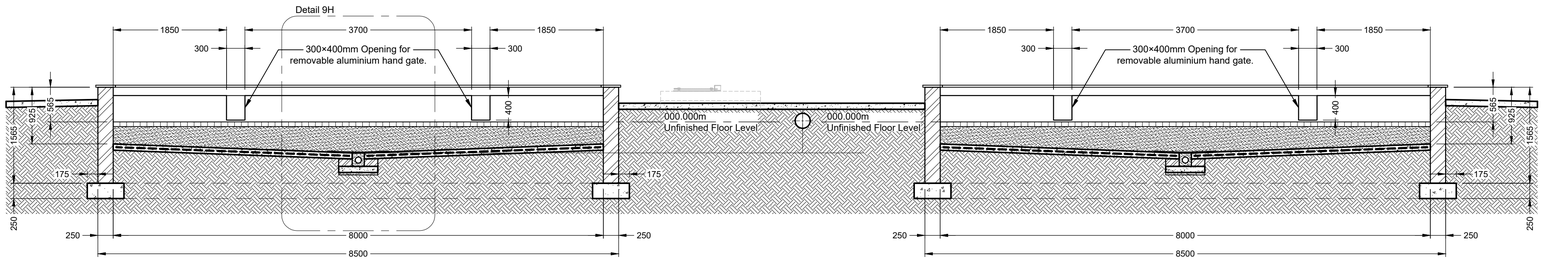
Drawn: R Joubert Date: Feb 2019
Scale/s: AS SHOWN
Drawing number: 18-023-V-A-05-01
Rev.: 00



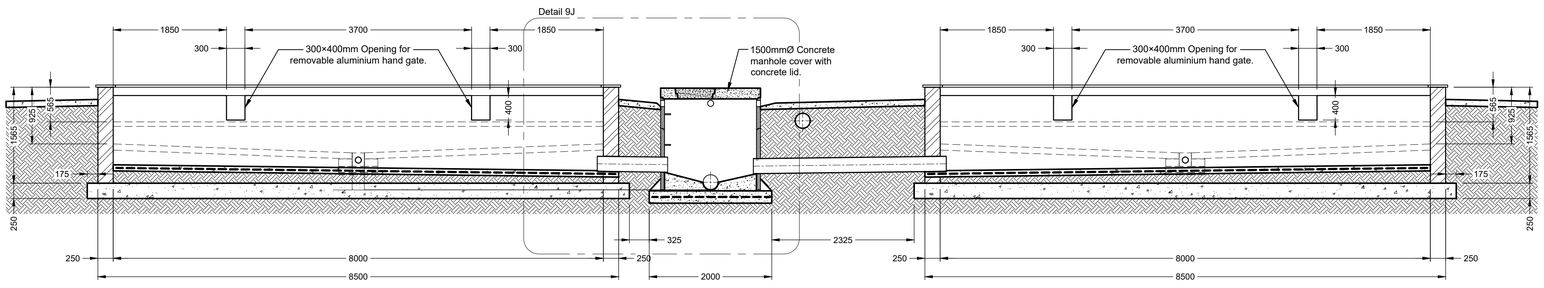
SECTION 9B - 9B
Scale 1 : 50



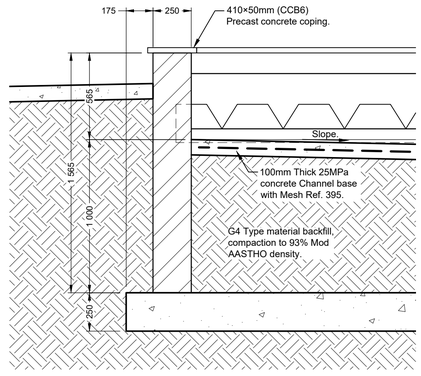
DETAIL 9F
Scale 1 : 20



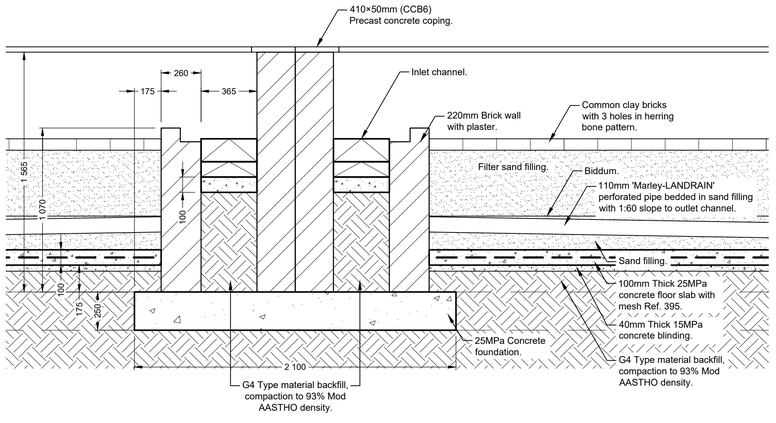
SECTION 9C - 9C
Scale 1 : 50



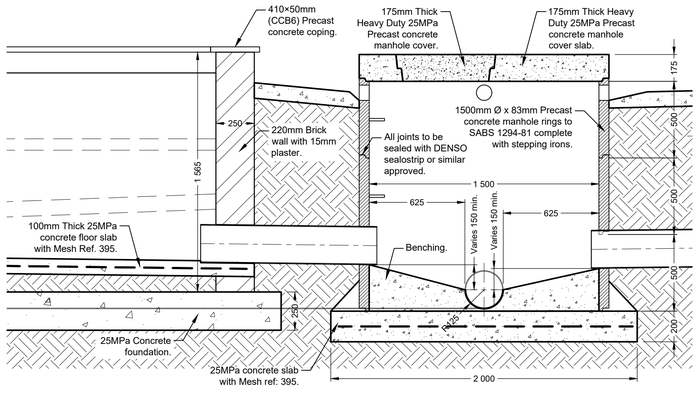
SECTION 9D - 9D
Scale 1 : 50



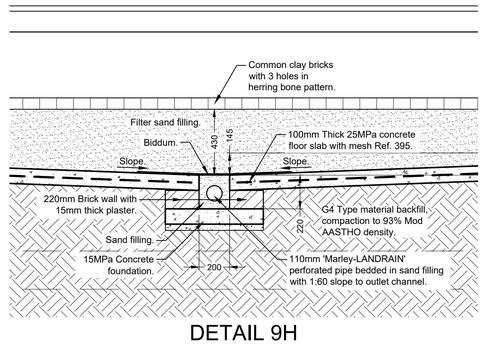
DETAIL 9G
Scale 1 : 20



DETAIL 9E
Scale 1 : 10



DETAIL 9J
Scale 1 : 10



DETAIL 9H
Scale 1 : 10

Do not scale off drawing - ASK THE ENGINEER IF UNCERTAIN!
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FOR TENDER PURPOSES ONLY

READ THIS DRAWING IN CONJUCTION WITH

Drawing Number	Drawing Description

AMENDMENTS

Rev.	Date	Description

ECA CONSULTING
Civil and Structural Engineers
Company Reg.: 2004/019299/07
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www.ecaconsult.co.za
OTHER OFFICES:
MBOMBELA | GAUTENG | PIETERMARITZBURG | LADYSMITH

Approved by Engineer: Signature:
Name: J.W. Janse v Rensburg
Designation: PrTechEng
ECSA Reg.: 201070143 Date: 26 Jul 2023

Project Funder/ Client:
mig Municipal Infrastructure Grant

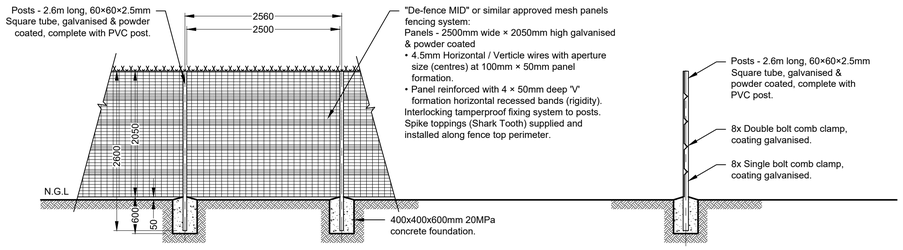
Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENSION TO MIDDLEDRIFT WTW

Drawing description:
SLUDGE DRYING BEDS: SECTION AND DETAILS

Drawn: R Joubert Date: Feb 2019
Scale/s: AS SHOWN
Drawing number: 18-023-V-A-05-02
Rev.: 00



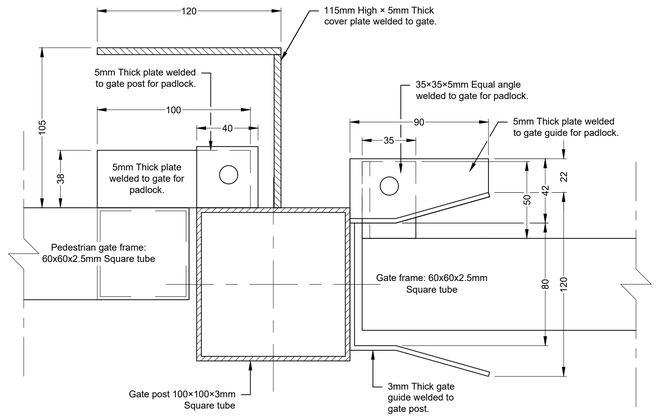
ELEVATION OF FENCE

Scale 1 : 50

DETAIL OF POST

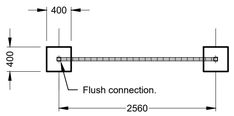
Scale 1 : 50

NO#	ITEM	DESCRIPTION
1	PANEL	"De-fence MID" or similar approved mesh panels fencing system: Panels - 2500mm wide × 2050mm high galvanised & powder coated • 4.5mm Horizontal / Verticle wires with aperture size (centres) at 100mm × 50mm panel formation. • Panel reinforced with 4 × 50mm deep 'V' formation horizontal recessed bands (rigidity). Interlocking tamperproof fixing system to posts. Spike toppings (Shark Tooth) supplied and installed along fence top perimeter.
2	POST	Posts - 2.6m long, 60×60×2.5mm Square tube, galvanised & powder coated, complete with PVC post.
3	CLAMPS	8× Double bolt comb clamp, coating galvanised. 8× Single bolt comb clamp, coating galvanised.
4	FOUNDATION	400x400x600mm 20MPa concrete foundation.



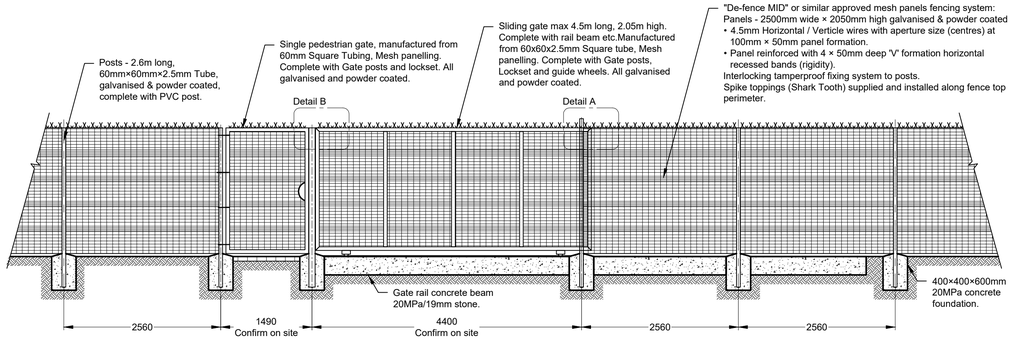
GATE LOCKING DETAILS

Scale 1 : 2



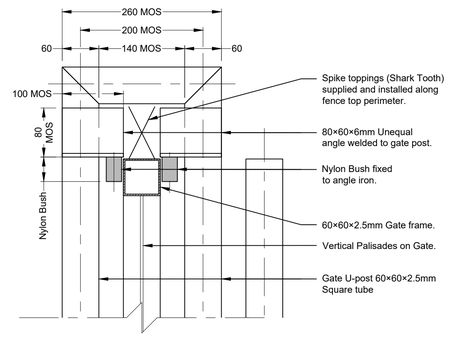
PLAN VIEW OF FENCE

Scale 1 : 50



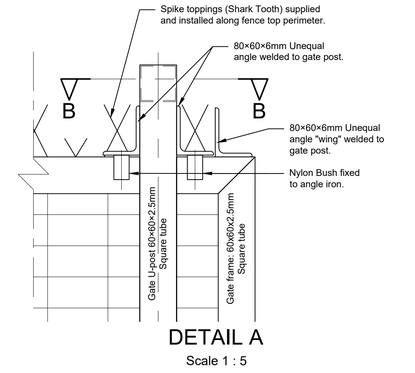
VIEW FROM STREET

Scale 1 : 50



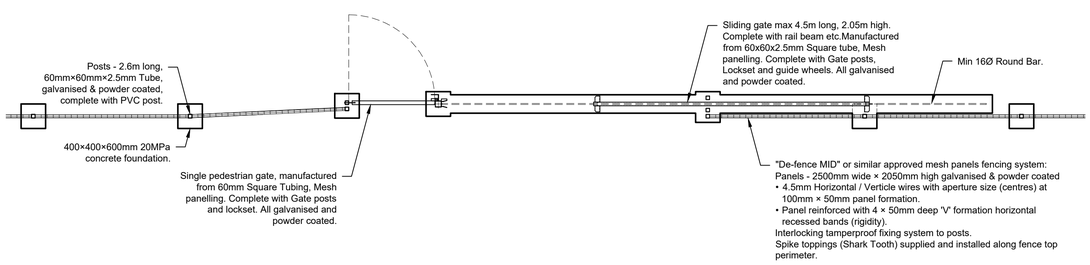
GATE TOP GUIDE DETAIL

Scale 1 : 5



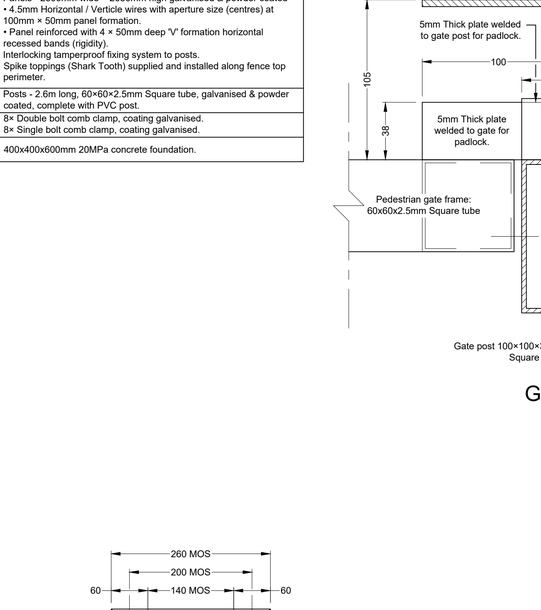
DETAIL A

Scale 1 : 5



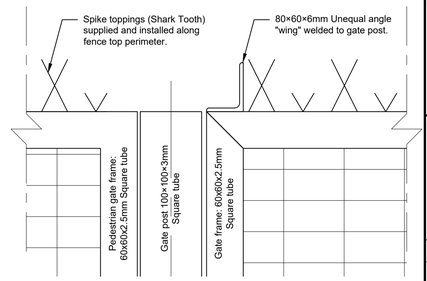
PLAN VIEW

Scale 1 : 50



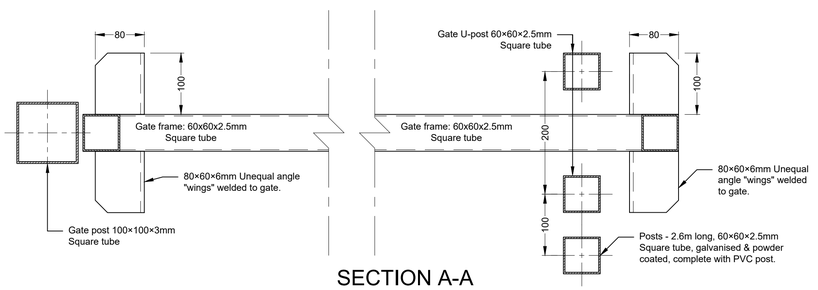
GATE RAIL DETAIL

Scale 1 : 5



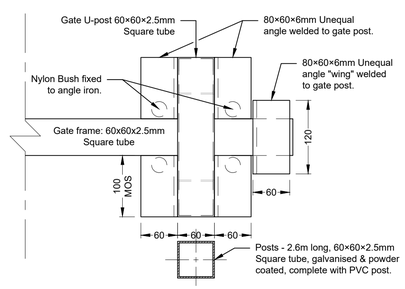
DETAIL B

Scale 1 : 5



SECTION A-A

Scale 1 : 5



SECTION B-B

Scale 1 : 5

Do not scale off drawing - ASK THE ENGINEER IF UNCERTAIN!
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FOR TENDER PURPOSES ONLY

READ THIS DRAWING IN CONJUCTION WITH

Drawing Number	Drawing Description

AMENDMENTS

	Date	Description

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Civil and Structural Engineers
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Approved by Engineer:
Name: J.W. Janse v Rensburg
Designation: PrTechEng
ECSA Reg.: 201070143
Signature:
Date: 26 Jul 2023

Project Funder/ Client:
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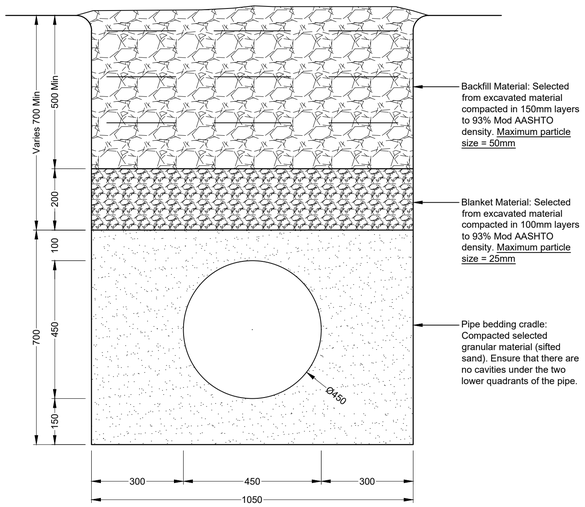
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENTION TO MIDDLEDRIFT WTW

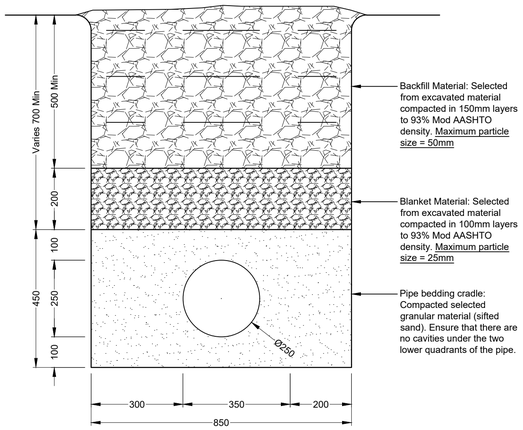
Drawing description:
GENERAL DETAILS: 'DE-FENCE MID' FENCING DETAILS

Drawn: L. Nel
Date: Oct 2020
Scale/s: As Shown
Drawing number: 18-023-V-A-06-01
Rev.: 00



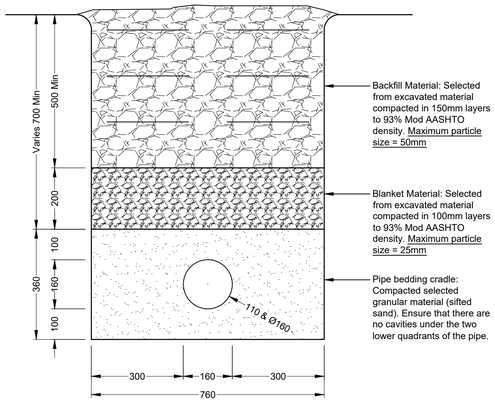
TYPICAL 450mm Ø SEWER PIPE TRENCH DETAILS

Scale 1:10



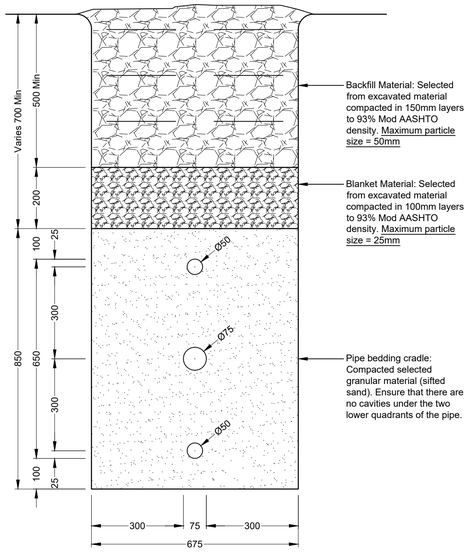
TYPICAL 250mm Ø SEWER PIPE TRENCH DETAILS

Scale 1:10



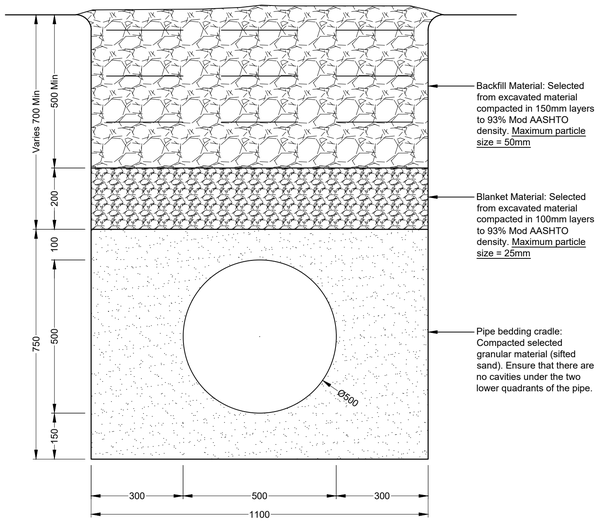
TYPICAL 160mm & 110mm Ø SEWER PIPE TRENCH DETAILS

Scale 1:10



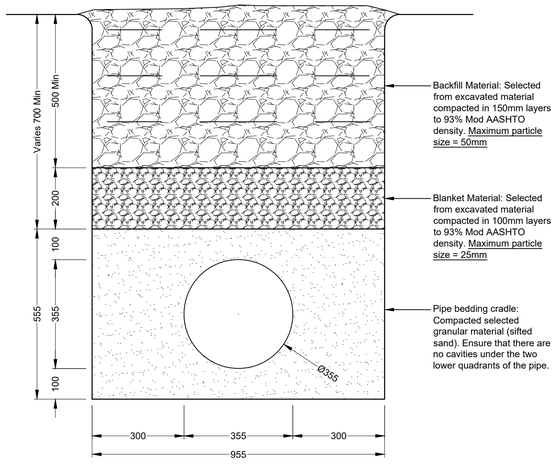
TYPICAL 50 & 75mm Ø HDPE MULTI LINE TRENCH DETAILS

Scale 1:10



TYPICAL 500mm Ø MPVC PIPE TRENCH DETAILS

Scale 1:10

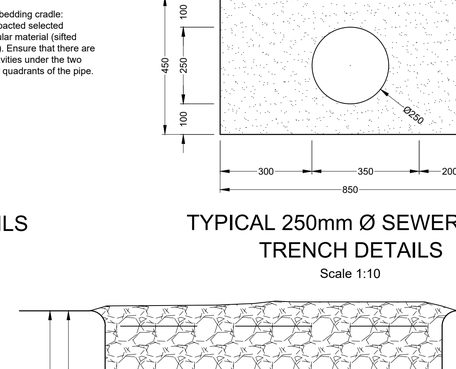


TYPICAL 355mm Ø MPVC PIPE TRENCH DETAILS

Scale 1:10

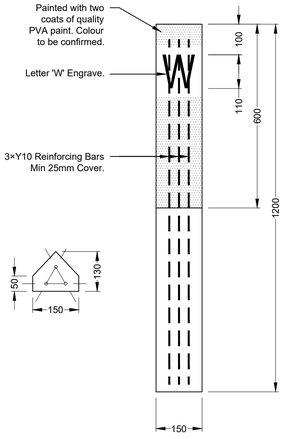
TYPICAL 50 & 75mm Ø HDPE PIPE TRENCH DETAILS

Scale 1:10



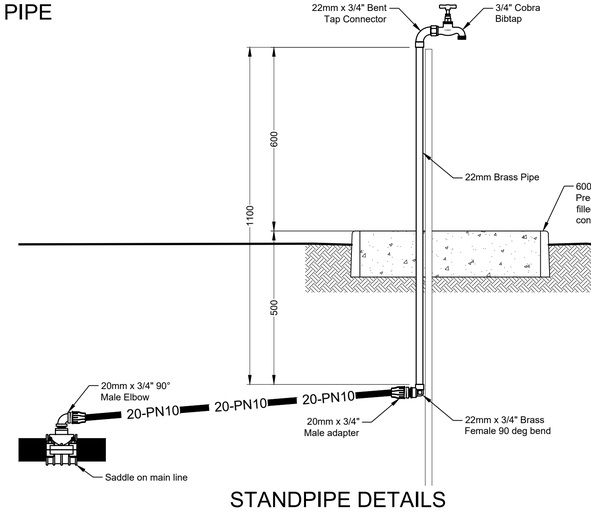
TYPICAL 20mm Ø HDPE PIPE TRENCH DETAILS

Scale 1:10



WATER MARKER DETAILS

Scale 1:10



STANDPIPE DETAILS

Scale 1:10

Do not scale off drawing - ASK THE ENGINEER IF UNCERTAIN!
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FOR TENDER PURPOSES ONLY

READ THIS DRAWING IN CONJUCTION WITH

Drawing Number	Drawing Description

AMENDMENTS

Rev.	Date	Description

ECA CONSULTING
Civil and Structural Engineers
Company Reg.: 2004/019299/07
ISO Registered 9001:2015

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OTHER OFFICES:
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Approved by Engineer: Signature:
Name: J.W. Janse v Rensburg
Designation: PrTechEng
ECSA Reg.: 201070143 Date: 26 Jul 2023

Project Funder/ Client:
mig Municipal Infrastructure Grant

Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

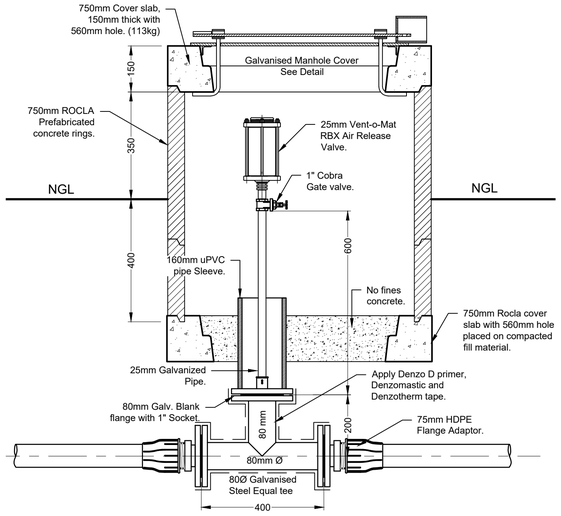
Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENTION TO MIDDLEDRIFT WTW

Drawing description:
GENERAL DETAILS: TRENCHING DETAILS

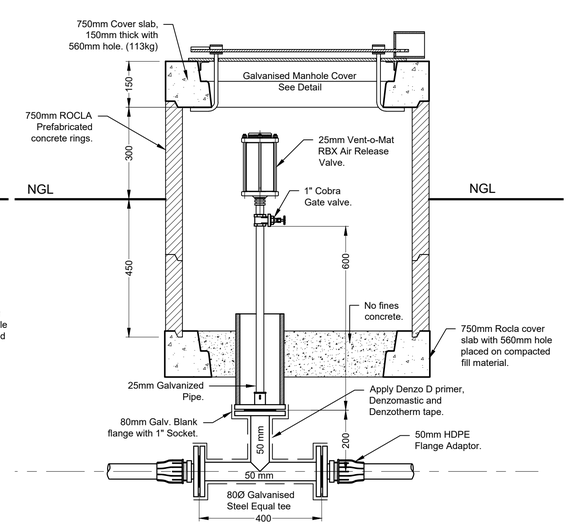
Drawn: L. Nel Date: Oct 2020
Scale/s: As Shown

Drawing number:	Rev.:
18-023-V-A-06-02	00



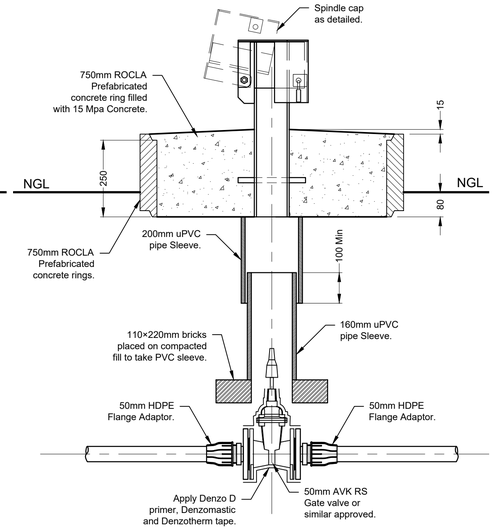
75mm Ø AIR VALVE DETAILS

Scale 1:10



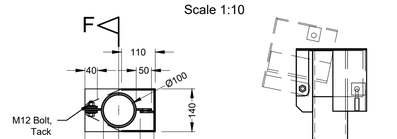
50mm Ø AIR VALVE DETAILS

Scale 1:10



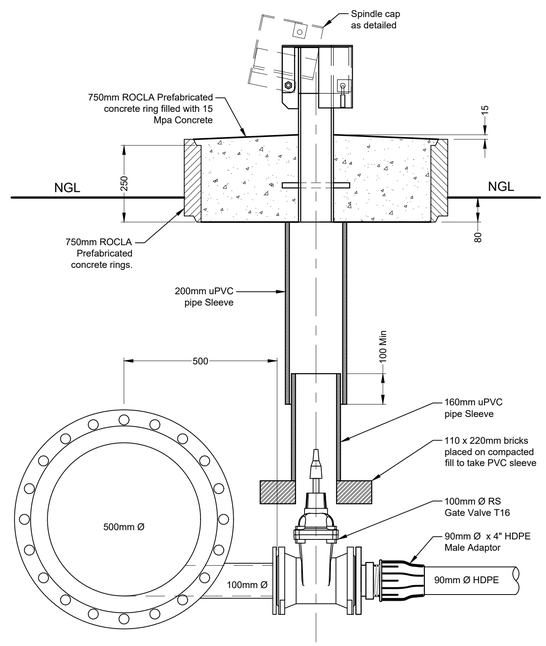
50mm Ø ISOLATION VALVE DETAILS

Scale 1:10



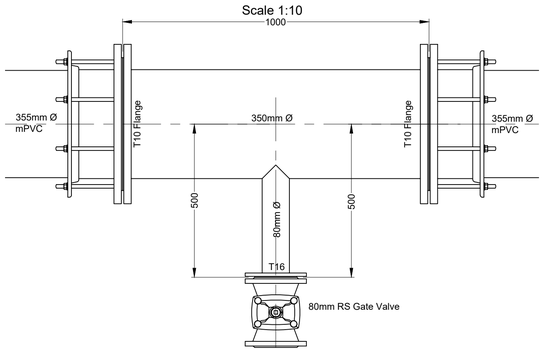
SPINDLE CAP DETAILS

Scale 1:10



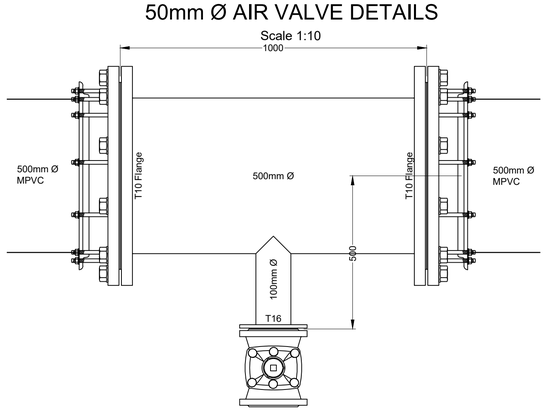
500mm Ø SCOUR VALVE SECTION

Scale 1:10



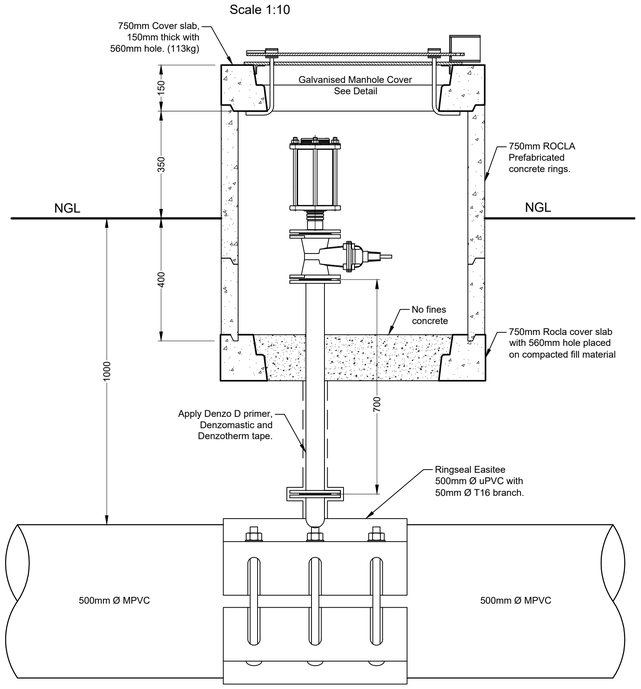
350mm Ø SCOUR VALVE PLAN

Scale 1:10



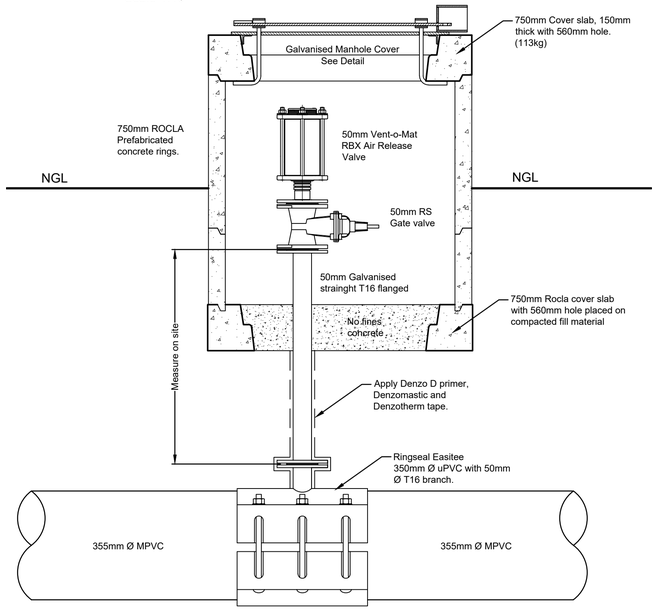
500mm Ø SCOUR VALVE PLAN

Scale 1:10



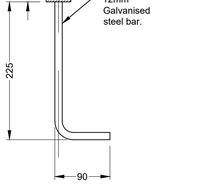
500mm Ø AIR VALVE DETAIL

Scale 1:10



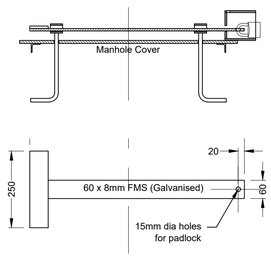
350mm Ø AIR VALVE DETAIL

Scale 1:10



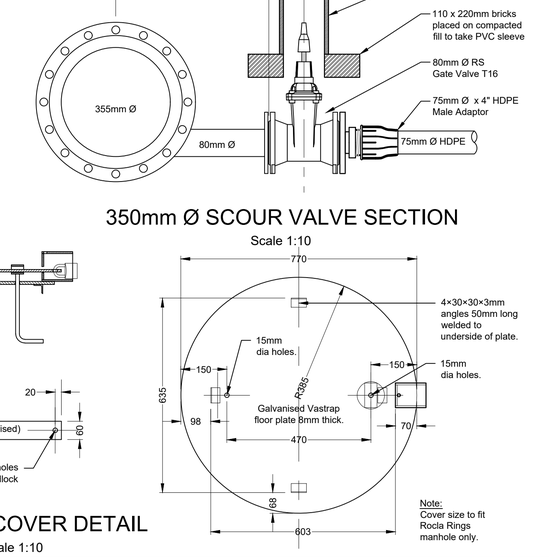
LOCKING BAR DETAIL

Scale 1:10



MANHOLE COVER DETAIL

Scale 1:10



350mm Ø SCOUR VALVE SECTION

Scale 1:10

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ECA CONSULTING Civil and Structural Engineers

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Approved by Engineer: Signature:
Name: J.W. Janse v Rensburg
Designation: PrTechEng
ECSA Reg.: 201070143 Date: 26 Jul 2023

Project Funder/ Client:
mig Municipal Infrastructure Grant

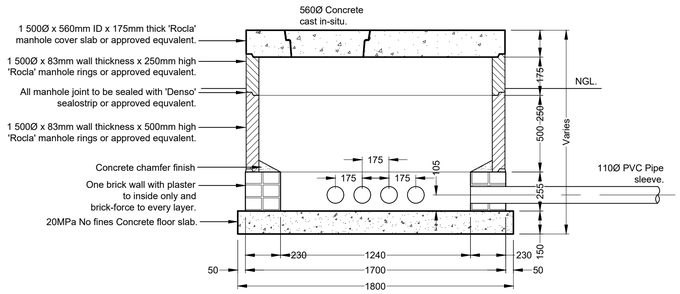
Project Implementing Agent:
KING CETSHWAYO DISTRICT MUNICIPALITY
KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENTION TO MIDDLEDRIFT WTW

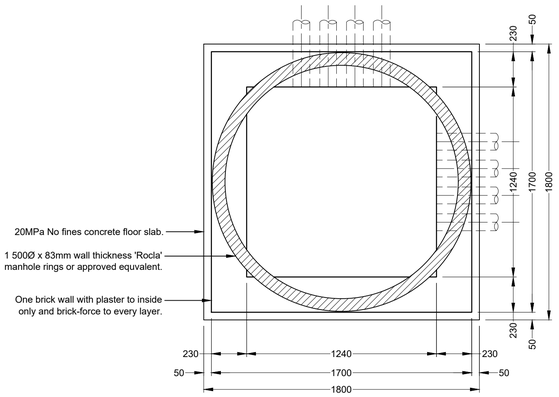
Drawing description:
GENERAL DETAILS: VALVE & CHAMBER DETAILS

Drawn: L. Nel Date: Oct 2020
Scale/s: As Shown
Drawing number: 18-023-V-A-06-03
Rev.: 00



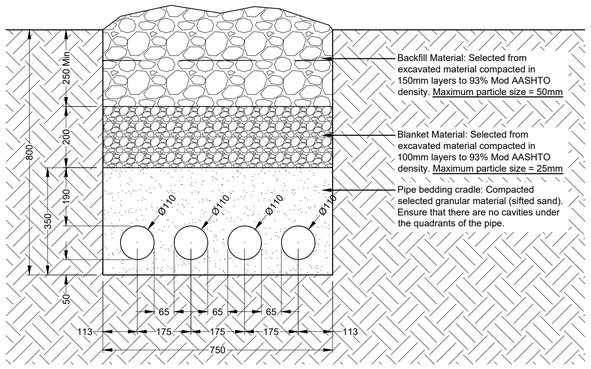
TYPICAL CABLE DRAW MANHOLE SECTION

Scale 1:20



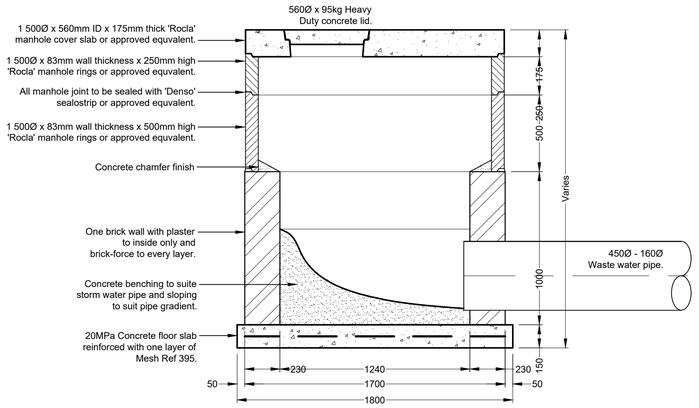
TYPICAL CABLE DRAW MANHOLE PLAN

Scale 1:20



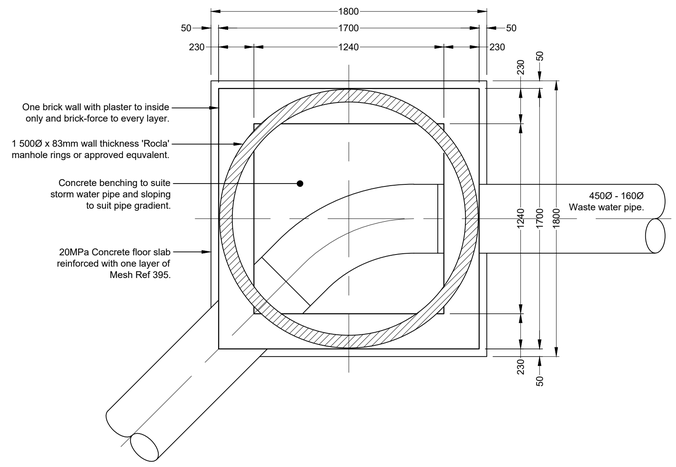
TYPICAL 110mm Ø PVC CABLE SLEEVE TRENCH DETAIL

Scale 1:20



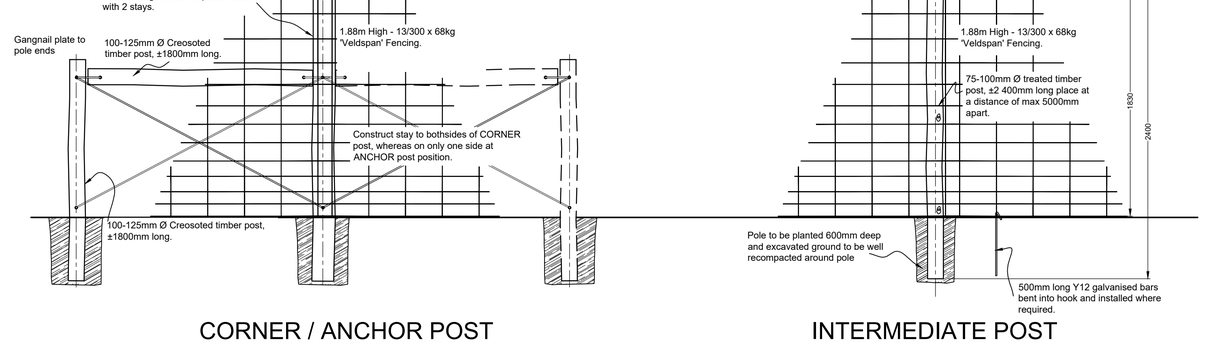
WASTE WATER MANHOLE SECTION

Scale 1:20



WASTE WATER MANHOLE PLAN

Scale 1:20

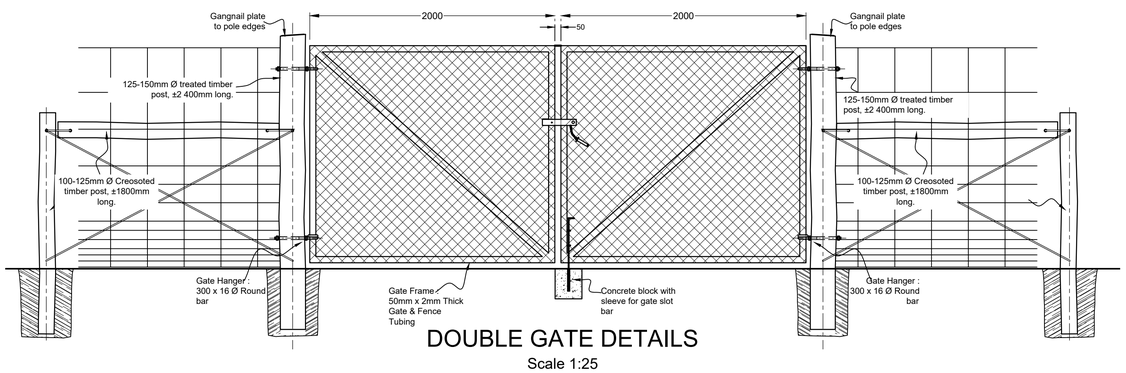


CORNER / ANCHOR POST

Scale 1:25

INTERMEDIATE POST

Scale 1:25



DOUBLE GATE DETAILS

Scale 1:25

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KING CETSHWAYO DISTRICT MUNICIPALITY

Approved by Client:
Name:
Signature: Date:

Project:
MIDDLEDRIFT SCHEME BULK AUGMENTATION: 10ML/DAY EXTENTION TO MIDDLEDRIFT WTW

Drawing description:
GENERAL DETAILS: CABLE& WASTE WATER MANHOLE, TRENCHING & 'VELDSPAN' FENCING DETAILS

Drawn: L. Nel Date: Oct 2020
Scale/s: As Shown
Drawing number: 18-023-V-A-06-04
Rev.: 00