



EMALAHLENI LOCAL MUNICIPALITY

EMALAHLENI LOCAL MUNICIPALITY

**INSTALLATION OF OUTFALL BULK
SEWER LINE FOR EMPUMELELWENI
EXTENSIONS/ TOWNSHIP**

TENDER NO.: ELM 21/2022

CLOSING DATE: 04 NOV 2022

TENDERER:

TENDER PRICE (INCL. VAT):

PREFERENCES POINTS CLAIMED FOR:

CIDB GRADING:

BBBEE SCORE:

EMPLOYER:

Municipal Manager
Emalahleni Local Municipality
P.O. Box 3
Emalahleni (Witbank)
1035

Contact Person: Ms Z Moruku

Tel no: +27 (13) 690 6900
Email: nkosild@emlahleni.gov.za

COMPILED BY:

Jalawe Projects
Polaris Avenue
Waterkloof Ridge
Pretoria
0181

Contact Person: Sandress Lwazi

Tel No: +27 82 393 0709
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EMALAHLENI LOCAL MUNICIPALITY
EMPUMELELWENI TOWNSHIP BULK SEWER
TENDER NO.: ELM 21/2022

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PART T1: TENDERING PROCEDURES

T1.1 Tender Notice and Invitation to Tender

T1.2 Tender Data



EMALAHLENI LOCAL MUNICIPALITY

T1.1 TENDER NOTICE AND INVITATION TO TENDER

TENDER NO.: ELM 21/2022

PROJECT NAME: INSTALLATION OF OUTFALL BULK SEWER LINE FOR EMPUMELELWENI TOWNSHIP

Tenders are hereby invited for the Installation of Outfall Bulk Sewer Line for Empumelweni Township in Emalahleni Local Municipality of Mpumalanga Province. **Tenderers should have a CIDB contractor grading of 7 CE or higher. 6 CE PE (Potentially Emerging Enterprises)** who satisfy the criteria stated in the Tender Data may submit Tender Offers.

Tender documents will be obtainable from **07 October 2022**, from the Emalahleni Local Municipality Website or Central Tender Board. All Contractors will download and print their own document from the soft copies on the websites available 24 hours. Hard copies will not be available from the Municipality.

Duly completed tenders enclosed in a sealed envelope marked **“TENDER: INSTALLATION OF OUTFALL BULK SEWER LINE FOR EMPUMELELWENI TOWNSHIP, TENDER NO.: ELM 21/2022, CLOSING DATE: 04 November 2022”** with the name of the Tenderer, shall be deposited in the clearly marked tender box provided at Emalahleni Local Municipality, Civic Centre, Mandela Street, Witbank before **11h00** on the closing date. The tenders will be opened in public.

A non-compulsory virtual clarification meeting with representatives of the Employer will take place at Microsoft Team on **10 October 2022** starting at **11:00 hours**. Please confirm your attendance at least a day prior to the meeting for the link to be distributed.

A preferential point system shall apply whereby a contract will be allocated to a tenderer in accordance with the Preferential Procurement Policy Framework Act, No. 5 of 2000 and as defined in the Conditions of Tender in the tender document, read in conjunction with the Preferential Procurement Policy of Emalahleni Local Municipality where 80 points will be allocated in respect of price and 20 points in respect of targeted goals. Tenderers must have the necessary skills, experience, and capacity to perform the required work.

Employer:	Employer's representative
Ms Z Moruku or Makau E Sedupane For: The Municipal Manager Emalahleni Local Municipality P O Box 3 Witbank, 1035 Tel: 013 690 6900 email: masangonz@emalahleni.gov.za sedupaneme@emalahleni.gov.za	Sandress K Lwazi For: Jalawe Projects Polaris Avenue Waterkloof Ridge Pretoria, 0181 Tel No: +27 82 393 0709 email: sandress@jalaweprojects.com

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 (refer: www.cidb.co.za) and included as Appendix A in this document. The Standard Conditions of Tender make several references to the Tender Data. 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	Wording
F.1.1	The employer is the EMALAHLENI LOCAL MUNICIPALITY
F.1.2	<p>The tender documents issued by the employer comprise:</p> <p>PART T1: TENDERING PROCEDURES</p> <p>T1.1: Tender Notice and Invitation to Tender</p> <p>T1.2: Tender Data</p> <p>PART T2: RETURNABLE DOCUMENTS</p> <p>T2.1: List of Returnable Documents</p> <p>T2.2: Returnable Schedules</p> <p>PART C1: AGREEMENTS AND CONTRACT DATA</p> <p>C1.1: Form of Offer and Acceptance</p> <p>C1.2: Contract Data</p> <p>C1.3: Form of Guarantee</p> <p>C1.4: Adjudicator's Agreement (if applicable)</p> <p>PART C2: PRICING DATA</p> <p>C2.1: Pricing Instructions</p> <p>C2.2: Bills of Quantities</p> <p>PART C3: SCOPE OF WORKS</p> <p>C3 Scope of Work</p> <p>C3.1 Description of the Works</p> <p>C3.2 Engineering</p> <p>C3.3 Procurement</p> <p>C3.4 Construction</p> <p>C3.5 Management</p> <p>C3.6 Annexures</p> <p>PART C4: SITE INFORMATION</p> <p>APPENDICES</p> <p>Appendix A – Standard Conditions of Tender</p> <p>Appendix B – EMALAHLENI LOCAL MUNICIPALITY Supply Chain Management Policy</p>
F.1.4	<p>The Employer's agent is:</p> <p>Jalawe Projects</p> <p>Polaris Avenue</p> <p>Waterkloof Ridge, Pretoria, 0181</p>

Clause	Wording
	<p>Identification details: TENDER FOR CONTRACT NO.: ELM 21/2022 "INSTALLATION OF OUTFALL BULK SEWER LINE FOR EMPUMELELWENI TOWNSHIP"</p> <p>Postal address: P O Box 3, Witbank, Mpumalanga, 1035</p>
F.2.13	A two-envelope procedure will not be followed.
F.2.15	The closing time for submission of tender offers is stated in the Tender Notice/ 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 days.
F2.18	The tenderer shall, when requested by the Employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements
F.2.23	<p>The tenderer is required to submit the following certificates with his tender:</p> <ol style="list-style-type: none"> 1) a Certificate of Contractor Registration issued by the Construction Industry Development Board (CIDB). 2) Proof or a certificate certifying that the enterprise or its directors have no undisputed commitments to a municipality or other organs of state in respect of which payment is overdue by more than 90 days 3) particulars of any contracts awarded by an organ of state during the last five years including particulars of any material non-compliance or dispute concerning their execution over this period (if >R1 000 000 incl. VAT); 4) a valid Tax Pin issued by the South African Revenue Services
F.3.4	The time and location for opening of the tender offers are in accordance with F.2.15
F.3.5	A two-envelope procedure will not be followed.
F.3.9	Replace the contents of the clause with the following:
	Check responsive tender offer for arithmetic errors, correcting them in the following manners:
	a) Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern
	b) If bills of quantities apply and there is an error in the line-item total resulting from product of the rate and the quantity, the rate shall govern, and line-item total shall be corrected.
	c) Where there is an error in the total of the prices either because of corrections required in the checking process or in the tenderer's addition of prices, the total of the prices shall be adjusted to reflect the arithmetically correct summation of corrected line-item totals
	Consider the rejection of a tender offer if the tenderer does not accept the correction of the arithmetical errors in the manner described above.
F.3.11	<p>The procedure for the evaluation of responsive tenders is Method 2 as contained in the Procurement Policy based on Preferential Policy Act, 2000 (Act No. 5 of 2000)</p> <p>Scoring Price The score for financial offer will be calculated using the following formula:</p> $P_s = 80 \frac{(P_t - P_{min})}{(1 + P_{min})}$ <p>Where</p> <p>P_s = Points scored for the price of bid under construction P_t = Rand value of bid under consideration P_{min} = Rand value of lowest acceptable bid</p>

Clause	Wording
	<p>The maximum score for the financial offer will be $N_{FO\ max} = 80$ points</p> <p>Scoring Preference The score for preference is to be calculated using the criteria as described in FORM T2.3.7: SBD 6.1 (Amended). The maximum score for preference will be: $N_{P\ max} = 20$ points</p> <p>Scoring Total The total score on which the tender will be evaluated will be calculated as follows: $T_{Ev} = N_{FO} + N_P$</p> <p>The maximum points that can be scored is 100 points</p>
F3.12	Tenderers are advised to study Appendix B: <i>EMALAHLENI LOCAL MUNICIPALITY – SUPPLY CHAIN MANAGEMENT PROCUREMENT POLICY</i> when completing Schedule and claiming points.
F.3.13.1	Tender offers will only be accepted on condition that:
	<ul style="list-style-type: none"> a) The tender offer is signed by a person authorized to sign on behalf of the Tenderer. b) A valid Tax Pin is included with this tender. c) Tenderer submits a letter of good standing with Department of Labour. d) Tenderer's declaration of compliance with the Occupational Health and Safety Act No. 85 of 1993 and the Construction Regulations 2003 as well as the Tenderer's health and safety plan, is included with his tender submission. e) A Tenderer who submitted a tender as a Joint Venture has included an acceptable Joint Venture agreement with this tender. f) Proof or a certificate certifying that the enterprise or its directors have no undisputed commitments for rates and taxes to a municipality or other organs of state in respect of which payment is overdue by more than 90 days g) The Contractor who submits the tender has been registered with the Construction Industry Development Board (CIDB) in accordance with the CIDB Act No. 38 of 2000 and the CIDB Regulations 2003 promulgated in terms of the Act. h) The Tenderer or any of its principals 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. i) The Tenderer has not abused the Employer's Supply Chain Management System or has failed to perform on any previous contract and has been given a written notice to this effect. j) The Tenderer or any of its principals, directors, or managers in not employed in the service of the State or any municipality. If such principals are involved, official approval from the Executing Authority regarding carrying out remunerative work outside of the public service must be included in the tender submission. k) The Employer is satisfied that the Tenderer or any of his principals have not influenced the tender offer and acceptance by the following criteria: <ul style="list-style-type: none"> i. Having offered, promised, or given a bribe or other gift or remuneration to any person in connection with the obtaining or execution of this Contract. ii. Having acted in a fraudulent or corrupt manner in obtaining or executing this Contract. iii. Having approached an officer or employee of the Employer or the Employer's Agent with the objective of influencing the award of a Contract in the Tenderer's favour. iv. Having entered into any agreement or arrangement, whether legally binding or not, with any other person, firm or company to refrain from Tendering for this Contract or as to the amount of the Tenderer to be submitted by either party. v. Having disclosed to any other person, firm or company other than the Employer, the exact or approximate amount of his proposed Tender. vi. The Employer may, in addition to using any other legal remedies, repudiate the Tender offer and acceptance and declare the Contract invalid should it have been concluded already.
F.3.18	The number of paper copies of the signed contract to be provided by the Employer is ONE (1).

Note: evaluation of tender offers using method 2: (functionality/ quality, financial offer/ price and preferences

- a) The procedure for the evaluation of responsive tenders is Method 2. Tenders will be assessed for functionality first. All bidders who score the minimum points for functionality will then be evaluated further for price and preference.

Functionality/ quality: tender must achieve at least 70% in order to qualify for the second stage. The 80/20 scoring will apply.

The points associated with the comprehensive proposal as a component of functionality will be awarded as reflected in the following table.

Key aspect of criterion	Basis for points allocation	Score	Max. Points	Verification Method
Specific experience of the Bidder (Name of traceable reference with contact details to be included for verification)	Five completed sewer/ water related projects in the last 5 years. Tenders to submit a letter of appointment and completion certificate.	Excellent	25	Appointment letters and completion certificates
	Three and above completed sewer/ water related projects in the last 5 years. Tenders to submit a letter of appointment and completion certificate.	Good	15	Appointment Letters and completion certificates
	Two and above completed sewer/ water related project in the last 5 years. Tenders to submit a letter of appointment and completion certificate.	Fair	10	Appointment Letters and completion certificates
	Less than completed sewer/ water related project in the last 5 years. Tenders to submit a letter of appointment and completion certificate.	Poor	3	Appointment Letters and completion certificates
General experience of the Bidder (Name of traceable reference with contact details to be included for verification)	Five completed projects in the last 5 years. Tenders to submit a letter of appointment and completion certificate.	Excellent	20	Appointment letters and completion certificates
	Three and above completed projects in the last 5 years. Tenders to submit a letter of appointment and completion certificate.	Good	15	Appointment Letters and completion certificates
	Two and above completed project in the last 5 years. Tenders to submit a letter of appointment and completion certificate.	Fair	10	Appointment Letters and completion certificates
	Less than one completed project in the last 5 years. Tenders to submit a letter of appointment and completion certificate.	Poor	2	Appointment Letters and completion certificates

Qualifications and experience of site agent	National Diploma or higher in Civil Engineering, NQF Level 5 (Labour Intensive) with 10 or more years on sewer and water projects with EPWP projects experience.	Excellent	15	Certified Copy of Qualification and CV to be attached
	National Diploma or higher in Civil Engineering, NQF Level 5 (Labour Intensive) with 5 or more years on sewer and water projects with EPWP projects experience.	Good	10	Certified Copy of Qualification and CV to be attached
	National Diploma or higher in Civil Engineering, NQF Level 5 (Labour Intensive) with 2 or more years on sewer and water projects with EPWP projects experience.	Fair	5	Certified Copy of Qualification and CV to be attached
	National Diploma or higher in Civil Engineering, NQF Level 5 (Labour Intensive) with less than 1 years on sewer and water projects with EPWP projects experience.	Poor	2	Certified Copy of Qualification and CV to be attached
Qualifications and experience of Foreman	10 or more years' experience in sewer/ water construction projects and experience on EPWP projects and NQF Level 4 (Labour Intensive) certification	Excellent	5	Curriculum Vitae to be attached
	5 or more years' experience in sewer/ water construction projects and experience on EPWP projects and NQF Level 4 (Labour Intensive) certification	Good	3	Curriculum Vitae to be attached
	2 or more years' experience in sewer/ water construction projects and experience on EPWP projects and NQF Level 4 (Labour Intensive) certification	Fair	2	Curriculum Vitae to be attached
	Less than one years' experience in sewer/ water construction projects and experience on EPWP projects and NQF Level 4 (Labour Intensive) certification	Poor	1	Curriculum Vitae to be attached

Construction method statement (relevant to the tendered project – max 3 pages) The method statement must include the following sub-headings: Approach method, time frame, Activities (in construction sequence), construction administration, quality management, Health and safety	Method statement met all the requirements.	Good	10	Brief (3 pages max)
	Acceptable method statement. Only provided limited statement	Fair	5	Brief (3 pages max)
	No submission	Poor	0	Not applicable
Plant and equipment (relevant to the tendered project). Relevant ownership document copies are to be included in this tender for verification purposes	Tenderer own plant required for all construction works with three set of teams, i.e., Hauling (Excavator and Tipper Trucks) and Processing (Grader, Grid or Pad foot Roller and Water truck)	Excellent	5	Copies of plant Ownership documents to be attached
	Tenderer own plant required for all construction works with two set of teams, i.e., Hauling (Excavator and Tipper Trucks) and Processing (Grader, Grid or Pad foot Roller and Water truck)	Fair	3	Copies of plant Ownership documents to be attached
	Tenderer own plant required for all construction works with one set of teams, i.e., Hauling (Excavator and Tipper Trucks) and Processing (Grader, Grid or Pad foot Roller and Water truck)	Good	2	Copies of plant Ownership documents to be attached
	No plant owned, No ownership document submission	Poor	1	Copies of plant Ownership documents to be attached

NB: Bidders are required to submit supporting documents to score full points.

Bidder must score at least 70% for functionality, to qualify for further evaluation.

Functionality/ quality shall be scored independently by not less than three evaluators in accordance with the following schedules.

Evaluation schedule	Maximum points score
Specific experience of the bidder	25
General experience of the bidder	20
Qualifications and experience of the site agent	15
Qualifications and experience of the site foreman	05
Construction method statement	10
Plant and equipment	05

The scores of the evaluators will then be averaged, weighted and totalled to obtain the final score for functionality

b) Tenderers qualifying on (a) above will be further evaluated using the following procedure for the evaluation of responsive tenders (price and preferences). The weighting of tender price and preferences of the tenderer will be done by way of point system for contractors not exceeding R50 000 000,00

- ◇ 80 Points are assigned to price and
- ◇ 20 Points are assigned to preferences

PART T2: RETURNABLE DOCUMENTS

T2.1 List of Returnable Documents

T2.2 Returnable Schedules

T2: LIST OF RETURNABLE DOCUMENTS

The following documents are to be completed and returned as they constitute the tender. Whilst many of the returnable are required for the purpose of evaluating the tenders, some will form part of the subsequent contract, as they form the basis of the tender offer. For this reason, it is very important that tenderers return **all information requested**.

1. RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES (included hereafter for completion)

- Schedule 1A: Compulsory Enterprise Questionnaire **(Compulsory)**
- Schedule 1B: MBD 2: Certified copy of BBBEE Certificate (SANAS accredited or affidavit) **(Compulsory)**
- Schedule 1C: MBD 4: Declaration of Interest **(Compulsory)**
- Schedule 1D: Authority of Signatory **(Evaluation)**
- Schedule 1E: Certificate of Authority for Joint Ventures (if applicable) **(Evaluation)**
- Schedule 1F: Record of Addenda to Tender Documents
- Schedule 1G: Personnel Schedule (if applicable) **(Evaluation)**
- Schedule 1H: Schedule of Plant and Equipment available for the Contract **(Evaluation)**
- Schedule 1J: Schedule of Work satisfactorily carried out by the Tenderer **(Evaluation)**
- Schedule 1K: Schedule of Proposed Subcontractors
- Schedule 1L: MBD 5: Declaration for procurement above R10 Million (All applicable taxes included) **(Comp)**
- Schedule 1M: Proposed Amendments and Qualifications
- Schedule 1N: MBD 6.1: Preferential procurement **(Compulsory)**
- Schedule 1P: MBD 6.2: Declaration certificate for local production and content for designated sector **(Comp)**
- Schedule 1Q: MBD 8: Declaration of Bidder's past Supply Chain Management Practices **(Compulsory)**
- Schedule 1R: MBD 9: Certificate of Independent Bid Determination **(Compulsory)**

2. OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

- Schedule: 2A Certificate of Contractor Registration issued by the CIDB **(Compulsory)**
- Schedule: 2B Proof of Authority of Signatory **(Evaluation)**
- Schedule: 2C CSD – Must be registered on CSD and active **(Compulsory)**
- Schedule: 2D Tax pin **(Compulsory)**
- Schedule: 2E Joint Venture Agreement, (if applicable) **(Evaluation)**
- Schedule: 2F Bank reference letters **(Evaluation)**
- Schedule: 2G Audited Financial Statements **(Evaluation)**
- Schedule: 2H Preliminary Programme of Works **(Evaluation)**
- Schedule: 2J Proof or certificate certifying that the enterprise has no undisputed commitments to a municipality or other state organs in respect of which payment is overdue by more than 90 days **(Compulsory)**
- Schedule: 2K A Letter of Good standing with Department of Labour **(Compulsory)**

3. RETURNABLE SCHEDULES THAT WILL BE INCORPORATED INTO THE CONTRACT (to be attached with submission)

None

4. **OTHER SCHEDULES AND AFFIDAVITS THAT WILL BE INCORPORATED INTO THE CONTRACT (included hereafter for completion)**
- C1.1: The offer portion of the Form of Offer and Acceptance **(Compulsory)**
- C1.2: Contract Data (Part 2) **(Compulsory)**
- C2.2: Bills of Quantities **(Compulsory)**

SCHEDULE 1A: COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record 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:

<input type="checkbox"/> a member of any municipal council <input type="checkbox"/> a member of any provincial legislature <input type="checkbox"/> a member of the National Assembly or the National Council of Province	<input type="checkbox"/> 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)
<input type="checkbox"/> a member of the board of directors of any municipal entity	<input type="checkbox"/> a member of an accounting authority of any national or provincial public entity
<input type="checkbox"/> an official of any municipality or municipal entity	<input type="checkbox"/> an employee of Parliament or a provincial legislature

If any of the above boxes are marked, disclose the following: (insert separate page if necessary)

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:

- | | |
|--|---|
| <input type="checkbox"/> a member of any municipal council
<input type="checkbox"/> a member of any provincial legislature
<input type="checkbox"/> a member of the National Assembly or the National Council of Province

<input type="checkbox"/> a member of the board of directors of any municipal entity
<input type="checkbox"/> an official of any municipality or municipal entity | <input type="checkbox"/> 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)
<input type="checkbox"/> a member of an accounting authority of any national or provincial public entity
<input type="checkbox"/> an employee of Parliament or a provincial legislature |
|--|---|

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

* Insert separate page if necessary

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

- i) 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 _____

Enterprise name _____

* The schedule should be used where tenders are subject to the local Government: Municipal Finance Management Act

**SCHEDULE 1B: CERTIFIED COPY OF BBBEE CERTIFICATE (SANAS accredited or affidavit)
MBD 2**

Please attach certified copy of your BBBEE which is SANAS accredited

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

SCHEDULE 1C: DECLARATION OF INTEREST

MBD 4

1. Any legal person, including persons employed by the state¹, or persons having a kinship with persons employed by the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid (includes a price quotation, advertised competitive bid, limited bid or proposal). In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons employed by the state, or to persons connected with or related to them, it is required that the bidder or his/her authorised representative declare his/her positioning relation to the evaluating/adjudicating authority where-

- the bidder is employed by the state; and/or
- the legal person on whose behalf the bidding document is signed, has a relationship with persons/a person who are/is involved in the evaluation and or adjudication of the bid(s), or where it is known that such a relationship exists between the person or persons for or on whose behalf the declaring acts and persons who are involved with the evaluation and or adjudication of the bid.

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

2.1 Full Name of bidder or his or her representative:

2.2 Identity Number:

2.3 Position occupied in the Company (director, trustee, shareholder²):

2.4 Company Registration Number:

2.5 Tax Reference Number:

2.6 VAT Registration Number:

2.6.1 The names of all directors / trustees / shareholders / members, their individual identity numbers, tax reference numbers and, if applicable, employee / persal numbers must be indicated in paragraph 3 below.

¹"State" means –

- (a) 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);
- (b) any municipality or municipal entity;
- (c) provincial legislature;
- (d) national Assembly or the national Council of provinces; or
- (e) Parliament.

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

2.7 Are you or any person connected with the bidder **YES / NO**
presently employed by the state?

2.7.1 If so, furnish the following particulars:

Name of person / director / trustee / shareholder/ member:

Name of state institution at which you or the person connected to the bidder is employed:

.....

EMALAHLENI LOCAL MUNICIPALITY
EMPUMELELWENI TOWNSHIP BULK SEWER
TENDER NO.: ELM 21/2022

Position occupied in the state institution:

Any other particulars:

.....
.....

2.7.2 If you are presently employed by the state, did you obtain the appropriate authority to undertake remunerative work outside employment in the public sector? **YES / NO**

2.7.2.1 If yes, did you attached proof of such authority to the bid document? **YES / NO**

(Note: Failure to submit proof of such authority, where applicable, may result in the disqualification of the bid.

2.7.2.2 If no, furnish reasons for non-submission of such proof:

.....
.....

2.8 Did you or your spouse, or any of the company's directors / trustees / shareholders / members or their spouses conduct business with the state in the previous twelve months? **YES / NO**

2.8.1 If so, furnish particulars:

.....
.....
.....

2.9 Do you, or any person connected with the bidder, have any relationship (family, friend, other) with a person employed by the state and who may be involved with the evaluation and or adjudication of this bid? **YES / NO**

2.9.1 If so, furnish particulars:

.....
.....
.....

2.10 Are you, or any person connected with the bidder, aware of any relationship (family, friend, other) between any other bidder and any person employed by the state who may be involved with the evaluation and or adjudication of this bid? **YES/NO**

2.10.1 If so, furnish particulars.

.....
.....
.....

2.11 Do you or any of the directors / trustees / shareholders / members of the company have any interest in any other related companies whether or not they are bidding for this contract? **YES/NO**

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2.11.1 If so, furnish particulars:

.....

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

Full Name	Identity Number	Personal Reference Number	Tax	State Number / Number	Employee Pearsal

4 DECLARATIONS

I, THE UNDERSIGNED (NAME).....

CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 2 AND 3 ABOVE IS CORRECT.

I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 23 OF THE GENERAL CONDITIONS OF CONTRACT SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
 Signature

.....
 Date

.....
 Position

.....
 Name of bidder

SCHEDULE 1D: AUTHORITY OF SIGNATORY

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.

A Company	B Partnership	C Joint Venture	D Sole Proprietor	E Close Corporation

A. Certificate for Company

I,, chairperson of the board of directors of, hereby confirm that by resolution of the board (**copy attached**) taken on 20..., Mr/ Ms acting in the capacity of, was authorised to sign all documents in connection with this tender for contract and any contract resulting from it on behalf of the company.

As witnesses:

1. Chairman:
2. Date:

Tenderers must attach a copy of the Resolution of the Board - refer Schedule 2B.

B. Certificate for Partnership

We, the undersigned, being the key partners in the business trading as hereby authorize Mr/ Ms, acting in the capacity of to sign all documents in connection with the tender for Contract 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 partners upon whom rests the direction of the affairs of the Partnership as a whole

C. Certificate for Joint Venture

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

This authorization is evidenced by the attached power of attorney signed by legally authorized signatories of all the partners to the Joint Venture.

Name of Firm	Address	Authorising Signature, Name & Capacity
Lead partner		

D. Certificate for Sole Proprietor

I,, hereby confirm that I am the sole owner of the business trading as

As witnesses:

1. Signature: Sole owner :

2. Date :

E. Certificate for Close Corporation

We, the undersigned, being the key members in the business trading as
 hereby authorize Mr/Ms
 acting in the capacity of , to sign all documents in connection with the tender for Contract 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-partners upon who rests the direction of the affairs of the Partnership as a whole.

.....
 Signature

.....
 Date

.....
 Position

.....
 Name of bidder

SCHEDULE 1E: CERTIFICATE OF AUTHORITY FOR JOINT VENTURES (if applicable)

This returnable schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in joint venture and hereby authorise Mr/ Ms , authorised signatory of the company, close corporation or partnership , 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	Duly Authorised Signatory
Lead partner		Signature Name Designation
		Signature Name Designation
		Signature Name Designation

NOTE: A copy of the Joint Venture Agreement clearly showing the **percentage contribution of each partner** to the Joint Venture shall be appended to this schedule.

.....
 Signature

.....
 Date

.....
 Position

.....
 Name of bidder

SCHEDULE 1F: RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been considered in this tender offer:

No.	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Attach additional pages if more space is required.

.....
 Signature

.....
 Date

.....
 Position

.....
 Name of bidder

EMALAHLENI LOCAL MUNICIPALITY
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SCHEDULE 1G: PERSONNEL SCHEDULE
--

Job Description	Non-Local	Local
Contract Manager		
Site Agent		
Quantity Surveyor		
Surveyors		
General Foreman		
Foremen		
Community Officers		
Clerks		
Operators		
Bricklayers		
Learner Bricklayers		
Steel fixers		
Watchmen		
Gang Bosses		
Pipe Layers		
Labourers		
* Other		
* Other		
* Other		

* To be filled in by the Tenderer

.....
 Signature

.....
 Date

.....
 Position

.....
 Name of bidder

SCHEDULE 1H: SCHEDULE OF PLANT & EQUIPMENT AVAILABLE FOR THE CONTRACT

The following are lists of major items of relevant equipment that I/we **presently** own or lease and will have available for this contract or will acquire or hire for this contract if my/our tender is accepted.

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	Description, Size, Capacity, etc

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired or acquired for this contract if my/our tender is acceptable.

Quantity	Description, Size, Capacity, etc

Attach additional pages if more space is required.

.....
 Signature

.....
 Date

.....
 Position

.....
 Name of bidder

SCHEDULE 1J: SCHEDULE OF WORK SATISFACTORILY CARRIED OUT BY THE BIDDER

The following is a statement of similar work successfully executed by us/ ourselves:

Employer, contact person and telephone number	Description of Contract	Value of Work Inclusive of VAT (Rand)	Date Completed

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

**Add separate sheet if applicable*

SCHEDULE 1K: SCHEDULE OF PROPOSED SUBCONTRACTORS

We notify you that it is our intention to employ the following Subcontractors to work on this contract.

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

No.	Name and Address of Proposed Subcontractor	Nature and Extent of Work	Previous Experience with Subcontractor
1.			
2.			
3.			
4.			
5.			
6.			
7.			

.....
 Signature

.....
 Date

.....
 Position

.....
 Name of bidder

SCHEDULE 1L: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (All applicable taxes included) MBD5

Let the Tenderer complete the attached form

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)

For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire:

1 Are you by law required to prepare annual financial statements for auditing?

1.1 If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.

***YES / NO**

.....
.....

2 Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?

***YES / NO**

2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.

2.2 If yes, provide particulars.

.....
.....
.....
.....

* Delete if not applicable

3 Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract? ***YES / NO**

3.1 If yes, furnish particulars

.....
.....

4. Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic? ***YES / NO**

4.1 If yes, furnish particulars

.....
.....

CERTIFICATION

I, THE UNDERSIGNED (NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT.

I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THIS DECLARATION PROVE TO BE

FALSE.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

SCHEDULE 1M: PROPOSED AMENDMENTS AND QUALIFICATIONS
--

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.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the employer's handling of material deviations and qualifications.

Page	Clause or Item	Proposal

.....
 Signature

.....
 Date

.....
 Position

.....
 Name of bidder

SCHEDULE 1N: PREFERENTIAL PROCUREMENT SCHEDULE	MBD 6.1
---	----------------

Tenderers who wish to claim preference points in terms of Clause 3.11 of the Tender Data must complete the schedule and sign the Declaration at the end of the schedule. Failure on the part of the tenderer to fill in and/or to sign this schedule will be interpreted to mean that preference points are not claimed.

PREFERENCE POINTS CLAIM FORM IN TERMS OF PREFERENTIAL PROCUREMENT REGULATIONS 2011

This preference form must form part of all bids invited. It contains general information and services as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B- BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017

1. GENERAL CONDITIONS

1.1 The following preference point system are applicable to all bids:

- 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 The value of this Bid is estimated not to exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 system shall be applicable.

1.3 Preference points for this bid shall be awarded for:

- (a) Price; and
- (b) B- BBEE Status Level of Contribution.

1.3.1 The maximum points for this bid are allocated as follows:

	POINTS
1.3.1.1 Price (all tenderers score 80 – ECSA Tariff of Fees)80....
1.3.1.2 B-BBEE Status Level of Contribution20....
Total points for price and B-BBEE must not exceed100...

1.4 Failure on the part of a bidder to fill in and / or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.5 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim regarding preferences, in any manner required by the purchaser.

2. DEFINITIONS

- 2.1 “All applicable taxes” includes value-added tax, pay as earn, income tax, unemployment insurance fund contributions and skills development levies.
- 2.2 “B-BBEE” means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act.
- 2.3 “B-BBEE” status level of contributor” means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act.
- 2.4 “Bid” means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, work, or goods, through price quotations, advertised competitive bidding processes or proposals.
- 2.5 “Broad-Based Black Economic Empowerment Act” means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003).
- 2.6 “Comparative price” means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration.
- 2.7 “Consortium or joint venture” 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.
- 2.8 “Contract” means the agreement that results from the acceptance of a bid by an organ of state.
- 2.9 “EME” means any enterprise with annual total revenue of R5 million or less.
- 2.10 “Firm price” means that the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customers or exercise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract.
- 2.11 “Functionality” means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, considering, among other factor, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder.
- 2.12 “Non-firm prices” means all prices other than “firm” prices.
- 2.13 “Person” includes a juristic person.
- 2.14 “Rand value” means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties.
- 2.15 “Sub-contract” means the primary contractor’s assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract.

- 2.16 "Total revenue" bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad – Based Black Economic Empowerment Act and promulgated in the Government Gazette on 9 February 2007.
- 2.17 "Trust means the arrangement through which the property of one person is made over bequeath to a trustee to administer such property for the benefit of another person.
- 2.18 "Trustee" means any person, including the founder of a trust, to whom property is bequeathed for such property to be administered for the benefit of another person.

3. ADJUDICATION USING A POINT SYSTEM

- 3.1 The bidder obtaining the highest number of total points will be awarded the contract.
- 3.2 Preference point shall be calculated after prices have been brought to a comparative basis considering all factors of non-firm prices and all unconditional discounts.
- 3.3 Points scored must be rounded off to the nearest 2 decimal places
- 3.4 If two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.
- 3.5 However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.
- 3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR PRICE – all tenderers will be awarded out of 90 points for price

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

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

$$\begin{array}{ccc}
 90/10 & \text{or} & 80/20 \\
 P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_t} \right) & \text{or} & P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_t} \right)
 \end{array}$$

Where:

- P_s = Points scored for comparative price of bid under consideration
- P_t = Comparative price of bid under consideration
- P_{\min} = Comparative price of lowest acceptable bid

5. Points awarded for B-BBEE Status Level of Contribution

- 5.1 In terms of Regulation 5 (2) and 6 (2) and 6 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

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B-BBEE Status Level of Contributor	Number of Points (90/10 System)	Number of points (80/20 System)
1	10	20
2	9	18
3	8	16
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non- compliant contributor	0	0

- 5.2 Bidders who qualify as EMEs in terms of the B-BBEE Act must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. Registered auditors do not need to meet the prerequisite for IRBA`s approval for the purpose of conducting verification and issuing EMEs with B-BBEE Status Level Certificates.
- 5.3 Bidders other than EMEs must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.
- 5.4 A trust, consortium or joint venture will qualify for points for their B- BBEE status level as a legal entity, provided that the entity, submits their B-BBEE status level certificate.
- 5.5 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate bid.
- 5.6 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.
6. **BID DECLARATION**
- 6.1 Bidders who claim points in respect of B-BBEE Status level of Contribution must complete the following:
7. **B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.3.1.2 AND 5.1**
- 7.1 B-BBEE Status Level of Contribution: = (Maximum of 10 or 20 points)
- (Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA, or an Accounting Officer as contemplated in the CCA).
8. **SUB-CONTRACTING**
- 8.1 Will any portion of the contract be subcontracted? YES / NO (delete which is not applicable)

8.1.1 If yes, indicate:

- i. What percentage of the contract will be subcontracted?%
- ii. The name of the sub-contractor?
- iii. The B-BBEE status level of the subcontractor?
- iv. Whether the sub-contractor is an EME? YES/NO (delete which is not applicable)

9. DECLARATION WITH REGARD TO COMPANY /FIRM

9.1 Name of company /firm

9.2 VAT registration number

9.3 Company registration number

9.4 Type of Company/ Firm (Tick applicable box)

- Partnership /Joint Venture/ Consortium
- One person business / sole propriety
- Close corporate
- Company
- (Pty) Limited

9.5 Describe principal business activities

.....
.....
.....
.....

9.6 Company classification (Tick applicable box)

- Manufacturer
- Supplier
- Contractor (Construction Industry)
- Other service providers, e.g., transporter, etc

9.7 Total number of years the company / firm has been in business?

9.8 I / we, the undersigned, who is / are duly authorized to do so on behalf of the company/ firm, certify that the points claimed, based on the B-BBEE status level of contribution indicated in paragraph 7 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I/ we 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 paragraph 7, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct.

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- iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have:
- (a) Disqualify the person from the bidding process.
 - (b) Recover costs, losses or damages it has incurred or suffered because of that person`s conduct.
 - (c) Cancel the contract and claim any damages which it has suffered because of having to make less favourable arrangements due to such cancellation.
 - (d) Restrict the bidder or contract, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from any organ of state for a period not exceeding 10 years, after the audit alteram partem (hear the other side) rule has been applied; and
 - (e) Forward the matter for criminal prosecution

1. _____
WITNESSES

SIGNATURE (S) OF TENDERER(S)

2. _____
WITNESSES

DATE: _____

ADDRESS _____

**SCHEDULE 1P: DECLARARTION FOR LOCAL CONTENT FOR DESIGNATED SECTORS
MBD 6.2**

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

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

1. General Conditions

- 1.1. Preferential Procurement Regulations, 2011 (Regulation 9) makes provision for the promotion of local production and content.
- 1.2. Regulation 9. (1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Where necessary, for bids referred to in paragraph 1.2 above, a two-stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

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

Where

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

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

The SABS approved technical specification number SATS 1286:2011 is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp) at no cost.

- 1.6. A bid may be disqualified if –
 - (a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and
 - (b) the bidder fails to declare that the Local Content Declaration Templates (Annex C, D and E) have been audited and certified as correct.

2. Definitions

- 2.1. “bid” includes written price quotations, advertised competitive bids or proposals;

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- 2.2. **“bid price”** price offered by the bidder, excluding value added tax (VAT);
- 2.3. **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
- 2.4. **“designated sector”** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;
- 2.5. **“duly sign”** means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility(close corporation, partnership or individual).
- 2.6. **“imported content”** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour and intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;
- 2.7. **“local content”** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;
- 2.8. **“stipulated minimum threshold”** means that portion of local production and content as determined by the Department of Trade and Industry; and
- 2.9. **“sub-contract”** means the primary contractor’s assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.

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

<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold</u>
_____	_____ %
_____	_____ %
_____	_____ %

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

YES		NO	
-----	--	----	--

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

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

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

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Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

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

YES		NO	
-----	--	----	--

- 5.1. If yes, provide the following particulars:

- (a) Full name of auditor:
- (b) Practice number:
- (c) Telephone and cell number:
- (d) Email address:

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

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

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

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

IN RESPECT OF BID NO.

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

NB

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

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

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

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that
 - (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
 - (ii) the declaration templates have been audited and certified to be correct.
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

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

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

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

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

SIGNATURE: _____

DATE: _____

WITNESS No. 1 _____

DATE: _____

WITNESS No. 2 _____

DATE: _____

SCHEDULE 1Q: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES MBD 8
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- 1 This Standard Bidding Document must form part of all bids invited.
- 2 It serves as a declaration to be used by institutions in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3 The bid of any bidder may be disregarded if that bidder, or any of its directors have-
 - a. abused the institution's supply chain management system;
 - b. committed fraud or any other improper conduct in relation to such system; or
 - c. failed to perform on any previous contract.
- 4 **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**

Item	Question	Yes	No
4.1	Is the bidder or any of its directors listed on the National Treasury's database as companies or persons prohibited from doing business with the public sector? (Companies or persons who are listed on this database were informed in writing of this restriction by the National Treasury after the <i>audi alteram partem</i> rule was Applied).	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		
4.2	Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 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 <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars:		

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4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply With the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	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 Bidder

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

- 1 This Municipal Bidding Document (MBD) must form part of all bids¹ invited.
- 2 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:
 - a. Disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
 - b. Cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:
 - ¹ **Includes price quotations, advertised competitive bids, limited bids and proposals.**
 - ² **Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.**

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Institution)

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

I certify, on behalf of: _____ that:
(Name of Bidder)

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
 - (a) has been requested to submit a bid in response to this bid invitation;
 - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
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 consortium³ will not be construed as collusive bidding.

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
- (a) prices;
 - (b) geographical area where product or service will be rendered (market allocation)
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit, a bid;
 - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or
 - (f) bidding with the intention not to win the bid.
8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

.....
Signature

.....
Date

.....
Position

.....
Name of Bidd

SCHEDULE 2A: CERTIFICATE OF CONTRACTOR REGISTRATION ISSUED BY THE CIDB

The Tenderer is supposed to have a CIDB grading of 7 CE or higher. Please attach proof.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

SCHEDULE 2B: PROOF OF AUTHORITY OF SIGNATORY

In case the Tenderer's representative is not a director, he must submit and attach proof of authority for signatory

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

SCHEDULE 2C: CURRENT CSD COMPLIANCE CERTIFICATE

The Tenderer must attach to this page a current CSD Compliance Certificate in respect of his/ her company, close corporation, or partnership. In the case of a joint venture between two or more firms, the tenderer shall attach a current CSD Certificate for each of the joint venture partners.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

SCHEDULE 2D: CURRENT TAX PIN NUMBER FOR SARS COMPLIANCE

The Tenderer must attach to this page a current Tax Pin number for SARS Compliance Check in respect of his/ her company, close corporation, or partnership. In the case of a joint venture between two or more firms, the tenderer shall attach a current Tax Pin number for each of the joint venture partners.

.....
Signature

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Date

.....
Position

.....
Name of bidder

SCHEDULE 2E: JOINT VENTURE AGREEMENT (Only if applicable)

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

SCHEDULE 2F: BANK REFERENCE LETTERS

1. The tenderer shall attach to this form an original letter from the bank not older than three (3) months confirming the bank account and details. Failure to provide the required letter with the tender submission shall render the tenderer's offer unresponsive.
2. In the event that the tenderer is a joint venture enterprise, details of all the members of the joint venture shall be similarly provided and attached to this form.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

SCHEDULE 2G: AUDITED FINANCIAL STATEMENTS

Please provide audited statements to determine capacity

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

SCHEDULE 2H: PRELIMINARY PROGRAMME OF WORKS

Please provide programme of works as anticipated to be performed successfully. The Municipality is anticipating works to be completed in 18 months but the earlier the better.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

SCHEDULE 2J: MUNICIPAL LEVY PAYMENT

Proof or a certificate certifying that the enterprise has no undisputed commitments to a municipality or other service providers in respect of which payment is overdue by more than 90 days.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

SCHEDULE 2K: A LETTER OF GOOD STANDING WITH DEPARTMENT OF LABOUR

Occupational health and safety is paramount to the performance of works for the Municipality. Please provide letter of good standing from the Department to support your performance.

.....
Signature

.....
Date

.....
Position

.....
Name of bidder

PART C1: AGREEMENT AND CONTRACT DATA

- C1.1 Form of Offer and Acceptance**
- C1.2 Contract Data**
- C1.3 Form of Guarantee**
- C1.4 Adjudicator's Agreement (if applicable)**
- C1.5 Safety Agreement**

C1.1: FORM OF OFFER AND ACCEPTANCE

1. OFFER

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of construction of:

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The tenderer, identified in the offer signature block, has examined the documents listed in the tender data and addenda thereto as listed in the tender schedules, and by submitting this offer has accepted the conditions of tender.

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

The offered total of the prices inclusive of Value-Added Tax is:

.....
.....
..... Rand (in words); R (in figures)

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the contractor in terms of the conditions of contract identified in the contract data.

Signature(s)
Name(s)
Capacity

for the **Tenderer**
(Name and address of organization)

Name and signature of witness Date

2. ACCEPTANCE

By signing this part of this form of offer and acceptance, the employer identified below accepts the tenderer's offer. In consideration thereof, the employer shall pay the contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer's offer shall form an agreement between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement. The terms of the contract are contained in

Part C1: Agreements and contract data (which includes this agreement)

Part C2: Pricing data

Part C3: Scope of work

Part C4: Site Information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto, as 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.

The tenderer shall, within two weeks after receiving a completed copy of this agreement including the schedule of deviation (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of the obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor), within five (5) working days of the date of such receipt, notifies the employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.¹

Signature(s)

Name(s)

Capacity

for the **Employer**
(Name and address of organization)

Name and signature of witness Date

¹ As an alternative the following wording may be used:

Notwithstanding anything contained herein, this agreement comes into effect two (2) working days after the submission by the Employer of one fully completed original copy of this document, including the schedule of deviations (if any), to a courier-to-counter delivery / counter-to-counter delivery / door-to-counter delivery / door-to-door delivery / courier service (delete that which is not applicable), provided that the Employer notifies the Tenderer of the tracking number within 24 hours of such submission. Unless the tenderer (now contractor) within seven (7) working days of the date of such submission 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.

3. SCHEDULE OF DEVIATIONS

Notes:

- i) The extent of deviations from the tender documents issued by the employer before the tender closing date is limited to those permitted in terms of the conditions of tender.
- ii) A tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, be the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.
- iii) 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.
- iv) 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

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

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

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Clause	Description
10	The Contractor shall commence executing the Works within 28 days of the Commencement Date.
12.2	The Contractor shall deliver his programme of work within 14 days of the Commencement Date.
35.1.1.2.2	The value of the materials supplied by the Employer to be included in the insurance sum is R0-00 (Nil).
35.1.1.2.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is R0-00 (Nil).
35.1.3	The limit of indemnity for the liability insurance required is R5 million.
37.2.2.3	The percentage allowance to cover overhead charges for work executed on a day-work basis is 25%
42.1	The Works shall be completed within 24 months
43.1	The penalty for failing to complete the Works is R 1,500 per day
49.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%.
49.3	The percentage retention on the amounts due to the Contractor is 10%.
49.3	The limit of retention money is 5% of the Contract Price.
53.1	The Defects Liability Period is 12 months measured from the date of the Certificate of Completion.
55.1.8	Replace subclause with: The Contractor or anyone on his behalf or in his employ would pay, offer, or offer as payment to any person in the employ of the Employer, or in the employ of the Engineer, a gratuity or reward or commission.
Additional Conditions of Contract	<p>EXTENSION OF TIME FOR ABNORMAL RAINFALL (OPTION 1)</p> <p>Extensions of time in respect of clause 42 in respect of abnormal rainfall shall be calculated using the following formula for each calendar month or part thereof:</p> $V = (N_w - N_n) + \left(\frac{R_w - R_n}{X} \right)$ <p>Where:</p> <p>V = Extension of time in calendar days in respect of the calendar month under consideration.</p> <p>N_w = Actual number of days during the calendar month on which a rainfall of 10 mm or more has been recorded.</p> <p>N_n = Average number of days in the relevant calendar month, as derived from existing rainfall records, as stated in the Site Information, on which a rainfall of 20 mm or more has been recorded for the calendar month.</p> <p>R_w = Actual average rainfall in mm recorded for the calendar month under consideration.</p> <p>R_n = Average rainfall in mm for the calendar month as derived from existing rainfall records as stated in the Site Information.</p> <p>For purposes of the Contract N_n, R_n, X and Y shall have those values assigned to them in the Scope of Work.</p>
	If V is negative and its absolute value exceeds N _n , then V shall be taken as equal to minus N _n .

Clause	Description
	<p>The total extension of time shall be the algebraic sum of all monthly totals for the period under consideration, but if the total is negative the time for completion shall not be reduced due to subnormal rainfall.</p> <p>Extensions of time for part of a month shall be calculated using pro rata values of N_n and R_n.</p> <p>This formula does not take account flood damage which could cause further or concurrent delays and will be treated separately as far as extension of time is concerned.</p> <p>The factor $(N_w - N_n)$ shall be considered to represent a fair allowance for variations from the average in the number of days during which rainfall exceeds 10 mm. The factor $(R_w - R_n)$ shall be considered to represent a fair allowance for variations from the average in the number of days during which the rainfall did not exceed 10 mm, but wet conditions prevented or disrupted work.</p> <p>For the purpose of applying the formula, accurate rain gauging shall be taken at a suitable point on the Site and the Contractor shall at his own expense, take all necessary precautions to ensure that rain gauges cannot be interfered with by unauthorized persons.</p>
Additional Clause	<p>MENTORING OF LEARNERS</p> <p>Definition</p> <p>Mentor means an experienced and trusted advisor appointed by the National Department of Public Works and tasked with the provision of assistance to the Learners and Learner Contracting Companies in the planning, execution, and management of the on-site training projects.</p> <p>Objectives of mentorship services</p> <p>The National Department of Public Works' objective in appointing a Mentor is to:</p> <ol style="list-style-type: none"> a) minimize the Public Body's risk of the projects not being constructed to stated requirements, within budget and on time; b) provide access to project and commercial expertise that Learner Contracting Companies may lack during the execution of the three projects which form an integral part of the EPWP Contractor Learnership Programme outlined in the Scope of Work.
	<ol style="list-style-type: none"> c) capacitate Learner Contracting Companies to successfully complete their contracts with the Public Body and to work independently and profitably; and d) identify learners who do not satisfy the requirements of the EPWP Learnership Programme and as such be removed from the programme. <p>Authority of mentors</p> <p>The Mentor has no authority to relieve the Contractor or the Employer of any of his obligations under the Contract.</p> <p>Payment for the labour-intensive component of the works</p> <p>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.</p> <p>Applicable labour laws</p> <p>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° 63 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.</p>

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Clause	Description
	<p>1. Introduction</p> <p>1.1 This document contains the standard terms and conditions for workers employed in elementary occupations on a Special Public Works Programme (SPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of a SPWP.</p> <p>1.2 In this document;</p> <p>(a) "Department" means any department of the State, implementing agent or contractor;</p> <p>(b) "Employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on a SPWP;</p> <p>(c) "Worker" means any person working in an elementary occupation on a SPWP;</p> <p>(d) "Elementary occupation" means any occupation involving unskilled or semi-skilled work;</p> <p>(e) "Management" means any person employed by a department or implementing agency to administer or execute an SPWP;</p> <p>(f) "Task" means a fixed quantity of work;</p> <p>(g) "Task-based work" means work in which a worker is paid a fixed rate for performing a task;</p> <p>(h) "Task-rated worker" means a worker paid on the basis of the number of tasks completed;</p> <p>(i) "Time-rated worker" means a worker paid on the basis of the length of time worked.</p>
	<p>2. Terms of Work</p> <p>2.1 Workers on a SPWP are employed on a temporary basis.</p> <p>2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on a SPWP</p> <p>2.3 Employment on a SPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.</p> <p>3. Normal Hours of Work</p> <p>3.1 An employer may not set tasks or hours of work that require a worker to work–</p> <p>(a) more than forty hours in any week</p> <p>(b) on more than five days in any week; and</p> <p>(c) for more than eight hours on any day.</p> <p>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.</p> <p>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.</p> <p>4. Meal Breaks</p> <p>4.1 A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.</p>

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Clause	Description
	<p>4.2 An employer and worker may agree on longer meal breaks.</p> <p>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.</p> <p>4.4 A worker is not entitled to payment for the period of a meal break. However, a worker who is paid based on time worked must be paid if the worker is required to work or to be available for work during the meal break.</p> <p>5. Special Conditions for Security Guards</p> <p>5.1 A security guard may work up to 55 hours per week and up to eleven hours per day.</p> <p>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.</p> <p>6. Daily Rest Period</p> <p>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.</p> <p>7. Weekly Rest Period</p> <p>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").</p>
	<p>8. Work on Sundays and Public Holidays</p> <p>8.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.</p> <p>8.2 Work on Sundays is paid at the ordinary rate of pay.</p> <p>8.3 A task-rated worker who works on a public holiday must be paid –</p> <p>(a) the worker's daily task rate, if the worker works for less than four hours;</p> <p>(b) double the worker's daily task rate, if the worker works for more than four hours.</p> <p>8.4 A time-rated worker who works on a public holiday must be paid –</p> <p>(a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday;</p> <p>(b) double the worker's daily rate of pay, if the worker works for more than four hours on the public holiday.</p> <p>9. Sick Leave</p> <p>9.1 Only workers who work four or more days per week have the right to claim sick pay in terms of this clause.</p>
	<p>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.</p> <p>9.3 A worker may accumulate a maximum of twelve days' sick leave in a year.</p> <p>9.4 Accumulated sick leave may not be transferred from one contract to another contract.</p>

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Clause	Description
	<p>9.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.</p> <p>9.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.</p> <p>9.7 An employer must pay a worker sick pay on the worker's usual payday.</p> <p>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:</p> <p style="padding-left: 40px;">(a) absent from work for more than two consecutive days or</p> <p style="padding-left: 40px;">(b) absent from work on more than two occasions in any eight-week period.</p> <p>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.</p> <p>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.</p> <p>10. Maternity Leave</p> <p>10.1 A worker may take up to four consecutive months' unpaid maternity leave.</p> <p>10.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.</p>
	<p>10.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.</p> <p>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.</p> <p>10.5 A worker may begin maternity leave:</p> <p style="padding-left: 40px;">(a) four weeks before the expected date of birth or</p> <p style="padding-left: 40px;">(b) on an earlier date:</p> <p style="padding-left: 80px;">(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</p> <p style="padding-left: 80px;">(ii) if agreed to between employer and worker or</p> <p style="padding-left: 40px;">(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.</p>
	<p>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.</p> <p>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 SPWP on which she was employed has ended.</p> <p>11. Family responsibilities leave</p>

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Clause	Description
	<p>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 -</p> <ul style="list-style-type: none"> (a) when the employee's child is born; (b) when the employee's child is sick; (c) in the event of a death of – <ul style="list-style-type: none"> (i) the employee's spouse or life partner; (ii) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild, or sibling. <p>12. Statement of Conditions</p> <p>12.1 An employer must give a worker a statement containing the following details at the start of employment:</p> <ul style="list-style-type: none"> (a) the employer's name and address and the name of the SPWP; (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 SPWP <p>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.</p>
	<p>12.3. An employer must supply each worker with a copy of these conditions of employment.</p> <p>13. Keeping Records</p> <p>13.1 Every employer must keep a written record of at least the following –</p> <ul style="list-style-type: none"> (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. <p>13.2 The employer must keep this record for a period of at least three years after the completion of the SPWP.</p>
	<p>14. Payment</p> <p>14.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.</p> <p>14.2 A task-rated worker will only be paid for tasks that have been completed.</p> <p>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.</p> <p>14.4 A time-rated worker will be paid at the end of each month.</p> <p>14.5 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.</p>

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Clause	Description
	<p>14.6 Payment in cash or by cheque must take place –</p> <ul style="list-style-type: none"> (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. <p>14.7 An employer must give a worker the following information in writing –</p> <ul style="list-style-type: none"> (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. <p>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</p> <p>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.</p>
	<p>15. Deductions</p> <p>15.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.</p> <p>15.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.</p> <p>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 period and other requirements specified in the agreement law, court order or arbitration award concerned.</p> <p>15.4 An employer may not require or allow a worker to –</p> <ul style="list-style-type: none"> (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
	<ul style="list-style-type: none"> (c) pay the employer or any other person for having been employed. <p>16. Health and Safety</p> <p>16.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.</p> <p>16.2 A worker must:</p> <ul style="list-style-type: none"> (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 SPWP; (d) use any personal protective equipment or clothing issued by the employer;

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Clause	Description
	<p>(e) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.</p> <p>17. Compensation for Injuries and Diseases</p> <p>17.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a SPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.</p> <p>17.2 A worker must report any work-related injury or occupational disease to their employer or manager.</p> <p>17.3 The employer must report the accident or disease to the Compensation Commissioner.</p> <p>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.</p> <p>18. Termination</p> <p>18.1 The employer may terminate the employment of a worker for good cause after following a fair procedure.</p> <p>18.2 A worker will not receive severance pay on termination.</p>
	<p>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.</p> <p>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.</p> <p>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.</p> <p>19. Certificate of Service</p> <p>19.1 On termination of employment, a worker is entitled to a certificate stating –</p>
	<p>(a) the worker's full name;</p> <p>(b) the name and address of the employer;</p> <p>(c) the SPWP on which the worker worked;</p> <p>(d) the work performed by the worker;</p> <p>(e) any training received by the worker as part of the SPWP;</p> <p>(f) the period for which the worker worked on the SPWP;</p> <p>(g) any other information agreed on by the employer and worker.</p>

C1.2: CONTRACT DATA (PART 2)

PART 2: DATA PROVIDED BY THE CONTRACTOR

Clause	Description												
1.1.8	The Contractor is <i>[Enter the Legal name of the Contractor].</i>												
1.2.2	The Contractor's address for receipt of communications and notices is: Telephone: Facsimile: E-mail: Address (Postal): Address (Physical):												
37.2.2.3	The percentage allowance to cover all overhead charges is												
42.1	The Works shall be completed in days/ weeks/ months *(delete one). <i>[State the total number of days, weeks, months, or years which must include the special non-working days and the year-end break].</i>												
46.3	The variation in cost of special materials is: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">Type of Material</th> <th style="width: 20%;">Unit</th> <th style="width: 40%;">Rate or Price</th> </tr> </thead> <tbody> <tr> <td>.....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>.....</td> <td>.....</td> <td>.....</td> </tr> <tr> <td>.....</td> <td>.....</td> <td>.....</td> </tr> </tbody> </table>	Type of Material	Unit	Rate or Price
Type of Material	Unit	Rate or Price											
.....											
.....											
.....											

C1.3: FORM OF GUARANTEE

Contract No.

WHEREAS THE EMALAHLENI LOCAL MUNICIPALITY
(hereinafter referred to as "the Employer") entered a Contract with

(Hereinafter called "the Contractor") on the day of 20.....

for the construction of

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 excursion 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
..... (R)
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.

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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.....

As witnesses:

1. Signature

2. Duly authorized to sign on behalf of

Address

.....

.....

.....

C1.4: ADJUDICATOR'S AGREEMENT

[For use with GCC 2015 Contract]

This agreement is made on the day of between:
..... (name of company/ organisation)
of
(address) and
(name of company/ organisation) of
(address)
(the Parties) and (name)
of (address)
(the Adjudicator).

Disputes or differences may arise/ have arisen* between the Parties under a Contract dated
and known as

and these disputes or differences shall be/have been* referred to adjudication in accordance with the CIBD Adjudication Procedure, (hereinafter called "the Procedure") and the Adjudicator may be or has been requested to act.

* *Delete as necessary*

IT IS NOW AGREED as follows:

1. The rights and obligations of the Adjudicator and the Parties shall be as set out in the Procedure.
2. The Adjudicator hereby accepts the appointment and agrees to conduct the adjudication in accordance with the Procedure.
3. The Parties bind themselves jointly and severally to pay the Adjudicator's fees and expenses in accordance with the Procedure as set out in the Contract Data.
4. The Parties and the Adjudicator shall always maintain the confidentiality of the adjudication and shall endeavour to ensure that anyone acting on their behalf or through them will do likewise, save with the consent of the other Parties which consent shall not be unreasonably refused.
5. The Adjudicator shall inform the Parties if he intends to destroy the documents which have been sent to him in relation to the adjudication and he shall retain documents for a further period at the request of either Party.

SIGNED by: _____ SIGNED by: _____ SIGNED by: _____
Name: _____ Name: _____ Name: _____

Who warrants that he / she is duly authorised to sign for and on _____ who warrants that he / she is duly authorised to sign for and _____ who warrants that he / she is duly authorised to sign for and _____

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behalf of the first Party in the presence of

on behalf of the first Party in the presence of

on behalf of the first Party in the presence of

Witness _____ Witness _____ Witness _____

Name: _____ Name: _____ Name: _____

Address: _____ Address: _____ Address: _____

Date: _____ Date: _____ Date: _____

Contract Data

1.	The Adjudicator shall be paid at the hourly rate of R..... in respect of all time spent upon, or in connection with the adjudication including time spent travelling.
2.	The Adjudicator shall be reimbursed in respect of all disbursements properly made including, but not restricted to: a) Printing, reproduction and purchase of documents, drawings, maps, records, and photographs. b) Telegrams, telex, faxes, and telephone calls. c) Postage and similar delivery charges. d) Travelling, hotel expenses and other similar disbursements. e) Room charges. f) Charges for legal or technical advice obtained in accordance with the Procedure.
3.	The Adjudicator shall be paid an appointment fee of R This fee shall become payable in equal amounts by each Party within fourteen (14) days of the appointment of the Adjudicator, subject to an Invoice being provided. This fee will be deducted from the final statement of any sums which shall become payable under item 1 and/or item 2 of the Contract Data. if the final statement is less than the appointment fee, the balance shall be refunded to the Parties.
4.	The Adjudicator is/ is not* currently registered for VAT.
5.	Where the Adjudicator is registered for VAT, it shall be charged additional in accordance with the rates current at the date of invoice.
6.	All payments, other than the appointment fee (item 3) shall become due seven (7) days after receipt of invoice, thereafter interest shall be payable at 5% per annum above the Reserve Bank base rate for every day the amount remains outstanding.

* Delete as necessary

C1.5: SAFETY AGREEMENT

INSTALLATION OF OUTFALL BULK SEWER FOR EMPUMELELWENI TOWNSHIP PROJECT

MEMORANDUM OF AGREEMENT CONCLUDED BY AND BETWEEN:

EMALAHLENI LOCAL MUNICIPALITY

(HEREINAFTER REFERRED TO AS THE MUNICIPALITY)

herein represented by

in his capacity as Municipal Manager of the Municipality, he, being duly authorised thereto and

(Hereinafter referred to as the Mandatory)

herein represented by

in his capacity as

of the Mandatory, he, being duly authorized thereto

WHEREAS:

1. The Municipality and the mandatory entered into a written, alternatively oral agreement on the.....
Day of 20..... in terms of which the Mandatory undertook to carry out the following work for the Municipality, viz (give a short description of the type of contract work to be done as well as the address where work will be done)

.....
*(The said contract work is hereinafter referred to as the **Work**)*

2. The Occupational Health and Safety Act, Act 85 of 1993 as amended (hereinafter referred to as **the Act**) contains amongst others certain provisions with regard to the health and safety of people at work and in connection with the usage of plant and machinery, as well as the protection of other persons than persons at work against hazards to health and safety that originates from or in connection with the activities of persons at work.
3. Section 37(2) of the Act makes provision for the exclusion by the parties, by way of a written agreement, of supposition and accompanying liability of the Municipality as stipulated in section 37(1) of the Act.
4. The parties have reached consensus with regard to the terms and conditions to which they agree in terms of the provisions of section 37(2) of the Act.

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS

1. WRITTEN AGREEMENT

The parties herewith agree in terms of section 37(2) of the Act on the arrangements and procedures that must be followed to ensure compliance with the provisions of the Act by the Mandatory.

2. ACKNOWLEDGEMENT BY THE MANDATORY

The Mandatory acknowledge herewith that he is fully acquainted with the contents of the Act, as well as with all regulations and SANS codes of practice that have been made in terms of section 43 of the Act.

3. UNDERTAKING BY MANDATORY

- (a) The Mandatory hereby undertakes and binds himself to the Municipality to ensure prompt and strict compliance with the provisions of the Act and the said regulations as well as with the provisions always included in this Safety Agreement during the execution of the Works
- (b) It is hereby recorded that the provisions of this Safety Agreement as set out hereinafter are in no way intended to restrict the duties of the Mandatory, nor to exempt the Mandatory from his obligation in accordance with the Act and the said regulations

4. PERSONAL PROTECTIVE EQUIPMENT

- (a) It is compulsory to wear equipment for eye protection when working in an eye protection zone or where the Work requires eye protection.
- (b) It is compulsory to wear safety helmets when working in a safety helmet zone or where the Work requires safety helmets.
- (c) It is compulsory to wear hearing protection when working in a noise zone or where the Work requires hearing protection.
- (d) The wearing of other protective clothing and equipment as prescribed by the Occupational Health and Safety Officer of Nelspruit Municipality is compulsory.
- (e) The Mandatory shall ensure that the statutory requirements are always complied with.

5. FENCING AND GENERAL MACHINERY PROTECTION

No shield or fencing may be removed from or be moved at any machinery or installation without written permission.

6. SCAFFOLDING, LADDERS, TOOLS, ET CETERA

The Mandatory without the written permission of the Municipality may use no equipment or tools that belong to the Municipality.

Except where agreed beforehand the Mandatory shall provide enough tools and equipment to enable him to complete the Works and the Mandatory shall provide all storerooms, offices and eating halls that he may need. The Mandatory will be responsible for all his material on site.

In special case where the Municipality may lend equipment, tools, or materials to the Mandatory, the Mandatory will use such equipment, tools and/or materials at his own risk and the Mandatory herewith indemnifies the Municipality against any liability of whichever nature or from any cause whatsoever, whether direct or indirect, that may arise from such usage.

7. SERVICES AND WORKING METHODS

The written permission of the Municipal Manager of the Municipality shall be obtained where any work which must be undertaken by the Mandatory relates to a working process or machinery or any other service in connection therewith, or may possibly affect it, before he commences with such work.

Approval shall be obtained from the City Electrical Engineer of the Municipality before any equipment is connected to the electrical supply of the Municipality. All equipment shall be isolated before any equipment is connected to the electrical supply of the Municipality. It shall be isolated and be provided with earth leakage protection. Electrical machinery, portable electrical tools and portable lights must comply with the requirements of the applicable regulations.

Work permits must be issued in terms of the Occupational Health and Safety Act and Regulations when the nature of the work requires it. Permits must be issued by the relevant departmental head where necessary.

8. EXCAVATIONS

Written permission for excavations shall be obtained from the City Engineer of the Municipality and the Mandatory shall make sure of the existence and position of electrical cables, discharge pipes, gas lines, water conduits, et cetera before he commences with any excavation work.

All excavations and obstructions and/or any openings in platforms or floors shall be enclosed in a safe way and warning notices shall be erected to ensure absolute safety. An adequate number of red or orange caution lights shall be provided when it is dark or should bad light prevail.

The area surrounding excavations shall be kept in a safe, orderly, and tidy condition. No loose material of whatever nature may be left in walkways or workplaces or be allowed to block walkways or workplaces.

Nobody may enter into any restricted area in which hazardous fumes, or a shortage of oxygen exists without a permit giving permission to do so, issued by the head of the relevant department of the Municipality and until it has been certified safe for entrance by the Occupational Health and Safety Officer and the Health Inspector of the Municipality.

9. RESTRICTION TO WORKPLACE

Employees of the Mandatory shall be restricted to their workplaces except when they must leave their area for work purposes or when they visit toilets.

10. SUBCONTRACTORS

The Mandatory shall ensure that all subcontractors receive a copy of this safety agreement and must ensure they comply with it.

11. OCCUPATIONAL HEALTH AND SAFETY OFFICER AND THE REPORTING OF ALL ACCIDENTS

The Occupational Health and Safety Officer of the Municipality is available for consultation, and he will make periodical visits to the workplace of the Mandatory. Any hazardous occurrence or incident to the employees of the Mandatory that results in absence from work for a period longer than three days shall be reported in writing to the Occupational Health and Safety Officer of the Municipality within forty-eight hours as well as to the Department of Labour as specified by the Act. Every user, employer, occupier, builder, or excavator must, under this Act, keep record of all accidents that occur.

In the case of an accident that results in loss of life, nobody may disturb the scene of the accident, or any articles involved in the accident prior to the arrival of the Occupational Health and Safety Officer and the Inspector, unless it is to prevent another accident from happening or the prevention of loss of life or to remove corpses.

The Occupational Health and Safety Officer will issue contravention notices to the Mandatory or a sub-contractor when there is a non-compliance and will specify the time in which it must be rectified.

The Occupational Health and Safety Officer will issue work stop notices to the Mandatory or sub-contractor whenever he is of the opinion that the health and safety of any person at work is threatened or that the contravention notices are not adhered to.

12. FIRST AID

Where five or more persons are employed at a workplace, the Mandatory shall provide and maintain an adequately equipped first-aid box that meets the following requirements.

- (a) Every first-aid box shall contain the minimum contents as prescribed by the Occupational Health and Safety Act.
- (b) Nothing except articles and equipment required for first-aid purposes may be kept in the first-aid box.
- (c) Each first-aid box shall be kept in a place readily accessible in case of an accident.

All first-aid boxes shall be placed under control of a responsible person except where five or less persons are at work. The responsible person must be in the possession of a valid first-aid certificate issued by one of the following organisations:

- A South-African Red Cross Society
- B St. John's Ambulance Foundation
- C South-African First-Aid League

A notice indicating where the first-aid box is kept as well as the name of the person in charge, shall be affixed in a conspicuous place. The first-aid facilities of the Municipality may be used during emergencies.

13. FIRE PREVENTION MEASURES AND STORAGE OF FLAMMABLE MATERIAL

The Fire department of the Municipality shall be notified before any welding, oxyacetylene welding, cutting, burning of paint or tar from floors or roofs is undertaken so that the necessary fire prevention measures can be arranged. All "NO SMOKING AND OPEN SURFACE FIRES/LIGHTS PROHIBITED" notices shall be adhered to. The Mandatory and his senior employee shall acquaint themselves and their fellow workers with the fire prevention measures of the Municipality, which will also include fire alarm notices and exits in case of fire, and they shall ensure that these rules are strictly complied with.

14. COMPLETION OF WORK

Before the Mandatory or his sub-contractors leaves the site, they shall inform the Head of the relevant Department of the Municipality and obtain his/her written approval that the work has been completed satisfactory and that the site of the work is left in a good condition.

15. SALVAGED MATERIAL AND EQUIPMENT

Any building demolished or equipment or materials that are salvaged whilst carrying out the work shall remain the property of the Municipality unless the contract specifically provides otherwise.

16. BREAKING OF THESE RULES AND POOR CONDUCT

The Mandatory is warned that no behaviour that causes danger to their own employees, to the employees of the Municipality or general public will be tolerated. The Occupational Health and Safety Officer of the Municipality reserves the right of the withdrawal of any employees of the Mandatory or Municipality from the premises in the case of any default or breach of the agreement and to order that the completion of the work be stayed, pending compliance with this agreement; alternatively to cancel the agreement referred to in par.2 in which event the Municipality will be entitled to appoint an alternative contractor to complete the work and recover the costs thereof from the mandatory, without prejudice to any alternative or additional right or action or remedy to the Municipality, to recover from the mandatory damages for the default or breach and the cancellation.

The senior employees of the Mandatory shall sign a note of acknowledgement of this safety agreement to certify that they have received the regulations as included herein and that they understand the regulations

17. INTOXICATION

Nobody that is in a state of intoxication or that is in any other condition that causes or may cause his/her incapability to control him/herself or persons under his control may and shall not be permitted on the premises of the Municipality. The Occupational Health and Safety Officer of the Municipality reserves the right to the withdrawal of any employees of the Mandatory or Municipality from the premises in the case of any transgression of this nature.

18. CONFIDENTIALLY

The Mandatory shall always treat data and information that have been made known to him or that he requires in connection with his work from the Municipality as confidential and he may not make unauthorised use thereof. He must also ensure that such data and information are not communicated to anybody else that is not an employee of the Mandatory without obtaining prior written approval from the Municipality and he must further ensure that such persons do in fact know that the said information is confidential and that they are obliged to treat it as such.

The Mandatory shall provide for adequate physical protection for any confidential documents, sketches, et cetera that he receives from the Municipality in connection with the work as well as for any copies thereof that he makes. He shall hand back all documents sketches and copies thereof to the Municipality upon completion of the work, or earlier, if so, requested by the Municipality. The Mandatory shall inform the Municipality immediately should any such documents or sketches become lost.

19. INDEMNIFICATION BY THE MANDATORY

The following conditions will be applicable to the Mandatory:

- (a) The Mandatory is liable and herewith indemnifies the Municipality irrevocably and in full against any claim for loss or damage to property or arising from death or injury of any person and any associated loss or damage suffered, and against all lawsuits, claims, demands, costs, expenses, and charges that may arise when the said occurrences are caused on purpose or through the negligence, violation of legal obligations or failure by the Mandatory or its employees.
- (b) Whenever any of the employees of the Municipality is busy with work to, or with the supply of material that will be used during the execution of the work by the Mandatory, or otherwise busy with work under the instruction and supervision of the Mandatory, in as far as they may be negligent or fail to do their duty, they will be regarded as employees of the Mandatory
- (c) All installations, equipment, hoisting-apparatus and other implements, scaffolding, ladders, material, et cetera that are borrowed from the Municipality by the Mandatory for usage during the execution of the work, will be used entirely at the risk of the Mandatory or employees of the Mandatory and the Mandatory herewith indemnifies the Municipality irrevocably and in full against any liability that may arise from such usage.

20. AMENDMENTS MUST BE IN WRITING

The parties agree herewith that this safety agreement is the only safety agreement between them, and that no amendment thereof will be valid unless it is in writing and signed by both parties.

21. JURISDICTION AND LEGAL COSTS

In the event of any legal action being instituted pertaining to this agreement the party in default or breach will be liable for the other party's legal costs on the scale as between attorney and own client and the parties consent to the jurisdiction of the magistrate's court for purpose of any legal action being instituted.

PARTICULARS OF THE MANDATORY

Name (Mandatory)

C.E.O. (Section 16(1))

ID NO.

Designation

Name of Business

Address of Business

Tel number _____ (h) _____ (w) e-mail _____

Number of employees employed

Registration number as allocated to the Mandatory by the Workman's Compensation Commissioner

Date allocated

Thus, done and signed on this _____ day of _____ 20

As witnesses:

_____ (Signature) _____ (Name in print)

_____ (Signature) _____ (Name in print)

_____ (Signature) _____ (Name in print)

THE MANDATORY

Thus, done and signed on this day of 20

As witnesses:

_____ (Signature) _____ (Name in print)

_____ (Signature) _____ (Name in print)

_____ (Signature) _____ (Name in print)

THE MUNICIPALITY

Acknowledgement of receipt of the agreement:

THE MANDATORY

PART C2: PRICING DATA

C2.1 Pricing Instructions

C2.2 Bills of Quantities

C2.1: PRICING INSTRUCTIONS

- C2.1.1** Measurement and payment shall be in accordance with Clause 8 of the SANS 1200 Standardised Specifications for Civil Engineering Construction referred to in the Scope of Works, subject to the variations and amendments contained in the section “Applicable SANS 1200 standardised specifications”.
- C2.1.2** Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification, or the Scope of Work, conflict with the terms of the Bill, the requirements of the Standardised or Scope of Work, as applicable, shall prevail.
- C2.1.3** The clauses in a specification in which further information regarding the Bill item can be obtained appear under “Reference clause” in the Bills of Quantities. The reference clauses indicated are not necessarily the only sources of information in respect of schedule items. Further information and set specifications may be found elsewhere in the contract documents. Standardised Specifications are identified by the letter or letters which follow SANS in the SANS 1200 series of specifications, e.g., G for SANS 1200 G.
- C2.1.4** Unless otherwise stated, items are measured nett in accordance with the drawings, and no allowance is made for waste.
- C2.1.5** 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.
- C2.1.6** The prices and rates to be inserted in the Bills of Quantities are to be the full inclusive prices for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. The prices will be used as a basis for assessment of payment for additional work that may have to be carried out.
- C2.1.7** 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 or www.iso.org for information on standards).
- C2.1.8** 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
- C2.1.9** A price or rate is to be entered against each item in the Schedule/Bills of Quantities, whether the quantities are stated or not. An item against which no price is entered will be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should several items be grouped together for pricing purposes.
- C2.1.10** Except where rates only are required, the Tenderer shall insert all amounts to be included in his total tendered price in the “Amount” column and show the corresponding total tendered price.
- C2.1.11** The units of measurement described in the Bills of Quantities are metric units. Abbreviations used in the Bills of Quantities are as follows:

EMALAHLENI LOCAL MUNICIPALITY
 EMPUMELELWENI TOWNSHIP BULK SEWER
 TENDER NO.: ELM 21/2022

ha	=	hectare	h	=	hour
kℓ	=	kilolitre	kg	=	kilogram
km	=	kilometre	kW	=	kilowatt
km-pass	=	kilometre pass	MN	=	MegaNewton
kPa	=	kilopascal	MN.m	=	MegaNewton-metre
ℓ	=	litre	%	=	per cent
m	=	metre	PC sum	=	Prime Cost sum
mm	=	millimetre	Prov sum	=	Provisional sum
m ²	=	square metre	No.	=	number
m ² .pass	=	square metre-pass	R/only	=	Rate only
m ³	=	cubic metre	sum	=	lump sum
m ³ .km	=	cubic metre-kilometre	t	=	ton (1 000 kg)
MPa	=	Megapascal	W/day	=	Workday

C2.1.12 Those parts of the contract to be constructed using labour-intensive methods have been marked in the Bills 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 work, is a variation to the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.

C2.1.13 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.

C2.2: BILLS OF QUANTITIES

AS PER SANS 1200 AND SANS 0120

SCHEDULE 1 : PRELIMINARY AND GENERAL

ITEM NO.	REF. Cl.	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
	SABS 1200A	GENERAL				
1.1	8.3	<u>FIXED CHARGE AND VALUE-RELATED ITEMS</u>				
1.1.1	8.3.1	Contractual Requirements	sum	1	-	R -
1.1.2	8.3.2	<u>Establish facilities on site</u>				
1.1.2.1	8.3.2.1	i) <u>Facilities for Engineer</u>				
		a) Engineer's office (PSA 4.3.1)	Sum	1	-	R -
		b) Name board (PSA 4.3.2)	Sum	2	-	R -
		c) Survey assistants and material	Sum	1	-	R -
1.1.2.2	8.3.2.2	ii) <u>Facilities for Contractor</u>				
		a) Offices and storage sheds	Sum	1	-	R -
		b) Workshops	Sum	1	-	R -
		c) Laboratories	Sum	1	-	R -
		d) Living accommodation	Sum	1	-	R -
		e) Ablution and latrine facilities	Sum	1	-	R -
		f) Tools and equipment	Sum	1	-	R -
		g) Water supplies, electric power and communications	Sum	1	-	R -
		h) Access	Sum	1	-	R -
		i) Plant	Sum	1	-	R -
1.1.3	8.3.4	Removal of Engineer's and Contractor's site establishment from site on completion of works.	Sum	1	-	R -
	SABS 1200A	<u>TIME RELATED ITEMS</u>				
1.2	8.4					
1.2.1	8.4.1	Contractual requirements	Sum	18	-	R -
1.2.2	8.4.2	<u>Operations and maintenance of facilities on site</u>				
1.2.2.1		<u>Facilities for the engineer for contract duration</u>				
		a) Furnished engineer's office	Sum	18	-	R -
		b) Carports	Sum	18	-	R -
		c) Telephone facilities	Sum	18	-	R -
		b) Survey assistant	Sum	18	-	R -
		c) Survey equipment	Sum	18	-	R -
CARRIED FORWARD						R -

SCHEDULE 1 : PRELIMINARY AND GENERAL

ITEM NO.	REF. CI.	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
BROUGHT FORWARD						R -
1.2.2.2		<u>Facilities for Contractor for the duration of the contract except where otherwise stated</u>				
		a) Offices and storage sheds	Sum	18	-	R -
		b) Workshops	Sum	18	-	R -
		c) Laboratories	Sum	18	-	R -
		d) Ablution and latrine facilities	Sum	18	-	R -
		e) Tools and equipment	Sum	18	-	R -
		f) Water supplies, electric power and communications	Sum	18	-	R -
		g) Access	Sum	18	-	R -
		h) Plant	Sum	18	-	R -
1.2.3	8.4.3	Supervision for the duration of the construction	Sum	18	-	R -
1.2.4	8.4.4	Company and Head Office overhead costs for the duration of the Contract	Sum	1	-	R -
1.2.5	8.5	Project management for the entire period of the project (Ps)	Sum	18	220 000,00	R 3 960 000,00
1.2.6	PSA 4.4	Excavation by hand in all materials to expose existing services	m ³	10	-	R -
1.3	PSA	<u>Occupational Health and Safety</u>				
1.3.1	4.5	Provision for the cost related to the Occupational Health and Safety Act, 85 of 1993, and the relevant Regulations:				
		a) Preperation of a Health & Saftey Plan	Sum	1	-	R -
		b) Complilation of a Risk Assessment prior to Construction	Sum	1	-	R -
		c) Health & Safety induction Training of employees	Sum	1	-	R -
		d) Compliation and keeping up to date the Health & Safety file which shall include all documentation required in terms of the act	Sum	18	-	R -
		e) Implementation of the Health and Safety Plan over the entire construction period	Month	18	-	R -
CARRIED FORWARD						

SCHEDULE 1 : PRELIMINARY AND GENERAL

ITEM NO.	REF. CI.	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
BROUGHT FORWARD						
1.4	PSA	Community Training and Mobilisation				
		a) Health and hygiene education	Sum	1	145 000,00	R 145 000,00
		b) Training and development of small enterprises	Sum	1	75 000,00	R 75 000,00
		c) Social facilitation and community mobilisation	Sum	1	75 000,00	R 75 000,00
1.5	8.5	EIA and servitude acquisition				
		EIA and servitude acquisition for the pipeline (Ps)	Sum	1	3 250 000,00	R 3 250 000,00
1.6	8.5	Additional geotechnical works				
		Additional geotechnical works (Ps)	Sum	1	400 000,00	R 400 000,00
TOTAL BILL 1 CARRIED FORWARD TO SUMMARY						

SCHEDULE 2 : SEWERLINE

ITEM NO.	PAYM REF	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
2.1	SABS 1200DB	<u>SITE CLEARANCE</u>				
2.1.1	8.2.1	Clear and grub	m	8 170	R -	R -
2.1.2	8.2.5	a) Take down existing fences	m	2 000	R -	R -
2,1,3		b) Reinstate fence to the Engineer's instruction	m	2 000	R -	R -
2.2	SABS 1200DB	<u>EXCAVATION</u>				
2.2.1		Excavate in all material for trenches, backfill, and compact and dispose of surplus/ unsuitable material				
		Up to 500 mm dia. Fortotal trench depth				
		a) From 0,0m not exceeding 1.5m deep	m	350	R -	R -
		b) From 1.5m not exceeding 2.0m deep	m	1 800	R -	R -
		c) From 2.0m not exceeding 2.5 m deep	m	950	R -	R -
		d) From 2.5m not exceeding 3.0m deep	m	390	R -	R -
		e) From 3.0m not exeeding 3.5m deep	m	300	R -	R -
		f) From 3.5m not exeeding 4.0m deep	m	100	R -	R -
		g) From 4.0m not exeeding 4.5m deep	m	100	R -	R -
2.2.2		Up to 900 mm dia. for total trench depth				
		a) From 0,0m not exceeding 1.5m deep	m	100	R -	R -
		b) From 1.5m not exceeding 2.0m deep	m	300	R -	R -
		c) From 2.0m not exceeding 2.5 m deep	m	1 000	R -	R -
		d) From 2.5m not exceeding 3.0m deep	m	1 200	R -	R -
		e) From 3.0m not exeeding 3.5m deep	m	1 200	R -	R -
		f) From 3.5m not exeeding 4.0m deep	m	1 000	R -	R -
		g) From 4.0m not exeeding 4.5m deep	m	1 600	R -	R -
CARRIED FORWARD						R -

SCHEDULE 2 : SEWERLINE

ITEM NO.	PAYM REF	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
BROUGHT FORWARD						R -
2.2.3		Up to 1 200 mm dia for trench depth up to 3.0m deep	m	120	R -	R -
2.2.4	8.3.2	<u>Extra-over item 3.2 for</u>				
		a) Hard rock excavation	m ³	1 500	R -	R -
		b) Intermediate excavation	m ³	1 800	R -	R -
		c) Boulder Excavation	m ³	900	R -	R -
2.2.4	8.3.2	Excavate and dispose of unsuitable material from trench bottom	m ³	150	R -	R -
2.2.6	8.3.3	Import backfill material from commercial sources	m ³	75	R -	R -
2.3	SABS 1200LB	<u>PIPE BEDDING</u>				
2.3.1	8.2.1	<u>Supply and install selected granular material for bedding cradle from</u>				
		a) Bedding material	m ³	6 750	R -	R -
		b) Selected backfill	m ³	23 600	R -	R -
	8.2.2	Supply and install selected material by importation from commercial sources				
2.3.2		a) Selected granular material (bedding)	m ³	1 300	R -	R -
		b) Selected backfill	m ³	5 000	R -	R -
2.3.3	8.2.5	Overhaul of material for beddingcradle and selected fill blanket	m ³ .km	0	R -	RATE ONLY
2.3.4	8.2.4	Encasingof pipes in concrete grade 10/20 (Ps)	m ³	500	R -	R -
2.3.5		Geotextile membrane (14)	m ³	5 000	R -	R -
2.3.6		19 mm crush stone for bedding	m ³	1 000	R -	R -
2.3.7		Selected dump rock of 150 to 250 mm dia.	m ³	500	R -	R -
2.3.8		150 mm dia, slotted and perforated pipes	m ³	1 000	R -	R -
CARRIED FORWARD						R -

SCHEDULE 2 : SEWERLINE

ITEM NO.	PAYM REF	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
BROUGHT FORWARD						R -
2.4	SABS 1200LD	SEWER				
	PSL 4.1	<u>Supply, lay, bed and test in Class B for the following:</u>				
2.4.1	8.2.1 (a)	<u>SANS 674: 2015 Steel Reinforced HDPE Structured Wall pipe, Ring Siffness SN10, Pipe Jointing</u>				
		a) 300 mm inner diameter	m	0	R -	RATE ONLY
		b) 350 mm inner diameter	m	1 400	R -	R -
		c) 400 mm inner diameter	m	0	R -	RATE ONLY
		d) 500 mm inner diameter	m	1 100	R -	R -
2.4.2	8.2.1 (a)	<u>SANS 674: 2015 Steel Reinforced HDPE Structured Wall pipe, Ring Siffness SN12.5, Pipe Jointing</u>				
		a) 600 mm inner diameter	m	1 100	R -	R -
		b) 700 mm inner diameter	m	3 900	R -	R -
		c) 800 mm inner diameter	m	0	R -	RATE ONLY
		d) 900 mm inner diameter	m	750	R -	R -
		e) 1 200 mm inner diameter	m	120	R -	R -
2.4.3	8.2.1 (b)	<u>Supply, join, lay and test CAC/ DOL complete pipes with spigot and socket joints of pipes class 75D</u>				
		a) 750 mm diameter	m	0	R -	RATE ONLY
		b) 825 mm diameter	m	0	R -	RATE ONLY
		c) 900 mm diameter	m	0	R -	RATE ONLY
		d) 1 200 mm diameter	m	0	R -	RATE ONLY
CARRIED FORWARD						R -

SCHEDULE 2 : SEWERLINE

ITEM NO.	PAYM REF	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
BROUGHT FORWARD						R -
2.5	PSLD	MANHOLES				
2.5.1	PSL 4.1	Prefabricated HDPE manholes diameter 1 500 mm welded joined on all of the manhole/ pipe connections. Manhole/ pipe connections to be tested for water tightness (SANS 674: 2015)				
	8.2.3 (a)	Over and up to				
		a) 0.0 - 1.5m	No.	2	R -	R -
		b) 1.5 - 2.0m	No.	40	R -	R -
		c) 2.0 - 2.5m	No.	20	R -	R -
		d) 2.5 - 3.0m	No.	25	R -	R -
		e) 3.0 - 3.5m	No.	12	R -	R -
		f) 3.5 - 4.0m	No.	10	R -	R -
		g) 4. - 4.5m	No.	6	R -	R -
		h) 4.5 - 5.0m	No.	5	R -	R -
		i) 5.0 - 5.5m	No.	1	R -	R -
		j) Above 5.5 m	No.	1	R -	R -
2.5.2	PSLD	MANAHOLES				
	PSL 4.1	<u>Manholes diadiameter 1 500 mm with light duty circular concrete covers. All rings shall be 250 mm in depth for manhole depth</u>				
	8.2.3 (b)	<u>Over and up to</u>				
		a) 0.0 - 1.5m	m	0	R -	RATE ONLY
		b) 1.5 - 2.0m	m	0	R -	RATE ONLY
		c) 2.0 - 2.5m	m	0	R -	RATE ONLY
		d) 2.5 - 3.0m	m	0	R -	RATE ONLY
		e) 3.0 - 3.5m	m	0	R -	RATE ONLY
		f) 3.5 - 4.0m	m	0	R -	RATE ONLY
		g) 4. - 4.5m	m	0	R -	RATE ONLY
		h) 4.5 - 5.0m	m	0	R -	RATE ONLY
		i) 5.0 - 5.5m	m	0	R -	RATE ONLY
		j) Above 5.5 m	m	0	R -	RATE ONLY
CARRIED FORWARD						R -

SCHEDULE 2 : SEWERLINE

ITEM NO.	PAYM REF	DESCRIPTION	UNIT	QUANT.	RATE	AMOUNT
BROUGHT FORWARD						R -
2.6	8.6	<u>BULK CONNECTIONS.</u>				
2.6.1		Supply, install and connect to bulk sewer line as per drawing detail	No.	10	R -	R -
2.7		(LI) Marker posts	No.	50	R -	R -
2.8		CCTV Survey of sewers (Ps)	Sum	1	R -	R -
TOTAL BILL 8 CARRIED FORWARD TO SUMMARY						R -

BULK SEWER

SUMMARY OF BILLS

Description		Amount
SCHEDULE 1	PRELIMINARY AND GENERAL	R
SCHEDULE 2	SEWER LINE AND MANHOLES	R
	SUB-TOTAL	R
	CONTINGENCIES @ 10%	R
	SUB-TOTAL	R
	VAT @ 15%	R
TOTAL TENDER AMOUNT		R

PART C3: SCOPE OF WORKS

C3.1 Description of the Works

C3.2 Engineering

C3.3 Procurement

C3.4 Construction

C3.5 Management

C3.6 Annexes

STATUS:

Should any requirement of provision in the parts of the Scope of Work conflict with any requirement of any Standardised specification, particular specification or any drawing, the order of precedence, unless otherwise specified, is as follows:

- Drawings
- Scope of work (Part C3.1, C3.3, C3.4, C3.5, C3.6)
- SANS Standard Specifications (Lowest precedence)

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C3.1: DESCRIPTION OF THE WORKS

1.1 EMPLOYER'S OBJECTIVES

The Employer's objective collect sewer from the sewer networks from Empumelelweni Township for disposal to the wastewater treatment works hence improve the living standards for the community. This is complying in terms of disposal of effluents from township as regulated.

The works in this contract are to be executed by using both conventional construction and labour-intensive methods in accordance with the Expanded Public Works Programme (EPWP).

Works earmarked for labour intensive construction methods will be numbered with a prefix "LI" in the bill of quantities to distinguish them from conventional construction works. Such works shall be constructed using local workers who are temporarily employed in terms of project specification.

1.2 OVERVIEW OF THE WORKS

The Empumelelweni Project is situated to the west of Witbank CBD about 12 km from the centre within the Emalahleni Local Municipality in Mpumalanga. Raw sewage will be collected within the township and surrounding areas, which is mainly domestic with a small percentage of industrial and thereafter, a bulk line will deliver the sewage to Klipspruit Wastewater Treatment Works. The treatment process at the works is undergoing upgrade to 30 MI/d and treated to special standards for discharge into sensitive river. This project aims to construct bulk sewer from Empumelelweni Township sewer networks to Klipspruit Wastewater Treatment Works for disposal after treatment processes.

1.3 EXTENT OF THE WORKS

1.3.1 General Extent of the Works

The extent and Scope of the Works comprise the following:

- Establishment of the Contractor's camp and plant on Site
- Removal of all site establishments on completion of the Contract
- Construction of 1 400 m of 350 mm dia. Steel Reinforced HDPE Structured Wall Pipe, Ring Stiffness SN10
- Construction of 1 000 m of 500 mm dia. Steel Reinforced HDPE Structured Wall Pipe, Ring Stiffness SN10
- Construction of 1 900 m of 600 mm dia Steel Reinforced HDPE Structured Wall Pipe, Ring Stiffness SN12.5
- Construction of 3 900 m of 700 mm dia. Steel Reinforced HDPE Structured Wall Pipe, Ring Stiffness SN12.5
- Construction of 750 m of 900 mm dia. Steel Reinforced HDPE Structured Wall Pipe, Ring Stiffness SN12.5
- Construction of 120 m of 1 200 mm dia. Steel Reinforced HDPE Structured Wall Pipe, Ring Stiffness SN12.5
- Construction of 122 HDPE Prefabricated Manholes diameter 1,500mm manholes of varying sizes and depth
- Installation of bulk connections
- Cleaning and finishing the site after construction

- After completion of the works, maintenance period of 12 months
- Service providers are required to provide detailed information on:
 - Methodology for achieving the construction
 - Gantt chart of time schedule for completion of the project
 - Availability of the equipment
 - Detailed reference list of similar projects undertaken and contact details of clients

Available facilities

Some areas have good roads but the contractor to make his own arrangements. Electricity and treated water are available in some cases on site however the contractor shall make his own arrangements with the necessary authorities for the use of these services. The contractor will have to make his own arrangements regarding ablution facilities.

1.4 LOCATION OF THE WORKS

The site of the works is situated in the town of Witbank (Emalahleni). The site can be accessed by driving on the N4 and off-ramp at KG Mall or Kromdraai Road to R104 then drive to the project area. Multiple access to site through Kromdraai Road to project area. Also, portions will be accessed from R104 road to the internal gravel roads. On N4 road between KG Mall and Kromdraai Road offramp, precast manholes can be seen on the northern side of the road.

The site's coordinates are **25°50'19.18"S** and **29°05'24.28" E. Refer to Annex A.**

1.5 TEMPORARY WORKS

- Existing services need to be exposed by hand excavation for protection
- Temporary stormwater drainage to protect works against stormwater during construction
- Maintenance of traffic and diversions to allow residents access to their properties

C3.2: ENGINEERING

2.1 DESIGN SERVICES AND ACTIVITY MATRIX

Design responsibilities through to contract completion are as follows:

DESCRIPTION	RESPONSIBLE
Concept, feasibility and overall process	Employer's Representative
Basic Engineering and detail layout to tender stage, including drawing up of necessary specifications and performance specifications.	Employer's Representative
Tendering and providing the necessary information required in terms of the Tender Documents including compliance with the Specifications.	Tenderers
Adjudication of tenders and submission of results of adjudication to the Employer	Employer's Representative
Final design for approval for construction stage	Employer's Representative
Construction of the Works including necessary Temporary Works	Contractor
Commissioning of the whole of the Works	Contractor
Preparation of as built drawings	Contractor
Preparation of Operation and Maintenance Manuals	Contractor
Training of Employer's staff in the correct managing and operation of the water works.	Contractor
Maintaining of the Works during the Defects Liability Period	Contractor

The design of the works is based on the following:

- Guidelines for the design of Water and Sanitation Systems – City of Tshwane
- Guidelines for Human Planning and Design (The Red Book) – The CSIR
- SANS (SABS) 1200
- SANS 674: 2015

Except for temporary works required, the contractor will not be involved in the design of permanent works

2.2 DRAWINGS

2.2.1 General

Drawings that form part of this tender document and all work are as on attached list described in detail at the pre-tender meeting and this information shall be used for tender purposes only.

The Contractor will be supplied with all information required for tendering including tender drawings. It is expected that the contractor will take own dimensions of the works for tendering purposes and the cost of this will be borne by the contractor.

Any information in the possession of the Contractor necessary for the Resident Engineer to complete his as-built drawings shall be supplied to the Resident Engineer before a Certificate of Completion will be issued.

Only figured dimensions shall be used and drawings may not be scaled unless so instructed by the Engineer. The Engineer will supply any figured dimensions, which may have been omitted from the drawings.

2.2.1 List of Contract Drawings prepared by Employer

Drawings are listed in Table 2.2 below to form part of the contract.

Table 2.2: List of Drawings

DRAWING NO.	DESCRIPTION	REV
20217-SEW-LP-101	BULK SEWER LAYOUT PLAN	00
20217-SEW-LP-102	BULK SEWER 1 PIPELINE SCHEDULE	00
20217-SEW-LS-101	SEWER LONGITUDINAL SECTIONS: MH18-MH27	00
20217-SEW-LS-102	SEWER LONGITUDINAL SECTIONS: MH27-MH48	00
20217-SEW-LS-103	SEWER LONGITUDINAL SECTIONS: MH48-MH66	00
20217-SEW-LS-104	SEWER LONGITUDINAL SECTIONS: MH66-MH82	00
20217-SEW-LS-105	SEWER LONGITUDINAL SECTIONS: MH82-MH97	00
20217-SEW-LS-106	SEWER LONGITUDINAL SECTIONS: MH97-MH112	00
20217-SEW-LS-107	SEWER LONGITUDINAL SECTIONS: MH112-MH128	00

2.3 DESIGN PROCEDURES

The Contractor shall be responsible for the design and specifications for the following aspects of the Works.

- Any temporary works requirements,
- Design integration before and during construction
- Procedures for all necessary approvals
- Environmental Management
- Design change procedures, and
- Record keeping and tracking of documents

C3.3: PROCUREMENT

3.1 PREFERENTIAL PROCUREMENT PROCEDURES AND REQUIREMENTS

The system of measurement of preferential procurement points shall be as defined in the Section T1.3: Tender Data.

3.2 USE OF LOCAL LABOUR

It is a requirement of the Employer that the maximum possible use is made of local labour.

The Contractor is therefore required to limit the use of non-local labour to key personnel only and to employ only local labour on this Contract.

The Contractor shall fill in the relevant forms regarding “Key Personnel” and state how many non-local key personnel he intends to employ in the various categories.

The numbers stated in the “Key Personnel” forms shall be strictly controlled during the Contract Period and any increase in numbers shall be subject to the approval of the Engineer.”

The contractor shall, through appropriate community structures, inform the local community of the labour needs and employment opportunities. Preference must be given to people with previous practical experience in construction and or who come from households:

- That have less than one person earning an income
- Where subsistence agriculture is the source of income
- Those who are not in receipt of any social security pension income

3.3 SUBCONTRACTORS, SMME's, FEMALES & YOUTH

The Contractor shall seek approval of all subcontractors prior to them starting work on site.

At least 20% of the contract value must be awarded to and be carried out by SMME's.

The female component of the total labour force, including labour employed by SMME's must be maximised at least 50%.

The youth (35 years and under but out of school) component of the total labour force, including labour employed by SMME's must be maximised and must take up not less than 30% of the total labour days expended on the contract.

The disabled component of the total labour force, including labour employed by SMME's must be maximised and must take up not less than 2% of the total labour days expended on the contract.

The Contractor shall submit with his monthly payment statement the “Monthly Data Sheet” (included in Part C1.2) detailing the SMME's and the breakdown of labour, including labour employed by SMME's utilised on the contract to date.

The Employer reserves the right to delay payments to the Contractor should the Contractor fail to provide any item of the required documentation timeously.

In the event of any discrepancy between the requirements of this Clause and the Municipality's Procurement Policy, the Procurement Policy shall take precedence.

Subcontracting procedures:

- The contractor shall advertise and call for competitive tenders in accordance with the requirements stated in the specification data in respect of each portion of work that is required to be subcontracted.
- The employer together with the contractor shall evaluate the tenders received in accordance with the provisions of the Standard Conditions of Tender contained in Annexure F of the Standard for Uniformity in Construction Procurement. The evaluation panel shall comprise equal representation from the Contractor, the Employer, and the Ward Committee
- The Contractor shall without delay enter into a written contract with the successful tendering subcontractor based on their accepted tender submission.
- The contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted

3.3 APPOINTMENT OF COMMUNITY LIAISON OFFICER (CLO)

- A CLO will be appointed by the contractor at his own risk from the local community. The CLO will amongst other duties be responsible for the liaison with the beneficiary community
- The successful tenderer will liaise with the Ward Councillor for the employment of the CLO
- Only one CLO shall be employed for the works. If the works spans over more than one ward, the relevant Ward Councillors shall agree on one CLO to be appointed by the contractor.
- Notwithstanding the above, if the project size demand more than one CLO then additional CLO will be employed provided total wages do not exceed the budget.
- The provision for the payment of the CLO will be made into the pricing data and will be agreed with the Municipality
- The CLO will attend all site meetings concerning work
- Should the contractor experience any difficulties with the community, the issues shall immediately be brought to the attention of the Department/ Project Manager who shall arrange a meeting with the Ward Councillors and the CLO to resolve such issues
- The main contractor shall ensure that any subcontractor appointed shall adhere to these conditions but also subject to provisions applicable to the duration of such subcontract.

C3.4: CONSTRUCTION SPECIFICATION

PART A: GENERAL

CONTENTS

A1	Nature of the Ground	C3.14
A2	Construction Programme	C3.14
A3	Site Facilities Available	C3.15
A4	Site Facilities Required	C3.15
A5	Features Requiring Special Attention	C3.17
A6	Reporting by Contractor	C3.22
A7	Applicable Standards and Particular Specifications	C3.22

A1 NATURE OF THE GROUND

Geotechnical investigation has been carried out over the majority of site and its detailed findings will be made available to the Tenderers. The remaining portions of pipe route will be updated of its geotechnical findings as soon as possible.

A2 CONSTRUCTION PROGRAMME

The successful Tenderer shall submit a detailed, comprehensive, and realistic Works Programme within 14 days after the award of the contract showing the order of construction and method by which he proposes to carry out the Works. The format of the programme shall be to the Engineer's approval but shall be in the form of a bar chart showing the critical path. In addition, the Contractor shall provide a schedule of the forecast value of completed work, month by month.

The programme shall include the critical construction path and an estimate of the anticipated cash flow.

The successful Tenderer shall complete the Works within the stipulated times in order to avoid the payment of penalties as provided for in Clause 42 of the General Conditions of Contract.

The Contractor shall not depart from the order in which the various items of work have been agreed without the prior written consent of the Engineer. If the programme is to be revised by reason of the Contractor falling behind, he shall produce a revised version showing the modifications to the original programme necessary to ensure completion of the Works or any part thereof within the time for completion as defined, or any extended time granted, as well as a revised schedule of the forecast value of completed work, month by month.

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 Employer to take steps as provided for in the General Conditions of Contract for Construction Works (2015).

The approval by the Engineer of any programme shall have no Contractual significance other than that the Engineer would be satisfied if the Work is carried out according to such programme and that the Contractor undertakes to carry out the Work in accordance with the programme. It shall not limit the right of the Engineer to instruct the Contractor to vary the programme should circumstances make this necessary.

Cognisance shall be taken of the frequency of rain days, inclement weather and material delivery delays when formulating a programme of works.

C3.4.2 Plant and Materials

C3.4.2.1 Plant and materials supplied by the employer.

The Contractor shall be responsible for acquiring all plant and materials as required in the scope of work and schedule of quantities for successful construction and completion of the project. The client shall not provide any plant or materials during the course of the project.

C3.4.3 Construction Equipment

C3.4.3.1 Requirements for equipment

1no. excavator
1no. TLB
2no. roller wheel compactor
3no. tip truck
Wheelbarrows
Shovels

C3.4.3.2 Equipment provided by the employer

The Contractor shall be responsible for providing on site all construction equipment necessary for the successful construction of the project. Construction equipment shall be made available on site in time for the respective operations as needed and shall only be taken off-site once the respective operations have been totally completed.

C3.4.4 EXISTING SERVICES

C3.4.4.1 Known services

All water supply reservoirs have water services pipes and fittings located underground and in manholes around the reservoirs. Some of the reservoirs have electricity and communication cables and fittings. The Contractor must take all precautions to protect these services from damage during the period of the Contract.

C3.4.4.2 Treatment of existing services

The Contractor must make his own arrangements with relevant authorities to use the services.

C3.4.4.3 Use of detection equipment for the location of underground services

The Contractor must use standard detection equipment for water services, electricity and communication infrastructure.

C3.4.4.4 Damage to Services

The responsibility to repair any damage to existing services that does not form part of the contract lies with the Contractor.

C3.4.5 SITE ESTABLISHMENT

C3.4.5.1 Service and facilities provided by the employer.

The Contractor will be allocated an area for his use in the establishment of a yard, storage, offices, etc. The Contractor shall be responsible for fencing and securing his own area. On completion of the Works and removal of the depot, the site shall be cleaned and restored to its natural condition immediately it is vacated.

Telephone Facilities

The Contractor will have to make his own arrangements with Telkom if so desired.

Housing

The contractor will not be permitted to accommodate his employees on site safe for security guards employed for the safe keeping of the works during construction.

C3.4.5.3 Soil Laboratories

Commercial laboratories operate from Polokwane.

C3.4.5.4 Other facilities required

C3.4.5.4.1 Engineer's Office

The Contractor shall be required to provide an office and a dedicated toilet facilities and undercover parking facilities for the sole use of the Engineer.

C3.4.5.4.2 Engineer's Accommodation

Not required.

C3.4.5.4.3 Engineer's Laboratory

No testing laboratory is required for use by the Engineer, but all quality control testing shall be carried out by the Contractor at his own cost.

The Contractor shall arrange for process control testing to be undertaken by a laboratory to be approved by the Engineer.

A provisional sum will be allowed for in the schedules to allow for the use of an independent laboratory to effect check tests as detailed by the Engineer.

C3.4.5.4.4 Sanitary Facilities

The Contractor shall provide adequate ablution and toilet facilities for all workmen on site.

All latrines shall comply with the requirements of the Local Authorities and shall be placed where directed by the Engineer. All sanitary fees and costs payable shall be paid by the Contractor. All latrines must, for the duration of the contract, be kept continuously in a clean and hygienic condition by the contractor to the satisfaction of the Engineer.

If at any time the Contractor neglects to comply with the abovementioned requirements and after he has been requested to do so by the Engineer, fails to rectify the matter about which the Engineer has complained, the Engineer shall have the right to immediately order such material, employ such workmen and take such measures as he regards necessary to ensure clean and hygienic conditions all at the expense of the contractor.

C3.4.6 SITE USAGE

The Contractor shall be responsible for disposal of refuse and waste generated by his staff on a daily basis. The site is to be kept clean, neat, and tidy to the Engineer's satisfaction. Refuse and waste shall not under any circumstance be buried on the site but shall rather be collected in suitable skips and disposed of at the nearest suitable landfill site.

The disposal of waste shall be carried out in accordance with the requirements of the relevant Local Authority.

A4.6 Engineer's Survey Equipment

The Contractor shall provide on request from the Engineer or his Representative, survey equipment for temporary use such as an automatic level, tachometer, level staff, 100 m tape, ranging rods, pegs, etc and any labour required for this purpose. Instruments provided shall be in a good state of repair and accuracy.

The Contractor shall maintain the equipment in good working order and keep it clean until the completion of the Works.

The Contractor shall keep the equipment continuously insured against any loss, damage or breakage, and he shall indemnify the Engineer and the Employer against any claims in this regard. Upon completion of the Works the survey equipment as listed above shall revert to the Contractor.

A5 FEATURES REQUIRING SPECIAL ATTENTION

A5.1 Use of Explosives

Prior to the use of explosives at any specific location, the Contractor shall obtain permission for blasting from the Engineer. The safety of existing Works and services, and of persons, etc., shall remain the responsibility of the Contractor, who shall abide by all the relevant laws and regulations.

A5.2 Existing Services and Building

Although the plans may show the approximate position of existing services and buildings, neither the Employer nor the Engineer will accept the responsibility for the accuracy thereof.

Where the Contractor anticipates that it will be impossible for him to carry out the work without causing damage to existing services, works, or buildings he shall forward a proposal on the method of construction for approval by the Engineer.

Where any existing services are crossed or temporarily removed, the Contractor shall be responsible for the repair and / or reinstatement of the crossings to the satisfaction of the Engineer.

Any damage done to existing Works or buildings shall be immediately notified to the owners concerned and to the Engineer.

Unless it is established by the Engineer that the Contractor exercised reasonable care and damage was unavoidable, the Contractor shall be held responsible for the damage to any existing Works or buildings and for the costs of repair, including any claims which may arise as a result thereof.

A5.3 Pegs, Beacons, and Engineer's Marks

No survey mark, peg or beacon shall be disturbed without the Engineer's consent. The cost of replacing any survey mark, peg or beacon disturbed or damaged during construction shall be borne by the Contractor. The Engineer shall be advised immediately when boundary pegs are found to be missing. If this is not done, the Contractor will be liable for the replacement thereof and shall bear the cost.

A5.4 Compliance with Statutory Requirements

The Contractor shall allow for all costs necessary to ensure that all work is undertaken in a safe and healthy working environment and in compliance with the Occupational Health and Safety Act, (OHS Act No. 85 and Amendment Act 181) of 1993 and the Construction Regulations, 2003. The “minimum safety requirements” referred to shall be those contained in the Construction Regulations, 2003 of the above OHS Act. Furthermore, the contractor shall comply with all statutory and local regulations and requirements. The cost of complying with the requirements of this clause shall be included in the rates tendered.

A5.5 Permits

The Contractor shall be responsible for obtaining all necessary permits to transport materials to the area.

A5.6 Facilities to Other Contractors

In addition to the requirements of the General Conditions of Contract, the Contractor must make allowance for the presence of other Contractors on Site, which may involve, *inter alia*, the adaptation of his programme to fit in with work to be done by the other Contractor, as well as assuring other Contractor’s access to the site. The Contractor will be advised at tender stage of any other Contractors who may be engaged on other Works during the Contract.

A5.7 Spoil Material

No indiscriminate spoiling of material or rubble will be allowed. All surplus or unsuitable material and rubble shall be spoiled, levelled, and spread in designated areas as directed by the Engineer within a free haul distance of 2 km.

A5.8 Finishing and Tidying and Defects Liability Period

Progressive and systematic finishing and tidying will form an essential part of this Contract. On no account must spoil, rubble, materials, equipment or unfinished operations be allowed to accumulate in such a manner as to unnecessarily impede the activities of others, and in the event of this occurring, the Employer shall have the right to withhold payment for as long as may be necessary in respect of the relevant Works in the area (s) concerned without thereby prejudicing the rights of others to institute claims against the Contractor on the Grounds of unnecessary obstruction.

All finishing and tidying shall be carried out to the best advantage of the project as a whole and in the closest co-operation with other contractors and residents.

A5.9 Security of Contractor’s Site

The provision and sustainment of security for the Contractor’s Site Establishment shall be his own responsibility, and no claims for additional security measures taken during the currency of the Contract will be considered other than as provided for in the General Conditions of Contract.

A5.10 Contractor's Site Agent

- a. Within 14 days of the award of Contract, the Contractor shall advise the Employer in writing of the name of the responsible person in charge of this Contract.
- b. In amplification of Clause 25 of the General Conditions of Contract:

It shall be noted that the Contractor shall be required to strictly observe his obligations regarding adequate full-time superintendence of the Works, with reference to accuracy of setting out, excavations, correct steel fixing, properly constructed formwork, positioning of foundation bolts, and / or bolt pockets, placing of concrete, etc. in order to achieve the high standard of workmanship required of him.

Adequate facilities for superintendence of his work shall be provided by the Contractor and the Engineers engineering staff must under no circumstances be expected to act in this capacity on his behalf.

A5.11 Attendance at Site Meetings

The Contractor will be required to attend site meeting as and when these are required by the Engineer. The objectives of such meetings will be to review progress and ensure compliance with the programme, discuss and where possible solve any problems that may arise, and generally to liaise with all parties concerned with the Works.

The cost of attending such meetings shall be deemed to be included in the rates. Instructions given by the Engineer or agreement reached at such meetings and confirmed in the minutes shall be considered as a "written instruction by the Engineer" as referred to in the General Conditions of Contract.

Site meetings will generally be held once every month.

A5.12 Liaison Officer

If required in terms of the contract, the Contractor shall employ a Liaison Officer for the full duration of the contract. If a Liaison Officer is required, a provisional sum will be provided in the Schedule of Quantities to cover the cost of the CLO.

A5.13 Courtesy

In all dealing with the public the Contractor shall bear in mind their right to enjoy the use of the roads and services and access to their properties and that the Employer desires to interfere as little as possible with these rights.

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. To assist the Contractor in his dealings with the public, use should be made by him of the Liaison Officer and the Engineer's Representative on site. On occasions where the Contractor liaises directly with the public, the Liaison Officer and the Engineer's Representative should be informed of the outcome to be able to maintain a coherent picture of developments in the area.

A5.14 Dealing with Landowners

It is of paramount importance that good relations be always maintained between the Contractor and the landowners in the area. To preserve these good relations, the following routine shall be observed throughout the works:

- (a) At least one week's notice shall be given by the Contractor to the Engineer before entering upon any property for the purpose of commencing construction.
- (b) On receipt of such notice, the Engineer will, as far as possible, arrange for a meeting between the Engineer, Contractor and the landowner concerned during which the programme of construction will be discussed. The landowners will be advised of the times of commencement and completion of work on their land and will be acquainted with the Contractor's intentions regarding the cutting down of trees, temporary lowering of fences, temporary access roads, and all other matters affecting the owners' land and farming operations.

Any requests from owners which are reasonable, and which will not affect the economical construction of the works in accordance with the Specification shall be met if possible.

- (c) The Contractor shall negotiate directly with the landowners about alternative access over private property to the site of the works, borrow pits and any dumping site for surplus excavation. All such sites shall be subject to the approval of the Engineer and the Engineer shall also be kept fully informed of all negotiations that are in progress between the Contractor and the landowners. The Contractor shall make prompt payment to the landowners for any royalties for borrow pits and for any agreed amounts to be paid to the farmer for the use of borrow pits, dumping sites, access roads, etc. No separate payment shall be made to cover royalties and all costs in this regard shall be deemed to be included in the tendered rates.

The Contractor shall, within a period of 3 months of completing the construction work on any private property produce to the Engineer a certificate, signed by the landowner in question, that all the Contractor's obligations to the landowner have been completely discharged in terms of the servitude agreements and any private agreements that may have been arranged between the Contractor and the landowners.

If such evidence is not produced within the stipulated period, the Employer reserves the right to investigate any agreement entered into between the landowner in question and the Contractor and any claims made by the landowner. If the Employer is then satisfied that the Contractor is in default in terms of the contract and any private agreements made, all justifiable claims shall be paid to the landowner by the Employer from retention money held and shall be deducted from the amount payable to the Contractor.

A5.15 Working Within the Road Reserve and Landowners' Property

The Contractor shall observe the following when operating within private property, roads, and road reserve:

- (a) The Employer will acquire servitudes from the owners of all properties crossed by new services or has permission to occupy where the servitudes will not be obtained.

- (b) At all times the Contractor shall confine his operations to the area of the servitude unless he has made prior arrangements with adjoining landowners to the Engineer's approval.
- (c) No damage shall be done to buildings, dwellings, crops, cultivated lands, dams, watercourses, roads, fences, and the like outside the servitude.
- (d) When working within existing road reserves the Contractor shall ensure that as little inconvenience as possible is caused to residents and traffic. Extra care shall be taken about the siting of the excavated material and materials to be built into the Works so that disturbances will be minimised.
- (e) The area within the road reserves and servitudes shall be restored to the same standard and state as it was before construction at the Contractor's expense.
- (f) Every precaution must be taken by the Contractor to prevent any flooding and erosion damage to adjoining property resulting from uncontrolled run-off during construction.

A5.16 Drawings and Specifications to be provided

Any information in the possession of the Contractor which is necessary for the Engineer's Representative to complete his "As Built" or "Record" drawings must be submitted to the Engineer's Representative in accordance with the General Conditions of Contract. Only figured dimensions shall be used and drawings shall not be scaled unless so instructed by the Engineer. The Engineer will supply any figured dimensions which may have been omitted from the drawings.

A5.17 Certificates of Payment

The statement submitted by the Contractor in terms of the General Conditions of Contract shall be prepared in accordance with the standard payment certificates prescribed by the Employer and shall consist of at least **two** sets of A4-sized paper copies.

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

A5.18 Extension of Time Arising from Abnormal Rainfall and Weather

If during the time for completion of the Works or any extension thereof, abnormal rainfall or weather conditions occur, the Contractor may submit a claim for an extension of time in accordance with Clause 42 of the General Conditions of Contract. The method whereby an extension of time due to abnormal rainfall shall be determined is as follows:

- (1) Abnormal rainfall and weather for each calendar month shall be the total working days in the month under consideration during which the Contractor is unable to proceed with his operations as specified under (2) below, less the number of days representing normal rainfall for the month under consideration as shown on the following table. When drawing up the programme of work, the Contractor shall make provision for the expected delays shown in the table.
- (2) The claim for extension of time shall be the sum of all the positive net monthly number of abnormal rainfall days (as calculated in the previous paragraph) over the Contract Period. Negative monthly totals shall be disregarded. A day shall be considered as lost when the Engineer agrees that no work was done or was capable of being done on any item shown on the critical path and have been

affected by rainfall will not be considered as lost when the Engineer agrees that no work was done or was capable of being done on any item shown on the critical path of the current construction programme. Items which are not shown on the critical path and have been affected by rainfall will not be considered for extension of time.

Annual holidays, Saturdays, and Sundays when no work is programmed, and the special non-working days as listed in the Annexure to the Tender below shall be considered as none working days.

Calendar Month	Expected No. of Working Days Lost Due to Normal Rainfall	Calendar Month	Expected No. of Working Days Lost Due to Normal Rainfall
January	3	July	1
February	3	August	1
March	3	September	2
April	2	October	3
May	1	November	3
June	1	December	3

A5.19 Protection against water and storms

The Contractor shall be responsible for the full adequate protection of the works against damage due to storms, rain, floods, stormwater, subsoil water and seepage from whatever source. The Contractor shall take over the site where the works must be executed at the beginning of the Contract Period and the full risk and cost of dealing with all water shall be borne by the Contractor.

The Contractor shall also provide all necessary pipe work, pumps and other appliances necessary for adequate dewatering of all excavations and shall maintain these in good condition and provide adequate standby equipment to ensure that no disruption of work will ensue as a result of possible breakdown of equipment

A5.20 Testing, completion, commissioning, and correction of defects

The onus is on the Contractor to produce goods and services which shall conform in quality and in accuracy of detail to the requirements hereinafter specified. The Contractor must clearly understand that it is not the duty of the Engineer or his representative to act as foreman or surveyor on the Works.

The Contractor shall, at his own expense, provide experienced engineers, foremen and surveyors together with all transport, instruments, and equipment for supervising, checking and controlling the work.

The act of passing any completed work or accepting materials or goods for payment by the Engineer shall not be construed as signifying approval or acceptance thereof. Failure on the part of the Engineer to reject any defective work or material or goods shall not in any way relieve the Contractor of his obligations under the Contract, nor prevent later rejection when such work or material is discovered.

Quality control and completion tests shall be in accordance with the relevant standard and amended specifications and additional specification.

A5.21 Sequence of the works

The sequence of works to be executed shall be agreed between the Engineer and the Contractor.

A5.22 Quality plans and control

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the specifications and drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality-control system and provide experienced personnel, together with all transport, instruments, and equipment to always ensure adequate supervision and positive control of the works.

The cost of supervision and process control will be deemed to be included in the rates tendered for the related items of work. The Contractor shall remain fully and solely accountable for the Works and for compliance with the specifications and the drawings.

The tendered rates shall include the cost of all activities and tests that may be required in ensuring proper completion and commissioning of the Works, and no additional claims shall be entertained in this respect. This includes the supply of all necessary equipment required for such and / or for inspections by the Engineer and any other relevant authority. Any defect in the Works shall be corrected to the satisfaction of the Engineer.

A6 REPORTING BY CONTRACTOR

The Contractor shall be required to submit updated reports together with each Monthly Payment Certificate. Copies of employment contracts for all workers engaged during that month are also to be included.

Payment to the Contractor is conditional upon this information being accurately and timeously submitted.

The following schedules will be provided to the contractor to complete and maintain:

- The requirements as listed in Form F of Part C1.2
- Contractor's Monthly Report
- Overall Project Worker Schedule
- Monthly Project Worker Schedule
- Weekly Task Wage Register
- Local Labour Schedule

A7 APPLICABLE STANDARDISED AND PARTICULAR SPECIFICATIONS

The latest edition as at date of tender of the following Standardised Specifications for Civil Engineering Construction as published by the South African Bureau of Standards shall apply.

SANS 1200

1200	A	-	General
1200	AB	-	Engineer's Office
1200	C	-	Site Clearance
1200	D	-	Earthworks
1200	DB	-	Earthworks (Pipe Trenches)

EMALAHLENI LOCAL MUNICIPALITY
EMPUMELELWENI TOWNSHIP BULK SEWER
TENDER NO.: ELM 21/2022

1200	DK -	Gabions and Pitching
1200	G -	Concrete (Structural)
1200	GA -	Concrete (Small Works)
1200	L -	Medium Pressure Pipelines
1200	LB -	Bedding (Pipes)
1200	LD -	Sewers
1200	LE -	Stormwater drainage

Variations and additions to the SANS 1200 Standardised Specifications are given in Section C3.4 - Part B of these document.

Copies of the above listed SANS specifications are not bound into this document but may be purchased by Tenderers at their own cost from:

SA Bureau of Standards
Private Bag X191
PRETORIA
0001

For all Building Works, the latest edition (1999) of the "Model Preambles for Trades" as recommended and published by the Association of South African Quantity Surveyors shall apply. This Standardised Specification is not bound into this Document but may be purchased by Tenderers from the Master Builders Association, Natal Building Centre, 40 Essex Terrace, Westville (031 - 266 70706).

In the event of any discrepancy between the "Model Preambles for Trades" and the SANS 1200 Standardised Specifications or Project Specifications, the SANS 1200 Standardised, and Project Specifications shall take precedence.

In addition, the following Particular Specifications that are bound into this document under Section C3.4 – Part C shall apply:

PA	-	Fencing
PB	-	Building Works and Service

PART B: VARIATIONS TO THE STANDARDISED SPECIFICATIONS

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PSA GENERAL (SANS 1200 A)

PSA 1 Scope

Replace the first paragraph of sub-clause 1.1 with the following:

“1.1 This specification covers requirements, principles and responsibilities of a general nature which are normally applicable to all civil engineering contracts as well as the requirements for the Contractor’s establishment on Site”

PSA 2 Interpretations

PSA 2.3 Definitions

(a) General

Add the following definitions:

“**General Conditions:** The General Conditions of Contract specified for use with this Contract and the Special Conditions of Contract as applicable.

Specified: As specified in the Standardised Specifications, the Drawings, or the Project Specifications. Specifications shall have the corresponding meaning, as provided for in sub-clause 1(1)(u) of the General Conditions of Contract”.

(c) Measurement and Payment

Replace the definitions for fixed charge, time-related charge, and value-related charge with the following:

“**Fixed Charge:** A charge that is not subject to adjustment on account of variation in the value of the Contract amount or the Contract time for completion.

Time-related Charge: A charge, the amount of which is varied in accordance with the time for completion of the work as adjusted in accordance with the provisions of the Contract.

Value-related Charge: A charge, the amount of which is varied pro rata the final value of the measured work executed and valued in accordance with the provisions of the Contract.”

PSA 2.4 Abbreviations

a) Abbreviations relating to standard documents

Add the following abbreviations:

“CSK: SANS Coordinating Specification”

PSA 3 Materials

PSA 3.1 Quality

Add the following:

“All manufactured materials supplied shall be new materials unless the contrary is specified. All materials specified in accordance with SANS Specifications shall bear the SANS mark, whether so specified or not.

The Contractor shall arrange for all necessary process control tests for soil properties, density, etc, and concrete cube tests and is responsible for the cost of all testing to ascertain that the materials do comply with the relevant minimum requirements and all such costs shall be deemed to be included in the tendered rates. The cost of acceptance for control tests done by the Engineer, of which the results do not comply with the minimum requirements, shall be for the Contractor’s account. The tests must be carried out by an independent laboratory approved by the Engineer.

The Contractor shall inform the Engineer of any process control testing to be done at least 48 hours before such test are required and must allow in his programme for the time necessary for the tests and the processing of the results thereof.”

Add the following sub-clause:

“PSA 3.3: Ordering of Materials

The quantities set out in the Schedule of Quantities have been carefully determined from calculations based on data available at the time and should therefore be considered to be only approximate quantities. The liability shall rest entirely and solely with the Contractor to determine before ordering, the required types and quantities of the various materials required for completion of the Works in accordance with the Specifications and the Drawings issued to the Contractor for construction purposes.

Any reliance placed by the Contractor on the estimated quantities stated in the Schedule of Quantities issued for tendering purposes, or measurements made by the Contractor from the drawing issued for tendering purposes, shall be entirely at the Contractor’s risk, and the Employer accepts no liability whatever in respect of materials ordered by the Contractor based on Tender Documents.”

PSA 4 Plant

PSA 4.2 Contractor’s Office, Stores and Services

Add the following before the first paragraph:

“The Contractor’s construction camp shall be fenced off and shall contain all offices, stores, workshops, toilet facilities, etc. The camp shall always be kept in a neat and tidy condition.

No personnel will be allowed to reside on the Site. The Contractor shall be responsible for the security of his construction camp and of the construction Site, at his own cost. Only night-watchmen may be on the Site after hours.”

PSA 5 Construction

PSA 5.1 Survey

PSA 5.1.1 Setting out the Works

Add before the first sentence:

“The Contractor will be required to set out the various sections of the Works in the order that he proposes to undertake the work as per his programme, at least one week prior to commencing work on these sections, to enable the Engineer to check the design proposals in the field and thereafter to make any minor changes which he may deem necessary. Any additional survey work or setting out required because of these changes shall be undertaken on a day work basis.”

PSA 8 Measurements and Payments

PSA 8.1 *Measurements*

PSA 8.1.2 Preliminary and General Items or Section

PSA 8.1.2.2 Tendered Sums

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

“The Contractor’s tendered sums under items PSA 8.3 and PSA 8.4 shall collectively cover all charges for:

- Risks, costs, and obligations in terms of the General Conditions of Contract and of this Standardised Specifications, except to the extent that provision is made in these Project Specifications to cover compensation for any of these items of work.
- Complying with the Occupational Health and Safety Act (Act No. 85 of 1993) and with its Construction Regulations 2003 and Part 5 – Section C5.1: Health and Safety Specification, providing the required health and safety measures
- Head-office and site overheads and supervision.
- Profit and financing costs
- Expenses of a general nature not specifically related to any item or items of permanent or temporary work
- Providing facilities on Site for the Contractor’s personnel, including offices, storage facilities, workshops, ablutions, for providing services such as water, electricity, sewerage, sewerage, and rubbish disposal, for access roads and all other facilities required, as well as for the maintenance and removal of completion of the Works of these facilities and the cleaning up of the camp site on completion of the works.
- Dealing with water.
- Providing facilities for the Engineer and his staff as specified in SANS 1200 AB and in these Project Specifications.
- Two name boards as specified. These boards are to be erected in positions to be indicated by the Engineer.

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 8.3.1 will be made in three separate instalments 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 instalment 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 instalments in relation to the value of the work done (excluding the value of any price adjustments in terms of Clause 49 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 46 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 ***Schedule Fixed-Charge 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 all costs related to complying with the Occupational Health and Safety Act and in particular with its Construction Regulations 2003 and Part PG of the Project Specification.

Payment will be made as described in sub-clause PSA 8.2.2.”

PSA 8.8 *Temporary Works*

PSA 8.8.2 Dealing with Traffic

This item shall include supply, erection and maintenance of all temporary road signs, delineators and for flagmen that may be required, in terms of the South African Road Traffic Signs Manual, for all interfaces with public roads. Construction of road crossings shall be carried out using the method of half widths and the road shall be re-opened to its full width for two-way traffic overnight. Under no circumstances will the half-widths closure be permitted to remain after normal working hours.

All road signs and delineators shall be new.

PSAB ENGINEER'S OFFICE (SANS 1200 AB)

PSAB 3 Materials

PSAB 3.2 Office Building

Add the following:

"The Contractor shall provide a single office for the use of the Engineer that shall be situated within the security area enclosing the Contractor's camp. The office shall be fitted with a suitable air conditioning unit for both heating and cooling. The Engineer's office shall be cleaned daily.

In addition, the offices for the Engineer shall be supplied with approved burglar proofing, the cost of which shall be taken as included in the relevant tendered rates.

Furthermore, the Contractor shall supply a single shaded carport for the exclusive use of the Engineer. The carport shall be constructed with gum pole uprights with IBR or corrugated iron roofing with 80% shade cloth cladding to the sides. The surface bed of the carport shall be free draining and constructed with a 100 mm layer of 19 mm stone".

Add the following sub-clause:

"PSAB 3.3 Engineer's Survey Equipment

The Contractor shall provide on request from the Engineer or his Representative, survey equipment for temporary use such as an automatic level, tachometer, level staff, 100 m tape, ranging rods, pegs, etc and any other labour required for this purpose. Instruments provided shall be in good state of repair and accuracy.

The Contractor shall maintain the equipment in good working order and keep it clean until the completion of the Works.

The Contractor shall keep the equipment continuously insured against any loss, damage or breakage, and he shall indemnify the Engineer and the Employer against any claims in this regard. Upon completion of the Works the survey equipment as listed above shall revert to the Contractor."

PSAB 5 Construction

PSAB 5.4 Telephones

Add the following:

"The Contractor shall provide, for the sole use of the Engineer, a cellular phone package with an approved airtime contract, sim card etc. The tendered fixed and time related Preliminary and General Charges in the Schedule of Quantities shall be deemed to include for all costs in this regard and shall include for an amount of R1 500.00 per month to cover the cost of calls."

PSAB 5.5 ***Survey Assistants***

The Contractor shall make available two suitably educated survey assistant for use on and about the site at all reasonable times.

PSAB 8 **Measurements and Payment**

All measurements and payments for Engineer's office to be effected under PSA 8.3 and PSA 8.4.

PSC SITE CLEARANCE (SANS 1200 C)

PSC 3 Materials

PSC 3.1 *Disposal of Material*

Replace the words from “Material obtained from clearing and Grubbing.....” to “... prior written approval for the Engineer” with the following:

“The Contractor shall make his own arrangements for the disposal of material obtained from clearing and grubbing and from the demolition of structures, which material shall be removed from the site.

The disposal site shall meet with the approval of the Local Authority within whose area it falls, and the spoiling shall comply with all the statutory and municipal regulations. No burning of material will be allowed on site.

No overhaul will be paid for any spoil materials and the Contractor shall allow for all haulage in his tendered rates. All costs relating to this activity shall be deemed to be included in the rates tendered for site clearance.”

PSC 5 Construction

PSC 5.3 *Clearing*

Add the following:

“Where the any Portion of the Works traverses existing fences, these shall be carefully uplifted, if required, and reinstated during the course of activities in that specific area. Where an uplifted fence interferes with the security of what it controls a temporary fence shall be installed and operated to the satisfaction of the Engineer or his Representative. Prior to removal or dismantling of any fence, the contractor will be required to photograph the fence for future reference.”

PSC 8 MEASUREMENT AND PAYMENT

PSC 8.1 *Basic Principles*

Add the following:

“No separate payment will be made for topsoil removal along pipeline routes. The Contractor is to excavate trenches in such a manner that the top 150 mm of material is kept separate from other excavated material, for replacement on completion of backfill operations. All costs related to excavating this vegetation and topsoil, and separate stockpiling shall be deemed to be included in rates tendered for trench excavation.”

PSC 8.2.5 Take down existing fences

“The tendered rate shall also include for the re-erection of the fence, photographing and temporary fencing where required all as specified.”

PSD EARTHWORKS (SANS 1200 D)

PSD 2 Interpretations

PSD 2.3 Definitions

Replace the definition “Borrow” with the following:

“Borrow material: Material, other than materials obtained from excavations required for the Works, obtained from sources such as borrow pits or the authorised widening of excavations. ‘Borrow’ shall have a corresponding meaning.”

Replace the definition “Stockpile” with the following:

“Stockpile (Verb): The process of selecting and as may be necessary, loading, transporting and off-loading material in a designated area for later use and a specific purpose.”

Add the following definitions:

“Fill: An embankment or terrace constructed from material obtained from excavations or borrow. In roads it includes the earthworks up to the underside of the selected sub-Grade level.

Fill (Material): Material used for the construction of an embankment or terrace.

Roadbed: The natural in-situ material on which the fill, or in the absence of fill, any pavement layers, are to be constructed.”

PSD 5.1.1.2 Safeguarding of excavations

In addition to the existing clause, the following shall apply:

- (a) Loose ground, materials, tools, and appliances shall be kept clear of the edge of the excavations and a pathway at least 1.0m shall be left clear around such edge.
- (b) No separate or additional payment shall be made for timbering and shoring, and allowance must be made for this work in the Schedule Rates for excavation.
- (c) Timbering, shoring, etc. directed to be left in the excavations will be paid for at the scheduled rates.
- (d) The Contractor shall be solely and entirely responsible for maintaining excavations in a safe condition and his responsibility shall in no way diminish by any instruction by the Engineer to take additional or improved protection or precautionary measures.

PSD 3 Materials

PSD 3.1.1 Method of Classifying

Add the following:

“Classification of material other than ‘soft excavation’ shall be agreed upon before excavation may commence.

The Contractor shall immediately inform the Engineer if and when the nature of the material being excavated has changed 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.”

PSD 3.3 Selection

Add the following sub-clause:

“PSD 3.3.3: Selection in borrow pits and excavations

The approval of a borrow area for a certain purpose does not necessarily mean that all material within that area is suitable for the specified purpose. What it does mean, is that the borrow area contains some suitable material. The onus is on the Contractor to ensure that only material that is indeed suitable is removed and used for the specified purpose.

Where the Contractor is required to select material from excavations for a specific purpose, the above provisions relating to borrow areas shall apply *mutatis mutandis* to excavations.

The Contractor shall not waste or contaminate material that has been selected for a specific purpose”.

PSD 5 Construction

PSD 5.2 Methods and Procedures

PSD 5.2.2.2 Borrow Pits

Add the following:

“A commercial source shall, for the purposes of this Specification, mean a source of material provided by the Contractor, not the Employer.

Where it is specified that material shall be obtained from commercial sources, the Contractor shall be responsible and include in his price for fill from commercial sources, for finding a source of suitable material, for making all arrangements for procuring the material with the owner of the source, for the payment of any royalties, charges or damages and for transporting the material to the site regardless of the distance involved.

No payment will be made for the removal of overburden or stockpiling at the commercial source and no extra over payment for excavating in intermediate, hard or boulder material shall apply.”

PSD 5.2.2.3 Disposal

Add the following:

“The Contractor shall make his own arrangements for the disposal of excess or unsuitable materials. The disposal / spoil site shall meet with the approval of the Local Authority within whose area it falls, and the spoiling shall comply with the statutory and municipal regulations. The cost of all loading, hauling, dumping, spreading, compacting

and any other costs or charges will be deemed to be included in the rates tendered for spoiling of material."

PSD 5.2.4 Finishing

PSD 5.2.4.3 Grass or other Vegetation

Add the following to subclause (f) Grassing:

"The type of Grass to be used shall be *Cynodon Dactylon*, *Cynodon Royal Blue* or *Pennisetum Clandestinum* (Kikuyu) as agreed with the Engineer.

- a) General - Grassing shall be carried out at the earliest convenient stage of the construction and shall be arranged to suit the seasonal weather conditions. Fertiliser shall be supplied by the Contractor.
- b) Planting Grass cuttings - The areas to be Grassed by means of Grass cutting shall, unless already moist, be thoroughly watered before cuttings are planted to ensure that the soil will be uniformly moist to a depth of at least 150 mm when the planting is done. This method shall only be used on flat areas, such as sidewalks and platforms.

An approved variety of Grass cuttings shall be evenly planted by hand or mechanically at a rate of at least 600 kg of cuttings per hectare and shall be covered with 30 mm of approved soil. Fresh cuttings only shall be used but not any Grass cuttings that have been allowed to dry out. Immediately after having been planted, the Grass cuttings shall be given a copious watering, and, when sufficiently dry, shall be rolled with a light agricultural roller.

- c) Sodding - Areas to be Grassed by sodding shall be given a layer of topsoil of at least 50 mm in thickness unless, where suitable soil is present, the Engineer orders the topsoil to be omitted. The areas to be sodded shall be thoroughly watered beforehand so that it will be moist to a depth of at least 150 mm during sodding. The surface shall be roughened slightly to ensure a good penetration of roots into the soil. Sods shall be protected against drying out and kept moist from the time of harvesting until they are finally placed. The handling of the sods shall not result in the sods losing their prescribed soil thickness.

The first row of sods shall, where possible, be laid in a straight line, and if on a slope, laying the sods shall start at the bottom of the slope. The sods shall be butted tightly against each other, and care shall be taken not to stretch or overlap the sods. Where a good fit cannot be obtained, any intervening spaces shall be filled with topsoil. The next row shall be similarly placed tightly against the bottom row with staggered joints, and so on until the entire area has been covered with sods. Sods shall be laid in such a way that unnecessary trampling over areas previously laid is prevented. To this end, a diagonal method of laying sods is preferred, moving up the slope and behind previously laid sods. On steep slopes and batters the sods shall be held in position by enough wooden stakes approximately 300 mm long by 20 mm in thickness and these stakes shall be knocked into a depth of 100 mm into the subsoil.

Sods laid adjacent to concrete side drains and concrete kerbs shall be laid in such a manner that the sodding will be 20 mm higher than the concrete. When strip sodding is required, the sods shall be laid in such a manner that the sods are proud of the surrounding Ground level. During strip sodding the areas in

between shall be planted as specified in item B5.2.4.3 (f)(b) above. Strip sodding shall always be staked as specified above.

As sodding is completed each section shall be lightly rolled or firmly pressed to ensure a proper bond with the underlying material, and thoroughly watered afterwards.

- d) Maintenance of Grassed areas - Maintenance shall include watering, weeding, mowing, fertilisation where necessary, re-grassing of areas that, in the opinion of the Engineer, are unsatisfactory, and any other work that is necessary to achieve full, healthy and weed-free Grass cover to banks and plateaux before the end of the defect's liability period.

Mowing shall be undertaken with an approved power mower. All established Grass cover shall be cut to a height of 25 mm above Ground level. Mowing shall be undertaken initially with the mower set to cut 50 mm above Ground level, the height of cut being reduced to 25 mm when adequate cover has been achieved."

PSD 5.2.5 Transport for Earthworks

PSD 5.2.5.1 Free haul

Delete the contents of sub-clause 5.2.5.1(b) and replace with "All movement of materials from commercial sources, borrow pits selected by the contractor, cut, fill and spoil materials will be regarded as free haul."

PSD 5.2.5.2 Overhaul

Delete the contents of sub-clause 5.2.5.2 and replace with "No overhaul shall apply."

PSG 4 Plant

PSG 4.5 Formwork

PSG 4.5.3 Ties

Delete Sub-Clause 4.5.3 and replace with:

"The types of ties used, and their position shall receive careful attention and be subjected to the approval of the Engineer. Ties shall not be left embedded in the concrete closer to the face of the concrete than the minimum specified cover to reinforcement.

Tie cone recesses shall be plugged with well rammed dry 3:1 mortar within 48 hours of casting the concrete. The surfaces of the recesses shall first be roughened by wire brushing.

Where tie cone recesses cannot be plugged within 48 hours of casting, they shall be roughened by scabbling and a wet to dry epoxy shall be applied before plugging the recesses with 3:1 mortar.

The mortar plugs shall be properly cured."

PSL 4 Plant

PSL 4.1 Handling and Rigging

Add the following:

“PSL 4.1.1 Steel Reinforced HDPE Structured Wall Pipe and HDPE Manholes

- Use nylon lifting straps of the appropriate size and quantity as well as lifting equipment sized for the structure to accomplish all lifting. Do not use wire rope, chains, steel cables or other devices for lifting that may cut into the HDPE material.
- Storage ground shall be flat and firm, and the pipes shall be piled in proper order, the pipe stack be adequately wedged to prevent movement. The pipe layers/stack height shall comply with SANS 674.
- Pipes should not be stored under direct sunlight for overlong period at site, the pipe shall be kept out of way of construction traffic, items for pipe jointing shall be stored in warehouse.
- Take care when working around HDPE manholes as the material can be slippery especially when wet.
- Do not lift or handle manholes using the pipe connection outlets.
- HDPE structures have buoyancy potential and may float in areas where water collects beneath them, including their final installation location. Keep storage and installation areas dry until final backfill and anti-buoyancy measures are complete.
- The fabricator shall construct the HDPE manholes and pipelines based on project engineer approved drawings.
- Rigid connection to be used when the pipeline is to be connected to brick or concrete manhole.
- Watertight and/or airtight tests should be carried out in accordance with SANS 1200.
- Method of Pipe and manhole/connection jointing type to ensure water tightness in the water-logged areas and approved by design engineer prior to installation.
- Pipe laying and backfilling shall not be disturbed by groundwater. Pipe installation shall not start until the foundation strength meets the requirements.

C3.5: MANAGEMENT

C3.5.1 MANAGEMENT OF THE WORKS

C3.5.1.1 Applicable SANS and SANS standards

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.

a) The following SANS 1921 Construction Works Standards and associated specification data are applicable:

- i) SANS 1921-1 : General
- ii) SANS 1921-2 : Accommodation of traffic on public roads occupied by the contractor
- iii) SANS 1921-3 : Structural steelwork
- iv) SANS 1921-4 : Third party management support
- v) SANS 1921-5 : Earthwork activities which are to be performed by hand
- vi) SANS 1921-6 : HIV/AIDS Awareness

b) The specification data applicable to the SANS 1921 standards referred to in a) are as follows:

Standard	Clause	Specification Data
SANS 1921-1	Essential Data:	
	4.1.7	<p>The reduced drawings which form part of the tender documents shall be used for tendering purposes only.</p> <p>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.</p> <p>At the completion of the Contract, the Contractor shall return to the Engineer all drawings, provided, or made, during the contract period.</p> <p>Any information which the Contractor has control over, and which is required by the Resident Engineer to complete the as-built drawings shall be made available to the Resident Engineer before the completion certificate is issued.</p> <p>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. The Contractor shall submit all levels and dimensions to the Engineer for confirmation before he commences with any structural construction work. The Contractor shall also check all clearances which are given on the drawings and inform the Engineer of any conflicting dimensions.</p>
	4.14	The Contractor is responsible to provide a suitable site for his camp and to provide accommodation for his personnel and labourers. If the Employer can make any specific site

		<p>available to the Contractor, such site will be pointed out to the Contractor.</p> <p>The chosen site shall be subject to the approval of the Engineer, the local municipality, and the Client. Possible locations for a campsite shall be pointed out at the site inspection. The Contractor shall conform to all local authority, environmental and industrial regulations.</p> <p>The Contractor shall make his own arrangements concerning the supply of electrical power and all other services. No direct payment shall be made for the provision of electrical and other services. The cost thereof shall be deemed to be included in the rates and amounts tendered for the various items of work for which these services are required.</p> <p>The Contractor shall provide security watchmen for the contract as he deems fit at no extra cost for the Employer. The Contractor must ensure that all his employees as well as the employees of his subcontractors are able to identify themselves as members of the construction team.</p> <p>Accommodation of Employees</p> <p>No employees except for security guards will be allowed to sleep or be accommodated on the site in urban areas.</p> <p>No housing is available for the Contractor's employees and the Contractor shall make his own arrangements to house his employees and to transport them to site.</p> <p>No informal housing or squatting will be allowed on site.</p> <p>The Contractor shall provide the necessary ablution facilities at his camp site and the site of the works for the use of his employees. Chemical toilets only will be allowed where temporary facilities must be provided.</p>
	Variations:	

Standard	Clause	Specification Data
SANS 1921-2	Essential Data:	
	4.6.1	<p>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.</p> <p>The Contractor shall ensure that all road signs, barricades, delineators, flagmen and speed controls are effective, and that courtesy is always extended to the public.</p> <p>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.</p>

		<p>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.</p> <p>The Contractor shall construct and maintain all temporary drainage works necessary for temporary deviations.</p> <p>The Contractor shall provide and grant access to persons whose properties fall within or adjoin the area in which he is working</p>
	Variations:	

C3.5.1.2 Planning and programming

The programme to be submitted by the Contractor in terms of the General Conditions of Contract shall be in the form of a Gantt chart with a horizontal time scale and shall clearly show all significant activities, the duration of all activities, the interdependencies (if any) of activities and the critical path of the overall programme, clearly related to the items or groups of items in the Schedule of Quantities and indicating the quantity of work that will be completed each month and shall ideally be drawn up using a commercially available computer programme. The programme shall take account of and include:

- All special non-working days
- Allowance for inclement weather
- Know physical conditions or artificial obstructions
- Searching for, dealing with, and carrying out alterations to existing services, and
- The accommodation and safeguarding of public access and traffic

Together with the programme as detailed above, the Contractor shall submit to the Engineer a cash flow projection indicating projected monthly invoice amounts. This must be done for each of the work packages identified within the limits of the tender. The cash flow projections shall be updated at monthly interval to reflect actual payments to date and anticipated further payments.

The programme will be reviewed at monthly site meetings at which the Contractor shall provide sufficient detail that will allow the comparison of completed work per activity that has fallen behind. The updated programme shall be submitted to the Engineer at least two days prior to the monthly site meetings.

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

Approval by the Engineer of any programme shall have no contractual significance other than the Engineer will be satisfied with progress of work and that the Contractor undertakes to carry out the work in accordance with programme. It shall not limit the right of the Engineer to instruct the Contractor to vary the programme if required by circumstances. The Contractor is also referred to Clause 12 of the General Conditions of Contract when drawing up the programme.

C3.5.1.3 Software application for programming

The contractor shall use Microsoft Project or any other approved software for his programming of the works. Such approval shall not be unreasonably withheld.

C3.5.1.4 Methods and procedures

Method statements shall be compiled by the successful tenderer for approval by the Engineer. The Contractor shall submit written method statements to the Engineer, as requested in the Project Specification. For the purposes of the environmental specification, a method statement is defined as a written submission by the Contractor to the Engineer setting out the plant, materials, labour and method the Contractor proposes using to carry out an activity, identified by the Engineer when requesting the method statement, in such detail that the Engineer is enabled to assess whether the Contractor's proposal is in accordance with the Specifications and/ or will produce results in accordance with Specifications.

The method statement shall cover applicable details about:

- construction procedures,
- materials and equipment to be used,
- getting the equipment to and from site,
- how the equipment/ material will be moved while on site,
- how and where material will be stored,
- the containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur,
- timing and location of activities,
- Compliance/ non-compliance with the Specifications, and
- any other information deemed necessary by the Engineer.

The Contractor shall abide by these approved method statements, and any activity covered by a method statement shall not commence until the Engineer has approved of such method. In such cases, the method statement shall be submitted to the Engineer not less than 14 days prior to the intended date of commencement of the activity. The following page provides a pro forma method statement sheet that must be completed by the Contractor for each activity requiring a method statement as specified in the Project Specification or requested by the Engineer.

C3.5.1.5 Quality plans and control

The Contractor shall at his own expense institute a quality control system and shall employ experienced engineers, foremen, surveyors, materials technicians, and other personnel to ensure proper supervision and control of the work at all times and shall at his own cost carry out all necessary testing to ensure that materials and workmanship do comply with specified requirements at all times.

The Contractor shall be deemed to have allowed in his tender for the costs of all testing of materials and completed work as are required to be rendered by him in terms of the contract. It is the Contractor's sole responsibility at his own cost and by means of any necessary tests to demonstrate to the Engineer that all materials and completed work comply with all specified requirements.

C3.5.1.6 Environment

The Contractor must take note of the requirements regarding the control of access for deliveries, vehicular and pedestrian routes to site. The Contractor must comply with all safety, environmental and other relevant conditions, and requirements on the Project to the satisfaction of the Engineer.

C3.5.1.7 Accommodation of traffic on public roads occupied by the contractor

Safe, normal traffic movement must be accommodated on the road during construction. Access to properties must be always maintained.

- The travelling public shall have 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.
- Failure to maintain road signs, warning signs, etc, in good condition shall constitute ample reason for the Engineer to bring the works to a stop until the road signs, etc, have been repaired to his satisfaction.
- The Contractor may not commence constructional activities 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 Volume 2 Chapter 13.
- The Contractor shall submit proposals in connection with directional signs to the Engineer for approval prior to construction.
- Sufficient signage shall be provided, erected, and relocated as necessary by the Contractor to reroute traffic onto the deviations.

C3.5.1.8 Testing, completion, commissioning, and correction of defects

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

The contractor shall engage the services of an approved independent laboratory for the testing of materials and the quality testing of layer works, to ensure that his work complies with the specifications.

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

Should the testing laboratory proposed by the contractor not be approved by the engineer, the contractor shall at his own cost negotiate and propose another laboratory.

Progressive and systematic finishing and tidying will form an essential part of this contract. Under no circumstances shall spoil, rubble, materials, equipment, or unfinished operations be allowed to accumulate unnecessarily and in the event of this occurring the Engineer shall have the right to withhold payment for as long as necessary in respect of the relevant works in the area(s) concerned.

C3.5.1.9 Recording of weather

The Contractor shall erect an effective gauge on the site of the works and record the daily rainfall figures in the site diary. The site diary shall be handed over to the Employer's representative for his signature no later than 14 days after rain that is considered to justify an extension of time.

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

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

Where:

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

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

N_n = Average number of days in the relevant calendar month, as derived from existing rainfall records, as stated in the Site Information, on which a rainfall of 20 mm or more has been recorded for the calendar month.

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

R_n = Average rainfall in mm for the calendar month as derived from existing rainfall records as stated in the Site Information.

For purposes of the Contract N_n, R_n, X and Y shall have those values assigned to them in the Appendix and/or the Specification.

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

The total extension of time shall be the algebraic sum of all monthly totals for the period under consideration, but if the total is negative the time for completion shall not be reduced due to subnormal rainfall.

Extensions of time for part of a month shall be calculated using pro rata values of N_n and R_n. This formula does not consider flood damage which could cause further or concurrent delays and will be treated separately as far as extension of time is concerned.

The factor (N_w - N_n) shall be considered to represent a fair allowance for variations from the average in the number of days during which rainfall exceeds 10 mm. The factor (R_w - R_n) shall be considered to represent a fair allowance for variations from the average in the number of days during which the rainfall did not exceed 10 mm, but wet conditions prevented or disrupted work.

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

The rainfall records at Rainfall Station No. 0515412 2 (Witbank) for the period 2010 to 2020 reproduced in the table below and the monthly averages, R_n and N_n for this period, shall for the purpose of this Contract be taken as normal rainfall.

Rainfall Station No.: 0515412 2 (Witbank), Lat: 25.902° Long: 29.238° hasl: 1 591 m

Month	Rn	Nn	Month	Rn	Nn
January			July		
February			August		
March			September		
April			October		
May			November		
June			December		
Total					

Records of rain days will be recorded in the minutes of the monthly site meetings

C3.5.1.10 Format of communications

Instructions to the contractor will be given through site instructions recorded in the site instruction book that will be provided to the contractor. Requests for site inspections by the contractor should be made in the site inspection book to be provided to the contractor.

C3.5.1.11 Key personnel

A schedule of the contractor's key personnel shall be submitted to the Engineer together with the letter of acceptance of the contract. The schedule shall include contact details of the key personnel including telephone numbers, fax numbers, cell phone numbers and e-mail addresses.

C3.5.1.12 Management meeting

Site meetings to review project progress will be held on the first Tuesday of each month and the meetings will be held on site. The meeting will be preceded with a site inspection. The meetings will be attended by the client, the engineer, the local municipality and the contractor. It is a requirement that key personnel with the required delegated authority to make decisions in aspects such as planning change management and health and safety from the contractor should attend this meeting.

C3.5.1.13 Forms for contract administration

Standard contract administration forms necessary for the management of the contract will be provided to the contractor at the first meeting. These will include requests for site inspection, payment certificates, requests for approvals and any other forms that the engineer deems necessary.

C3.5.1.14 Daily records

Daily records of resources (people and equipment employed) shall be kept on site for inspection by the engineer. A site diary in respect of work performed on the site shall also be kept on site for inspection by the engineer.

C3.5.1.15 Bonds and guarantees

The original and a copy of any bond and/ or guarantee as stipulated in the documents shall be submitted to the EMALAHLENI LOCAL MUNICIPALITY. Upon release of the bond and guarantee requirements the contractor will be required to apply for the release of the documentation after which the documentation will be collected from EMALAHLENI LOCAL MUNICIPALITY offices.

C3.5.1.16 Payment certificates

The Contractor at his own expense, shall measure the work executed during each month and the materials on site and shall deliver to the Engineer a supporting statement with his monthly statement in terms of clause 52(1) of the General Condition of Contract, showing the said measurements and the relevant amounts paid or payable by him for such materials and all other particulars requires by the Engineer in a draft form as prescribed by the Engineer.

C3.5.1.17 Environment Management Plans (EMP)

Establishment of Site Offices

The Contractor shall provide the Engineer on site with a **Site Plan** detailing the layout of the site offices, such as chemical toilets, areas for stockpiling of material, storage of hazardous materials and provision of containers. The site offices should not be sited in close proximity to steep areas as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the site and in particular the ablution facilities, aggregate stockpile and hazardous material stockpiles are located as far away as possible from any water course as possible.

The site plan shall be submitted soon after site handover meeting.

The **vegetation** surrounding the site offices is to be left as intact as possible and vegetation planted at the site should be indigenous. Only trees directly affected by the works and such others as may be indicated by the Engineer in writing may be sawn off/ removed.

The work package specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien invader plant shall be cleared by hand before seeding.

The site offices will require **rehabilitation** at the end of the contract. All construction materials, including concrete slabs are to be removed from site on completion of the project.

Water for human consumption must be tested and treated in accordance with recommendations.

Sewerage Treatment

Adequate toilet facilities are to be provided. Use of grassland for this purpose shall not, under any circumstances, be allowed. The Contractor shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the Engineer. Latrines shall be positioned within walking distances from wherever employees are working.

Save and effective sewage treatment will require one of the following sewage handling methods the use of chemical toilets which are supplied and maintained by a subcontractor.

Waste Management

Waste management and waste minimisation must be implemented at the outset of the contract.

No littering by construction workers is allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site must be kept free of **litter**.

Solid waste is to be stored in a designated area for collection and disposal. A refuse control system must be established for the collection and removal of refuse to the satisfaction of the Engineer. Disposal of solid waste will be in a Department of Water and Sanitation licensed landfill site.

Hazardous waste such as bitumen, tar, oils, etc, shall be disposed of in a Department of Water and Sanitation approved landfill site. Special care must be taken when using tar products such as tar prime or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.

Soil Management

The Contract provides for the stripping and stockpiling of **topsoil** from the site for later reuse. **Topsoil** is considered to be of a minimum thickness of +300 mm of natural soil, including all vegetation and organic matter. The areas to be cleared of **Topsoil** shall be removed by hand before seeding. Soils contaminated by hazardous substances shall be disposed off in an approved Department of Water and Sanitation waste disposal site.

The contractor's attention is drawn to the requirements set forth by the Department of Mineral and Energy Affairs in terms of submission of EMPRs for the establishment, operation, and rehabilitation of **borrow pits and quarries**. The cost of complying with the requirements shall be deemed to be included in the existing rates in the schedule of quantities. Read with specification section 203.

Discovery of archaeology sites, artefacts, or graves

If an **artefact** on site is uncovered, work in the immediate vicinity must be stopped immediately. The Contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the Engineer of such discovery. The National Monuments Council must be contacted who will appoint an archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist. Read with General Condition of Contract.

If a **grave** on site is uncovered, work in the immediate vicinity must be stopped and an undertaker as well as the National Monuments Council should be contacted. The undertaker will place advertisement in the newspapers concerning the grave. He will also provide for the relocation of bones, should it be necessary. Read with General Conditions of Contracts.

Stockpiled material

The Contractor shall so plan his activities that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the **stockpiling of excavated and imported material** must be indicated and demarcated on site plan and approved in writing by the Engineer.

The chosen area shall be devoid of indigenous trees and shrubs. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. After the stockpiled material has been removed, the site shall be reinstated as closely as possible to its original condition. All areas affected by stockpiling shall be landscaped, topsoil dressed and grassed to the Engineer's approval and at Contractor's cost.

Material milled out of the existing road surface that is temporarily stockpiled within the road reserve shall:

- Be stockpiled so as to be as inconspicuous as possible
- Be prevented from contaminating water courses
- Be cleared of weeds

In all cases, the areas for stockpiling and disposal of construction rubble shall be approved by the Engineer before such operation commences.

Fuel, diesel, and other Hazardous Materials

All **hazardous materials** i.e., bitumen binders shall be stored in a designated area that is fenced and has restricted entry. Storage of bituminous products shall only take place using suitable containers to the approval of the Engineer.

Under no circumstances shall the spoiling of bituminous products on site, over embankments, in borrow pits or any buying, be allowed. Unused or rejected bituminous products shall be taken back to the supplier's production plant. No spillage of bituminous products shall be allowed on site. Affected areas shall be promptly reinstated to the satisfaction of the Engineer.

Should any **fuel storage tank** be required on site, the Contractor shall ensure that he has complied with the necessary legal requirements for erection of such tanks. Leakages must be avoided. The fuel area should be bonded to accommodate any spillage from these activities.

Oil, grease, and cleaning materials from maintenance of vehicles and machinery shall be collected in a sump and sent back to the supplier or otherwise disposed of at a registered site.

The Contractor should ensure that sufficient **cooking oil** is available for heating and cooking purposes should this be necessary.

Streams, rivers, and dams must be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, wash water, organic materials and bituminous products. In the event of spillage, prompt action must be taken by competent personnel to clear the affected area.

General Conditions

Complaints received regarding activities on construction site pertaining to the environment shall be recorded in a designated register and the response noted with the date and action taken. This record must be submitted with the monthly reports.

Any avoidable non-compliance with the above-mentioned measures may be considered sufficient grounds for penalties including withholding part of the payments due to be used to pay for the offences.

C3.5.2 HEALTH AND SAFETY

C3.5.2.1 Health and safety requirements and procedures

The Occupational Health and Safety Act 1993 (Act No. 85 of 1993) together with its applicable Regulations ("the OH&S Act) forms part of the Health and Safety Regulations. Any word or expression, to which a meaning has been assigned in the OH &S Act, shall have the meaning so assigned to it unless otherwise indicated. The Principal Contractor must comply with all the relevant requirements of the OH&S Act which aims to minimise Health and Safety hazards on projects.

In terms of the Construction Regulation 4(1) (a) of the OH&S Act, the EMALAHLENI LOCAL MUNICIPALITY, as the Client" is required to compile Occupational Health & Safety Specification for all projects.

The purpose of this specification is to ensure that Principal Contractors entering into a Contract with the EMALAHLENI LOCAL MUNICIPALITY maintain an acceptable level of OH&S performance. The OH&S Specification forms an integral part of the Contract and Principal Contractors shall ensure that their contractors and/or suppliers comply with this Specification.

Compliance with the OH&S specification does not absolve the Principal Contractor from adhering to the legal requirements with regards to health & safety of his employees and mandataries.

The Principal Contractor must give the required notice to the Provincial Department of Labour before commencement of any construction work.

This notice shall include the information as set out in Annex 4 attached to the Specification and shall be signed by both Principal Contractor and Client.

C3.5.2.2 Protection of the public

The Contractor shall always ensure that his operations do not endanger any member of the public.

As the area is adjacent to a residential area, the Contractor shall take special precautions to prevent public access to any danger areas on the Works, e.g., by temporary barricades and/ or fencing.

C3.5.2.3 Barricades and lighting

The Contractor shall employ acceptable methods of safeguarding the works both by day and night.

All road traffic signs shall comply with the requirements of the South African Road Traffic Signs Manual.

From the time any portion of the Works commences, until the completion of the Works and the issue of the Certificate of Completion of the Works, the Contractor shall be responsible for protecting the property of the Employer and all persons having business on the Site from anything dangerous or likely to cause damage or injury. The Contractor shall take all practical precautions to avoid nuisance or inconvenience to the occupiers of properties near to the Site whilst carrying out the Works and shall always keep the Site clean and in a safe and satisfactory condition.

C3.5.2.4 Traffic control on roads

Safe, normal traffic movement must be accommodated on the road during construction. Access to properties must be always maintained.

The contractor's machine operators must be made aware of the dangers the plant poses to pedestrians. Special care must be taken when reversing or manoeuvring in confined spaces. Where necessary, fragment deemed may have to be deployed with plant.

C3.5.2.5 Measures against disease and epidemics

The contractor, as part of his safety management plan shall take all measures necessary to ensure that diseases and epidemics are controlled and managed effectively. To this end it will be a requirement of the contractor to detail in his safety plan measures on how he will manage the possibility of diseases and epidemics during implementation of the project.

C3.5.2.6 Aids awareness

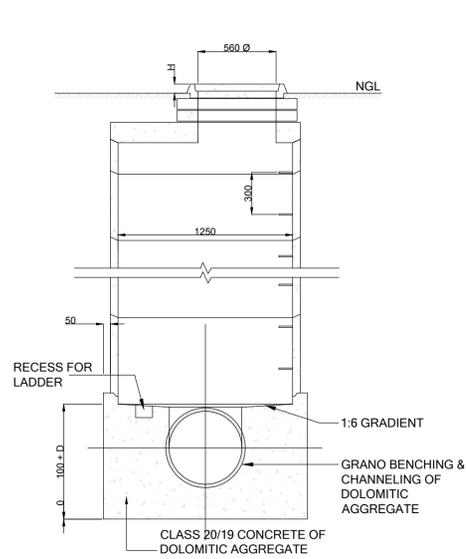
It is the responsibility of the contractor to ensure that his personnel on the project are counselled about the effects of HIV/Aids. The contractor will be required to run such awareness programmes as may be necessary to ensure that the staffs are properly informed.

C3.6: ANNEXES

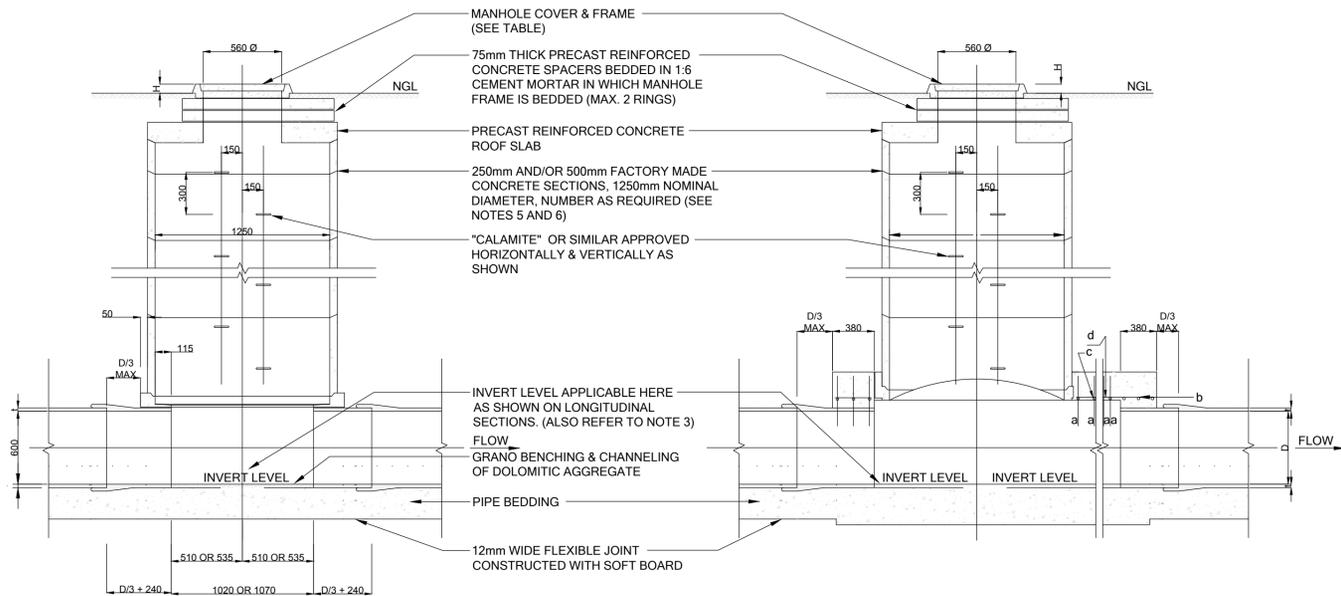
- A. Locality Plan
- B. Standard Drawings
- C. Tender Drawings
- D. Health and Safety Specifications

ANNEX A
LOCALITY PLAN

ANNEX B
STANDARD DRAWINGS

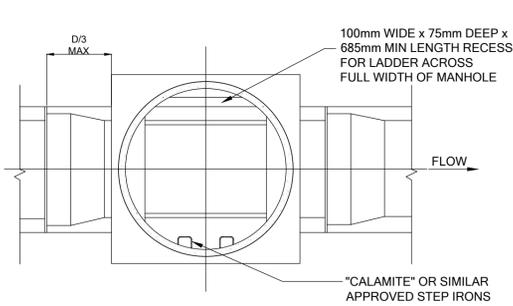


SECTION A-A
SCALE 1:30

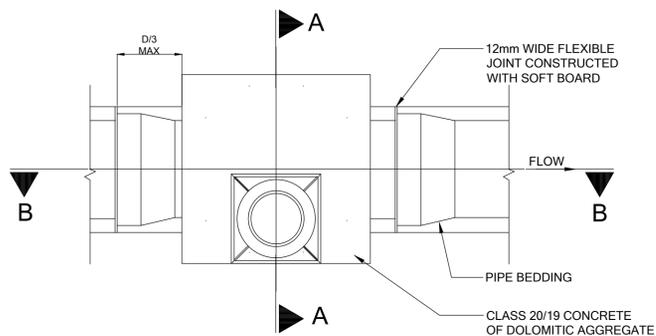


SECTION B-B
SCALE 1:30

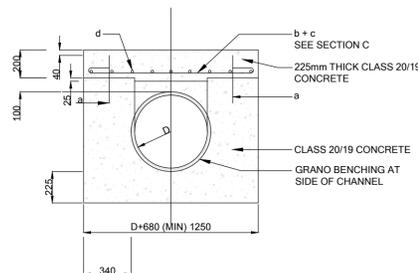
SECTION C-C
SCALE 1:30



PLAN- ROOF SLAB REMOVED
SCALE 1:30



PLAN- SHOWING MANHOLE COVER & FRAME
SCALE 1:30

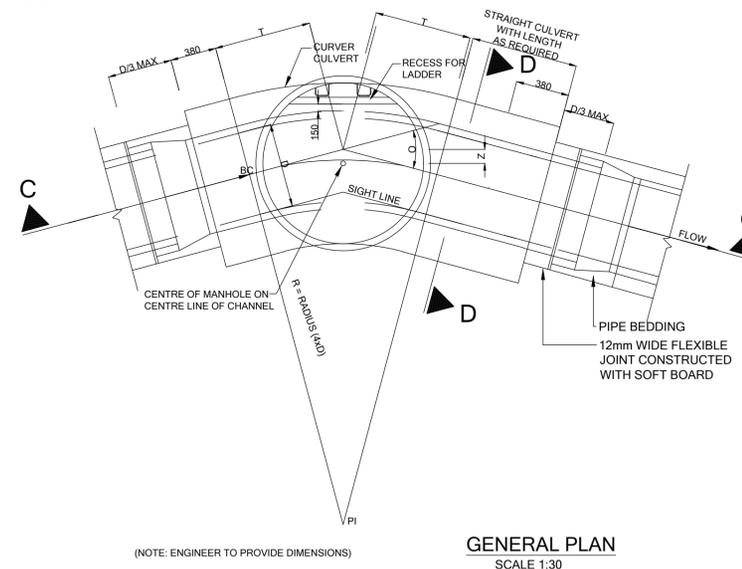


SECTION D-D
SCALE 1:30

DESCRIPTION OF REINFORCING (SECTION C & D)
 a = 20mm ϕ BARS x 450mm LONG @ 150mm c/c PLACED VERTICALLY
 b = 12mm ϕ BARS @ 150mm c/c BENT AS SHOWN IN SECTION D.
 c = 12mm ϕ BARS @ 75mm c/c.
 d = 12mm ϕ DISTRIBUTION BARS @ 150mm c/c.

MANHOLE COVERS AND FRAMES (SANS 558)	
POSITION OF MANHOLE	TYPE OF COVER
CARRIAGE WAY	TYPE 2A CAST IRON FRAME AND COVER
STREET RESERVE	TYPE 4 CAST IRON OR CONCRETE FRAME AND CONCRETE COVER
ERVEN	TYPE 4 CAST IRON OR CONCRETE FRAME AND CONCRETE COVER
GENERAL	ONLY TYPE 2A MANHOLE COVERS MAY BE USED FOR SEWERS 300mm ϕ AND GREATER

NOTE: CI COVERS ARE USED ONLY WITH WRITTEN INSTRUCTION FROM THE ENGINEER.



GENERAL PLAN
SCALE 1:30

GENERAL NOTES:

1. ALL MATERIAL AND WORKMANSHIP MUST COMPLY WITH THE REQUIREMENTS OF THE LATEST RELEVANT SABS REQUIREMENTS.
2. ALL DIMENSIONS ARE IN MILLIMETRES. (UNLESS OTHERWISE SPECIFIED)
3. DO NOT SCALE FROM THESE DRAWINGS.
4. ALL DIMENSIONS MUST BE CHECKED AND APPROVED ON SITE.
5. ALL CONSTRUCTION TO BE DONE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, THIRD EDITION 2005 AND THE STANDARD COT DETAIL DRAWINGS.
6. THIS DRAWING MUST BE READ IN CONJUNCTION WITH THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, SERIES 3 & 4 AND WATER AND SANITATION GUIDELINE.
7. THE SIGNATURE OR INITIALS ON THIS DRAWING, OF ANY DIRECTOR OF THE PUBLIC WORKS AND INFRASTRUCTURE DEVELOPMENT DEPARTMENT, IN NO WAY REMOVES ANY RESPONSIBILITY WHATSOEVER FROM THE CONSULTANT.
8. THE CONSULTANT REMAINS RESPONSIBLE TO ENSURE THAT ALL THE GUIDELINES, STANDARD DRAWINGS, STANDARDS AND SPECIFICATIONS OF THE PUBLIC WORKS AND INFRASTRUCTURE DEVELOPMENT DEPARTMENT HAVE BEEN MET AND ARE COMPLIED WITH.
9. FINAL POSITION OF SERVICES TO BE DETERMINED ON SITE.

SPECIFICATION NOTES:

1. CONCRETE FOR MANHOLES TO BE OF DOLOMITIC ORIGIN.
2. CHANNELING AND BENCHING IN MANHOLES AND CULVERT SECTIONS TO BE OF GRANOLITHIC CONCRETE AND MUST BE CONSTRUCTED WITH A FINAL THICKNESS OF 25mm FOR CHANNELING AND 50mm FOR BENCHING.
3. THE INVERT LEVELS AS SHOWN ON LONGITUDINAL SECTIONS REFER TO THE BC AND EC OF THE CURVED CULVERT SECTION.
4. CONCRETE COVER TO ALL REINFORCING TO BE 40mm MIN.
5. CONCRETE SECTIONS MUST BE FIXED WITH AN APPROVED EPOXY SEALER SUCH AS EPIDERMIX 344 OR PROSTRUCT 687.
6. FACTORY MADE MANHOLE SECTIONS TO BE IN ACCORDANCE WITH SANS 1294.
7. NO PART OF THE MANHOLE MAY BE FINISHED OFF WITH CEMENT-WASH OF MORTAR.
8. TWO MANHOLE ACCESS SHAFTS MAY BE INSTRUCTED BY THE ENGINEER ONE AT EACH END OF CULVERT SECTION.
9. ENGINEER TO PROVIDE BENDING SCHEDULE FOR REINFORCEMENT.
10. THE TOP SLAB SHALL NOT BE FIXED TO THE RINGS WITH EPOXY BUT SHALL BE REMOVABLE FOR CLEANING PURPOSES. IT SHALL THEREFOR HAVE LIFTING LUGS CAST IN.
11. TYPICAL VALUES FOR H.
 H = 50-75mm WITHIN ERVEN AND ROAD RESERVES.
 = 250mm LOW COST HOUSING DEVELOPMENTS AND UNDERFIND ROADWAYS.
 = 500mm OPEN WELD OR ROAD RESERVES WHERE POSITION OF MANHOLES CAN BE CONCEALED BY LONG GRASS OR OTHER GROWTH.
12. STEP IRONS "CALAMITE" OR SIMILAR APPROVED.
13. 1250mm ϕ MANHOLE UP TO 1250mm AND 1500mm ϕ FOR MANHOLES DEEPER THAN 3000mm.

ABBREVIATIONS:
 BC = BEGINNING OF CURVE
 EC = END OF CURVE
 T = TANGENT LENGTH
 B = LENGTH OF CURVE (BC TO EC)
 P.I. = POINT OF INTERSECTION

Rev	Date	Designed by	Drawn by	Checked by	Description	Stage
00	08.10.2022	ND	CDN	BN	ISSUED FOR TENDER	T

Client:

EMALAHLENI LOCAL MUNICIPALITY
 Tel: +27 13 591 1730
 Civic Centre
 Mandela Street
 Box 3
 Emalahleni
 1035
 email: info@kleinwater.co.za



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JALAWE PROJECTS
 cell: +27 82 293 0709
 Mozwell House
 3 Baubina Street
 Oxford Office Park
 Centurion
 0157
 email: info@jalaweprojects.com



CLIENT ACCEPTANCE

THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWSOEVER ARISING.
 Date: _____

CONSULTANT APPROVAL

Name: _____
 Prof. Reg. No.: _____
 Date: _____
 THE ABOVE SIGNATORY CERTIFIES THAT THE DESIGNER AND CHECKER HAVE CONSENTED TO THEIR NAMES BEING USED ON THIS DRAWING AND THAT THEY HAVE SEEN AND APPROVED THE DRAWINGS.

Appointment number:

MKHO 01/2019/20
 Scale: _____
As Shown
 Original size: **A1**
 Sheet: **1 of 1**

Project description:

EMPUMLELWENI TOWNSHIP BULK SEWER
 Drawing name: **CONCRETE MANHOLES DETAILS FOR SEWER PIPES MORE THAN 300mm NOMINAL DIAMETER**
 Drawing number: **20217 -SEW - TP - 101**
 Project No. Discipline Type Number

Revision **00**

ANNEX C

TENDER DRAWINGS

DRAWINGS

The drawings listed below are attached to give an overview of the project.

Additional construction drawings will, in terms of Clause 13 of the General Conditions of Contract (2004), be issued to the Contractor by the Engineer/Employer on the commencement date and from time to time as required.

DRAWING NO.	DESCRIPTION	REV
20217-SEW-LP-101	BULK SEWER LAYOUT PLAN	00
20217-SEW-LP-102	BULK SEWER 1 PIPELINE SCHEDULE	00
20217-SEW-LS-101	SEWER LONGITUDINAL SECTIONS: MH18-MH27	00
20217-SEW-LS-102	SEWER LONGITUDINAL SECTIONS: MH27-MH48	00
20217-SEW-LS-103	SEWER LONGITUDINAL SECTIONS: MH48-MH66	00
20217-SEW-LS-104	SEWER LONGITUDINAL SECTIONS: MH66-MH82	00
20217-SEW-LS-105	SEWER LONGITUDINAL SECTIONS: MH82-MH97	00
20217-SEW-LS-106	SEWER LONGITUDINAL SECTIONS: MH97-MH112	00
20217-SEW-LS-107	SEWER LONGITUDINAL SECTIONS: MH112-MH128	00
20217-SEW-LS-108	SEWER LONGITUDINAL SECTIONS: MH128-WWTW	00
20217-SEW-TP-101	CONCRETE MANHOLE DETAILS FOR SEWER PIPES MORE THAN 300mm NOMINAL DIA.	00

Sewer Schedule : WG29 (TR200)

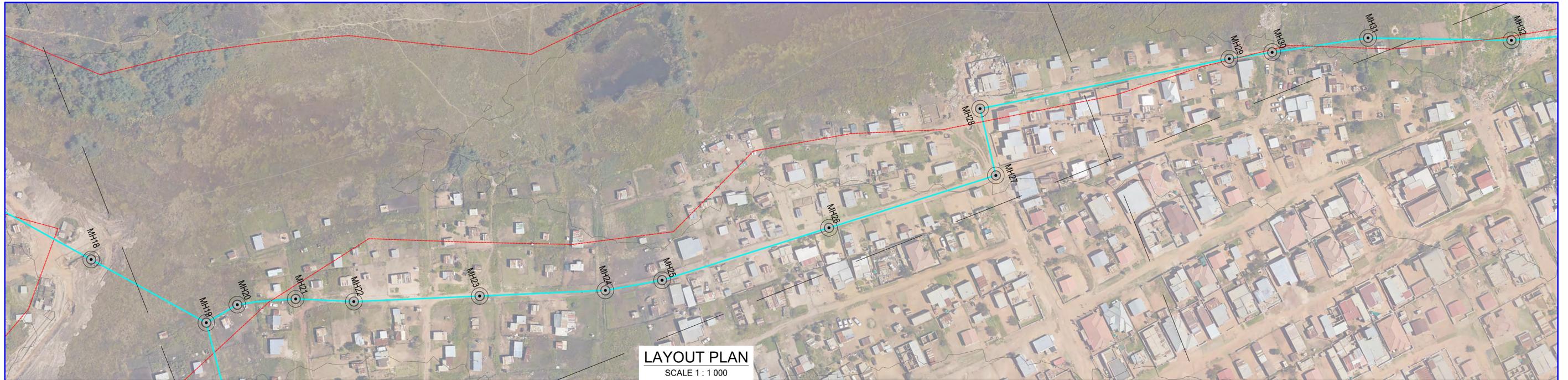
Name	Y-Coord	X-Coord	Cover	Inlet	Length	Depth	Slope	Type	Size	Level In	Level Out
MH18	-8851.01	2861517.55	1502.86	1501.16	69.08	1.70	0.50 %		350 mm	1501.16	1500.81
MH19	-8904.15	2861473.42	1503.13	1500.81	18.86	2.32	0.50 %	HDPE PIPE	350 mm	1500.81	1500.72
MH20	-8901.37	2861454.76	1502.70	1500.72	30.84	1.98	0.50 %	HDPE PIPE	350 mm	1500.72	1500.56
MH21	-8909.84	2861425.11	1503.42	1500.56	30.63	2.86	0.50 %	HDPE PIPE	350 mm	1500.56	1500.41
MH22	-8922.41	2861397.17	1503.70	1500.41	66.23	3.29	0.50 %	HDPE PIPE	350 mm	1500.41	1500.08
MH23	-8944.02	2861334.57	1502.94	1500.08	66.23	2.86	1.01 %	HDPE PIPE	350 mm	1500.08	1499.41
MH24	-8965.64	2861271.97	1501.11	1499.41	30.28	1.70	0.54 %	HDPE PIPE	350 mm	1499.41	1499.24
MH25	-8971.62	2861242.28	1500.94	1499.24	92.00	1.70	0.50 %	HDPE PIPE	350 mm	1499.24	1498.78
MH26	-8978.36	2861150.53	1501.48	1498.78	92.00	2.70	0.75 %	HDPE PIPE	350 mm	1498.78	1498.09
MH27	-8985.11	2861058.78	1499.79	1498.09	35.95	1.70	6.13 %	HDPE PIPE	350 mm	1498.09	1495.89
MH28	-8949.53	2861053.64	1497.59	1495.89	133.70	1.70	1.49 %	HDPE PIPE	350 mm	1495.89	1493.90
MH29	-8973.42	2860922.09	1495.60	1493.90	22.82	1.77	0.50 %	HDPE PIPE	350 mm	1493.90	1493.79
MH30.1	-8978.58	2860899.86	1495.56	1493.79	50.98	1.77	2.78 %	HDPE PIPE	350 mm	1493.79	1492.37
MH30	-8990.09	2860850.20	1494.07	1492.37	75.43	1.70	0.63 %	HDPE PIPE	350 mm	1492.37	1491.90
MH32	-9019.03	2860780.54	1493.60	1491.90	50.53	1.70	1.60 %	HDPE PIPE	350 mm	1491.90	1491.09
MH33	-9033.49	2860732.12	1492.79	1491.09	113.93	1.70	1.27 %	HDPE PIPE	350 mm	1491.09	1489.65
MH34	-9034.92	2860618.20	1491.35	1489.65	14.79	1.70	0.50 %	HDPE PIPE	350 mm	1489.65	1489.57
MH35	-9046.08	2860608.48	1491.72	1489.57	44.73	2.14	0.50 %	HDPE PIPE	350 mm	1489.57	1489.35
MH36	-9052.17	2860564.17	1491.66	1489.35	35.34	2.31	0.50 %	HDPE PIPE	350 mm	1489.35	1489.17
MH37	-9059.50	2860529.60	1491.48	1489.17	14.52	1.71	1.20 %	HDPE PIPE	350 mm	1489.17	1489.10
MH38	-9048.04	2860520.68	1490.81	1489.10	49.76	1.70	5.51 %	HDPE PIPE	350 mm	1489.10	1488.51
MH39	-9051.86	2860471.08	1490.21	1488.51	24.03	1.70	0.65 %	HDPE PIPE	350 mm	1488.51	1487.18
MH40	-9031.66	2860458.07	1488.88	1487.18	65.90	1.70	0.99 %	HDPE PIPE	350 mm	1487.18	1486.75
MH41	-9042.75	2860393.10	1488.45	1486.75	128.57	1.76	0.50 %	HDPE PIPE	350 mm	1486.75	1486.11
MH42	-9073.41	2860268.25	1487.88	1486.11	82.49	1.70	2.34 %	HDPE PIPE	350 mm	1486.11	1485.29
MH43	-9097.45	2860189.33	1486.99	1485.29	70.58	1.74	2.17 %	HDPE PIPE	350 mm	1485.29	1483.64
MH44	-9120.95	2860122.78	1485.38	1483.64	83.06	1.78	0.81 %	HDPE PIPE	500 mm	1483.64	1481.84
MH45	-9124.34	2860039.79	1483.62	1481.84	34.12	1.78	1.37 %	HDPE PIPE	500 mm	1481.84	1481.56
MH46	-9130.17	2860006.17	1483.34	1481.56	41.93	1.83			500 mm	1481.56	1480.98
MH47	-9145.12	2859967.00	1482.81	1480.98							

Sewer Schedule : WG29 (TR200)

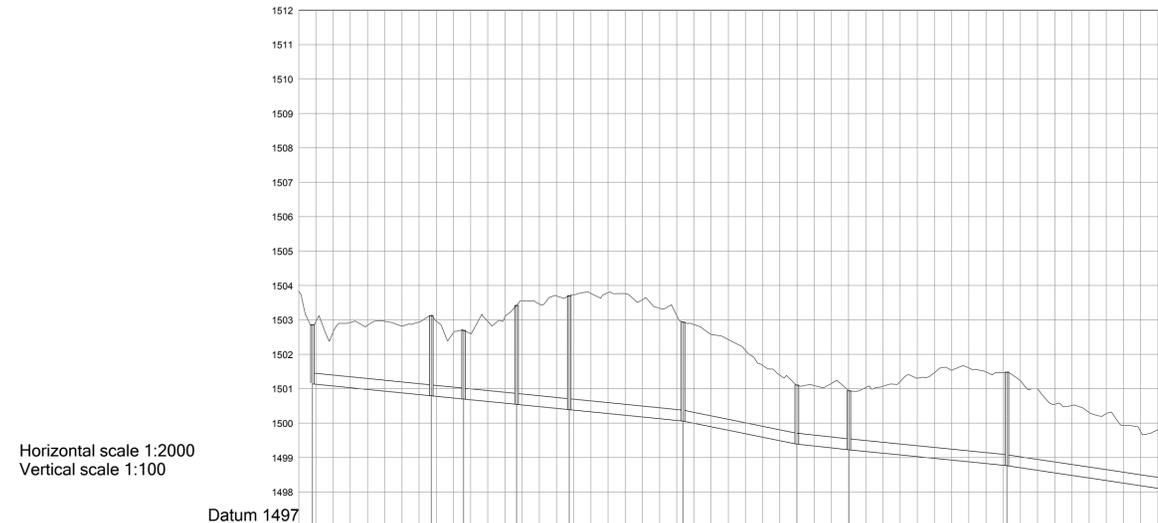
Name	Y-Coord	X-Coord	Cover	Inlet	Length	Depth	Slope	Type	Size	Level In	Level Out
MH48	-9186.19	2859917.92	1483.47	1480.66	66.90	2.80	1.08 %	HDPE PIPE	500 mm	1480.66	1479.94
MH49	-9207.31	2859854.44	1481.77	1479.94	70.00	1.83	0.50 %	HDPE PIPE	500 mm	1479.94	1479.59
MH50	-9267.07	2859817.99	1481.86	1479.59	70.00	2.26	0.50 %	HDPE PIPE	500 mm	1479.59	1479.24
MH51	-9326.83	2859781.54	1482.09	1479.24	73.78	2.84	0.40 %	HDPE PIPE	500 mm	1479.24	1478.95
MH52	-9389.82	2859743.12	1482.21	1478.95	76.41	3.26	0.40 %	HDPE PIPE	500 mm	1478.95	1478.64
MH53	-9409.89	2859669.40	1481.99	1478.64	76.41	3.34	0.40 %	HDPE PIPE	500 mm	1478.64	1478.34
MH54	-9429.97	2859595.68	1481.78	1478.34	47.81	3.44	0.40 %	HDPE PIPE	500 mm	1478.34	1478.15
MH55	-9397.51	2859560.58	1479.66	1477.78	47.81	1.88	5.40 %	HDPE PIPE	500 mm	1477.78	1475.20
MH56	-9365.05	2859525.48	1477.13	1475.20	75.00	1.93	0.50 %	HDPE PIPE	500 mm	1475.20	1474.82
MH57	-9388.32	2859454.18	1477.74	1474.82	75.00	2.92	0.50 %	HDPE PIPE	500 mm	1474.82	1474.45
MH58	-9411.58	2859382.88	1476.98	1474.45	75.00	2.53	0.50 %	HDPE PIPE	500 mm	1474.45	1474.07
MH59	-9434.85	2859311.58	1476.68	1474.07	75.00	2.61	0.50 %	HDPE PIPE	500 mm	1474.07	1473.70
MH60	-9458.12	2859240.28	1475.68	1473.70	75.00	1.98	1.39 %	HDPE PIPE	500 mm	1473.70	1472.65
MH61	-9481.38	2859168.98	1474.58	1472.65	77.09	1.93	1.13 %	HDPE PIPE	500 mm	1472.65	1471.78
MH62	-9505.30	2859095.70	1473.71	1471.78	61.39	1.93	4.85 %	HDPE PIPE	500 mm	1471.78	1468.80
MH63	-9457.85	2859056.80	1474.74	1468.80	75.39	1.93	2.11 %	HDPE PIPE	500 mm	1468.80	1467.21
MH64	-9463.51	2858981.63	1469.15	1467.21	82.00	2.30	0.50 %	HDPE PIPE	500 mm	1467.21	1466.80
MH65	-9488.26	2858903.45	1469.10	1466.80	82.00	2.30	1.37 %	HDPE PIPE	500 mm	1466.80	1465.68
MH66	-9513.01	2858825.27	1467.61	1465.68	82.01	1.93	1.37 %	HDPE PIPE	500 mm	1465.68	1464.56
MH67	-9537.76	2858747.09	1466.49	1464.56	71.00	1.93	0.50 %	HDPE PIPE	500 mm	1464.56	1464.20
MH68	-9583.81	2858693.05	1467.19	1464.20	71.00	2.99	0.50 %	HDPE PIPE	500 mm	1464.20	1463.85
MH69	-9629.86	2858639.01	1467.45	1463.85	71.00	3.60	0.50 %	HDPE PIPE	500 mm	1463.85	1463.49
MH70	-9675.91	2858584.97	1466.14	1463.49	70.11	2.65	0.29 %	HDPE PIPE	600 mm	1463.49	1463.29
MH71	-9721.38	2858531.61	1466.64	1463.29	85.40	3.35	0.29 %	HDPE PIPE	600 mm	1463.29	1463.05
MH72	-9734.47	2858447.22	1465.41	1463.05	85.40	2.36	0.29 %	HDPE PIPE	600 mm	1463.05	1462.80
MH73	-9747.56	2858362.83	1465.29	1462.80	85.32	2.48	0.29 %	HDPE PIPE	600 mm	1462.80	1462.56
MH74	-9760.63	2858278.52	1466.29	1462.56	73.64	3.73	0.29 %	HDPE PIPE	600 mm	1462.56	1462.35
MH75	-9762.80	2858204.90	1466.85	1462.35	73.83	4.50	0.29 %	HDPE PIPE	600 mm	1462.35	1462.14
MH76	-9764.98	2858131.10	1466.72	1462.14	72.89	4.58	0.29 %	HDPE PIPE	600 mm	1462.14	1461.93
MH77	-9767.12	2858058.24	1465.29	1461.93	73.69	3.36	0.29 %	HDPE PIPE	700 mm	1461.93	1461.72
MH78	-9769.29	2857984.59	1465.26	1461.72	69.07	3.54	0.29 %	HDPE PIPE	700 mm	1461.72	1461.52
MH79	-9771.33	2857915.54	1465.00	1461.52	86.60	3.48	0.29 %	HDPE PIPE	700 mm	1461.52	1461.28
MH80	-9792.01	2857831.45	1463.98	1461.28	86.60	2.71	0.29 %	HDPE PIPE	700 mm	1461.28	1461.03
MH81	-9812.70	2857747.36	1463.44	1461.03	86.60	2.41	0.29 %	HDPE PIPE	700 mm	1461.03	1460.78
MH82	-9833.39	2857663.26	1462.54	1460.78	86.60	2.08	0.29 %	HDPE PIPE	700 mm	1460.78	1460.21
MH83	-9854.07	2857579.17	1462.64	1460.21	86.60	2.43	0.29 %	HDPE PIPE	700 mm	1460.21	1459.96
MH84	-9874.76	2857495.08	1461.83	1459.96	86.60	2.08	0.29 %	HDPE PIPE	700 mm	1459.96	1459.51
MH85	-9895.45	2857410.99	1462.11	1459.51	86.60	2.60	0.29 %	HDPE PIPE	700 mm	1459.51	1459.26
MH86	-9916.14	2857326.89	1462.71	1459.26	86.60	3.45	0.29 %	HDPE PIPE	700 mm	1459.26	1459.01
MH87	-9936.82	2857242.80	1462.51	1459.01	86.60	3.50	0.29 %	HDPE PIPE	700 mm	1459.01	1458.77
MH88	-9957.51	2857158.71	1462.43	1458.77	86.60	3.67	0.86 %	HDPE PIPE	700 mm	1458.77	1458.02
MH89	-9978.20	2857074.61	1460.10	1458.02	86.60	2.08	0.50 %	HDPE PIPE	700 mm	1458.02	1457.59
MH90	-9998.88	2856990.52	1459.69	1457.59	86.60	2.10	2.81 %	HDPE PIPE	700 mm	1457.59	1455.16
MH91	-10019.57	2856906.43	1457.23	1455.16	86.80	2.08	1.13 %	HDPE PIPE	700 mm	1455.16	1454.18
MH92	-10040.30	2856822.15	1456.25	1454.18	79.20	2.79	0.29 %	HDPE PIPE	700 mm	1454.18	1453.95
MH93	-10079.46	2856753.31	1456.74	1453.95	79.20	3.08	0.29 %	HDPE PIPE	700 mm	1453.95	1453.72
MH94	-10118.62	2856684.46	1456.80	1453.72	79.20	3.08	0.29 %	HDPE PIPE	700 mm	1453.72	1453.50
MH95	-10157.78	2856615.62	1456.65	1453.50		3.15					

Sewer Schedule : WG29 (TR200)

Name	Y-Coord	X-Coord	Cover	Inlet	Length	Depth	Slope	Type	Size	Level In	Level Out
MH96	-10196.94	2856546.78	1457.01	1453.27	79.20	3.73	0.29 %	HDPE PIPE	700 mm	1453.27	1453.04
MH97	-10236.11	2856477.94	1456.85	1453.04	79.20	3.80	0.29 %	HDPE PIPE	700 mm	1453.04	1452.82
MH98	-10275.27	2856409.10	1456.93	1452.82	79.20	4.11	0.29 %	HDPE PIPE	700 mm	1452.82	1452.59
MH99	-10314.43	2856340.26	1456.64	1452.59	79.20	4.05	0.29 %	HDPE PIPE	700 mm	1452.59	1452.37
MH100	-10353.59	2856271.42	1456.37	1452.37	79.20	4.01	0.29 %	HDPE PIPE	700 mm	1452.37	1452.14
MH101	-10392.75	2856202.58	1455.92	1452.14	79.20	3.78	0.29 %	HDPE PIPE	700 mm	1452.14	1451.91
MH102	-10431.91	2856133.73	1455.18	1451.91	80.03	3.26	0.29 %	HDPE PIPE	700 mm	1451.91	1451.68
MH103	-10471.48	2856064.18	1455.00	1451.68	85.30	3.32	0.29 %	HDPE PIPE	700 mm	1451.68	1451.44
MH104	-10523.03	2855996.22	1454.74	1451.44	85.30	3.30	0.29 %	HDPE PIPE	700 mm	1451.44	1451.20
MH105	-10574.59	2855928.26	1454.10	1451.20	85.30	2.91	0.29 %	HDPE PIPE	700 mm	1451.20	1450.95
MH106	-10626.15	2855860.31	1453.65	1450.95	85.30	2.					



LAYOUT PLAN
SCALE 1 : 1 000



Horizontal scale 1:2000
Vertical scale 1:100

Datum 1497

LEGEND

- SEWER MANHOLE
- MAIN SEWER OUTFALL
- EXISTING SEWER RETICULATION
- 1:100 YEAR FLOODLINE

Chainage	Ground Level	Manhole Name	Inlet Level / Outlet Level	Link Type / Link Size	Length / Slope	Flow	Capacity	Velocity	Depth (m)
797.892	1502.856	MH18	1501.156	HDPE Structured Pipe 350 mm	69.079 m / 0.500 %	7.906 l/s	71.445 l/s	0.844 m/s	1.700
800.000	1502.856		1501.146						1.810
820.000	1502.024		1501.046						1.878
840.000	1502.862		1500.946						2.016
860.000	1502.936	MH19	1500.846	HDPE Structured Pipe 350 mm	3.860 m / 0.500 %	34.069 l/s	71.445 l/s	1.272 m/s	2.090
867.071	1503.126		1500.811						1.885
880.000	1502.631	MH20	1500.716	HDPE Pipe 350 mm	30.843 m / 0.500 %	34.069 l/s	71.445 l/s	1.272 m/s	1.960
885.931	1502.697		1500.716						1.860
900.000	1502.860		1500.646						2.314
916.774	1503.421	MH21	1500.552	HDPE Pipe 350 mm	30.630 m / 0.500 %	34.069 l/s	71.445 l/s	1.272 m/s	2.859
920.000	1503.956		1500.544						3.009
940.000	1503.701	MH22	1500.466	HDPE Structured Pipe 350 mm	66.229 m / 0.500 %	34.069 l/s	71.445 l/s	1.272 m/s	3.255
947.604	1503.659		1500.409						3.290
960.000	1503.770		1500.346						3.425
980.000	1503.762		1500.246						3.516
990.000	1503.340		1500.146						3.194
1000.000	1502.940	MH23	1500.076	HDPE Structured Pipe 350 mm	66.230 m / 1.013 %	34.069 l/s	101.684 l/s	1.647 m/s	2.862
1013.633	1502.864		1500.013						2.851
1020.000	1502.420		1499.811						2.618
1040.000	1501.680		1499.606						2.072
1060.000	1501.107	MH24	1499.407	HDPE Pipe 350 mm	30.283 m / 0.545 %	34.069 l/s	74.581 l/s	1.314 m/s	1.700
1079.863	1501.104		1499.406						1.698
1080.000	1501.154		1499.207						1.857
1100.000	1500.942	MH25	1499.193	HDPE Structured Pipe 350 mm	91.996 m / 0.500 %	34.069 l/s	71.445 l/s	1.272 m/s	1.700
1110.146	1501.034		1499.053						1.841
1120.000	1501.211		1498.953						2.118
1140.000	1501.469		1498.993						2.477
1160.000	1501.606		1498.893						2.713
1180.000	1501.475	MH26	1498.793	HDPE Structured Pipe 350 mm	91.997 m / 0.748 %	34.069 l/s	87.378 l/s	1.475 m/s	2.682
1200.000	1501.481		1498.762						2.698
1230.000	1500.998		1498.648						2.349
1240.000	1500.517		1498.489						2.018
1260.000	1500.279		1498.349						1.929
1280.000	1499.757		1498.094						1.557
1284.138	1499.794	MH27	1498.094						1.700

Manhole MH18 to MH27

Rev	Date	Designed by	Drawn by	Checked by	Description	Stage
00	07.09.2022	ND	CDN	BN	ISSUED FOR TENDER	T

Client:
EMALAHLENI LOCAL MUNICIPALITY
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CLIENT ACCEPTANCE
THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING.

CONSULTANT APPROVAL
Name: _____
Date: 07 SEPTEMBER 2022
THE ABOVE SIGNATORY CERTIFIES THAT THE DESIGNER AND CHECKER HAVE CONSENTED TO THEIR NAMES BEING INSERTED ON THIS DRAWING AND THAT THEY HAVE BEEN AND APPROVED THE DRAWING.

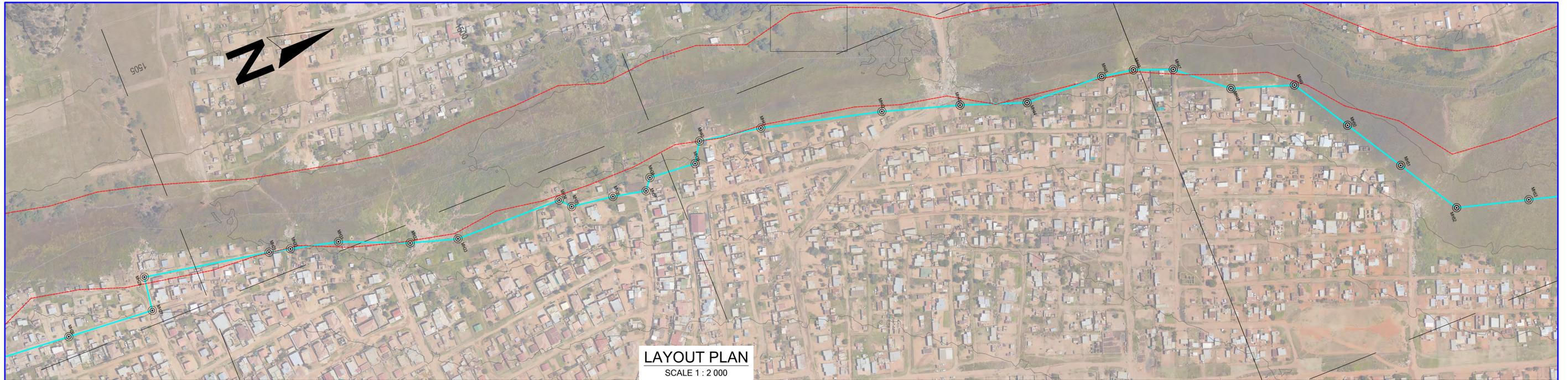
Appointment number: XXX-XX-XXX
Project description: EMPUMELELWENI TOWNSHIP BULK SEWER

Scale: As Shown
Drawing number: SEWER LONGITUDINAL SECTIONS MH18-MH27

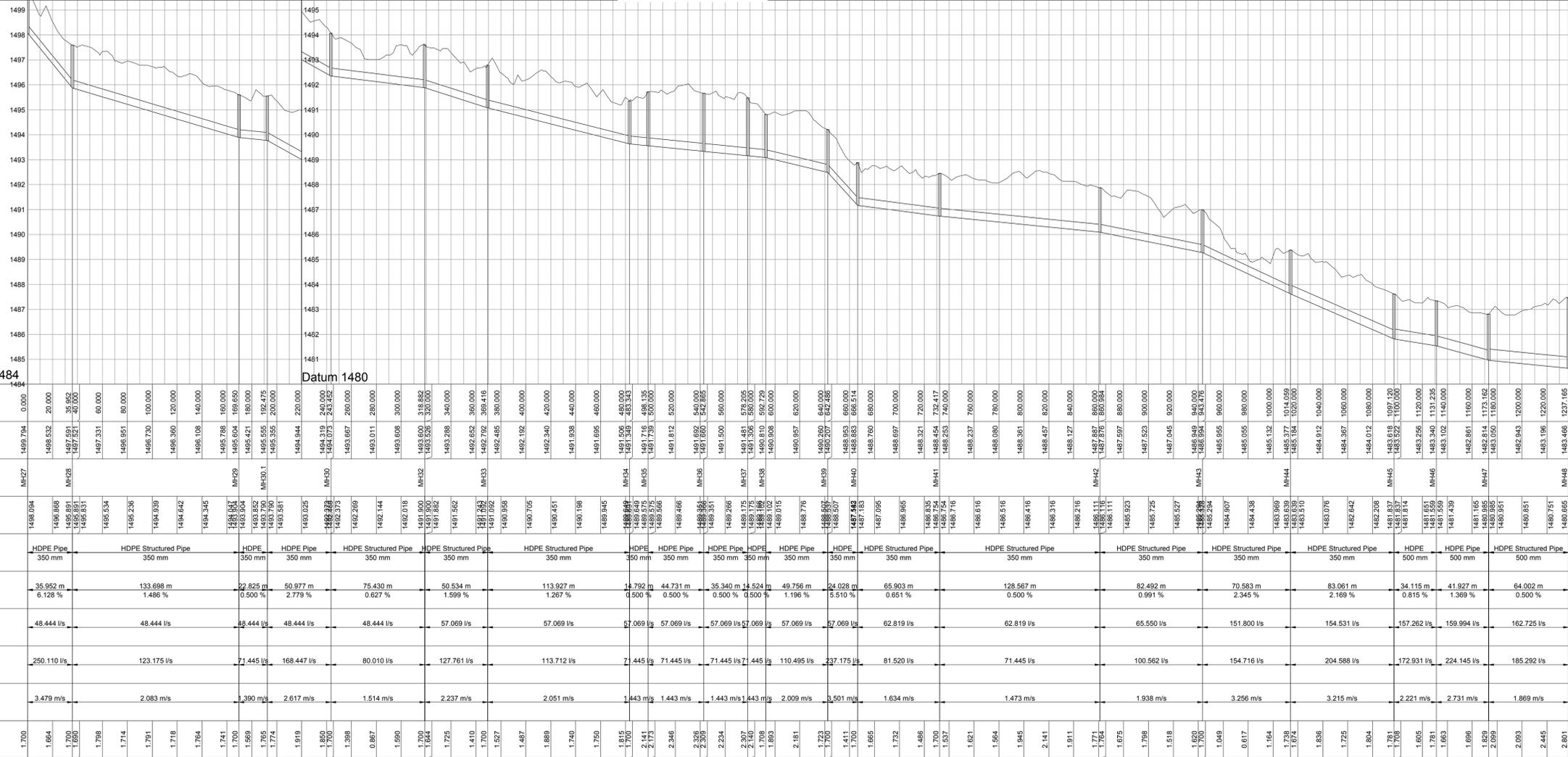
Original size: A1
Sheet: 1 of 1

Drawing number: 20217 -SEW - LS - 101
Project No. Discipline Type Number

Revision: 00



LAYOUT PLAN
SCALE 1 : 2 000



Horizontal scale 1:2000
Vertical scale 1:100

Datum 1484

Datum 1480

Chainage	Ground Level	Manhole Name	Inlet Level / Outlet Level	Link Type / Link Size	Length / Slope	Flow	Capacity	Velocity	Depth (m)
1489.754	1489.532	MH27	1488.094	HDPE Pipe 350 mm	35.952 m / 6.128 %	48.444 l/s	250.110 l/s	3.479 m/s	1.700
1490.000	1489.532		1488.886	HDPE Structured Pipe 350 mm	133.698 m / 1.486 %	48.444 l/s	123.175 l/s	2.083 m/s	1.664
1490.250	1489.532		1488.886						1.690
1490.500	1489.532		1488.831						1.798
1490.750	1489.532		1488.534						1.714
1491.000	1489.532		1488.236						1.791
1491.250	1489.532		1488.039						1.718
1491.500	1489.532		1487.842						1.764
1491.750	1489.532		1487.645						1.741
1492.000	1489.532		1487.448						1.669
1492.250	1489.532		1487.251						1.765
1492.500	1489.532		1487.054						1.774
1492.750	1489.532		1486.857						1.819
1493.000	1489.532		1486.660						1.865
1493.250	1489.532		1486.463						1.700
1493.500	1489.532		1486.266						1.998
1493.750	1489.532		1486.069						0.867
1494.000	1489.532		1485.872						1.590
1494.250	1489.532		1485.675						1.700
1494.500	1489.532		1485.478						1.644
1494.750	1489.532		1485.281						1.725
1495.000	1489.532		1485.084						1.410
1495.250	1489.532		1484.887						1.700
1495.500	1489.532		1484.690						1.527
1495.750	1489.532		1484.493						1.487
1496.000	1489.532		1484.296						1.889
1496.250	1489.532		1484.099						1.740
1496.500	1489.532		1483.902						1.750
1496.750	1489.532		1483.705						1.815
1497.000	1489.532		1483.508						1.700
1497.250	1489.532		1483.311						2.141
1497.500	1489.532		1483.114						1.911
1497.750	1489.532		1482.917						1.771
1498.000	1489.532		1482.720						1.764
1498.250	1489.532		1482.523						1.675
1498.500	1489.532		1482.326						1.798
1498.750	1489.532		1482.129						1.518
1499.000	1489.532		1481.932						1.620
1499.250	1489.532		1481.735						1.700
1499.500	1489.532		1481.538						1.049
1499.750	1489.532		1481.341						0.817
1500.000	1489.532		1481.144						1.164
1500.250	1489.532		1480.947						1.798
1500.500	1489.532		1480.750						1.674
1500.750	1489.532		1480.553						1.836
1501.000	1489.532		1480.356						1.725
1501.250	1489.532		1480.159						1.804
1501.500	1489.532		1479.962						1.791
1501.750	1489.532		1479.765						1.708
1502.000	1489.532		1479.568						1.605
1502.250	1489.532		1479.371						1.781
1502.500	1489.532		1479.174						1.063
1502.750	1489.532		1478.977						1.096
1503.000	1489.532		1478.780						1.829
1503.250	1489.532		1478.583						2.099
1503.500	1489.532		1478.386						2.093
1503.750	1489.532		1478.189						2.445
1504.000	1489.532		1477.992						2.801

LEGEND

- SEWER MANHOLE
- MAIN SEWER OUTFALL
- EXISTING SEWER RETICULATION
- 1:100 YEAR FLOODLINE

Manhole MH27 to MH48

Rev	Date	Designed by	Drawn by	Checked by	Description	Stage
00	07.08.2022	ND	CDN	BN	ISSUED FOR TENDER	T

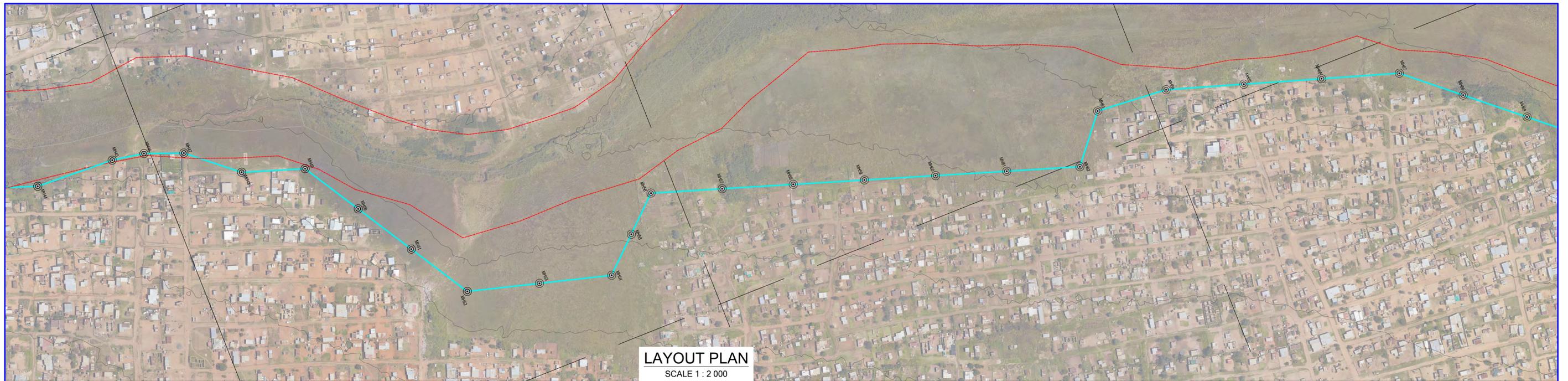
Client:
EMALAHLENI LOCAL MUNICIPALITY
Tel: +27 13 991 1730
Civic Centre
Mandela Street
Box 3
Emalahleni
3035
email: info@kleinwater.co.za

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JALAWÉ PROJECTS
cell: +27 82 363 0709
Mozwell House
3 Bauhinia Street
Oxford Office Park
Centurion
0157
email: info@jalaweprojects.com

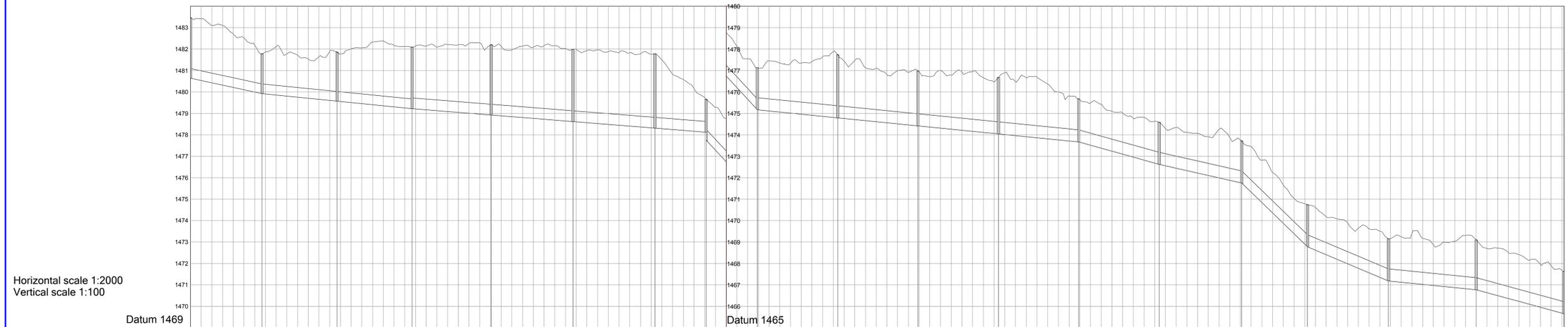
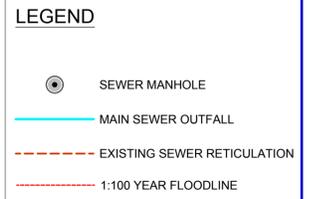
CLIENT ACCEPTANCE
THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING.

CONSULTANT APPROVAL
Name: _____
Prof. Reg. No.: _____
Date: 07 SEPTEMBER 2022
THE ABOVE SIGNATORY CERTIFIES THAT THE DESIGNER AND CHECKER HAVE CONSENTED TO THEIR NAMES BEING INSERTED ON THIS DRAWING AND THAT THEY HAVE BEEN AND APPROVED THE DRAWING.

Appointment number: XXX-XX-XXX
Project description: EMPUMELELWENI TOWNSHIP BULK SEWER
Drawing name: SEWER LONGITUDINAL SECTIONS MH27-MH48
Revision: 00
Drawing number: 20217 - SEW - LS - 102
Project No. Discipline Type Number

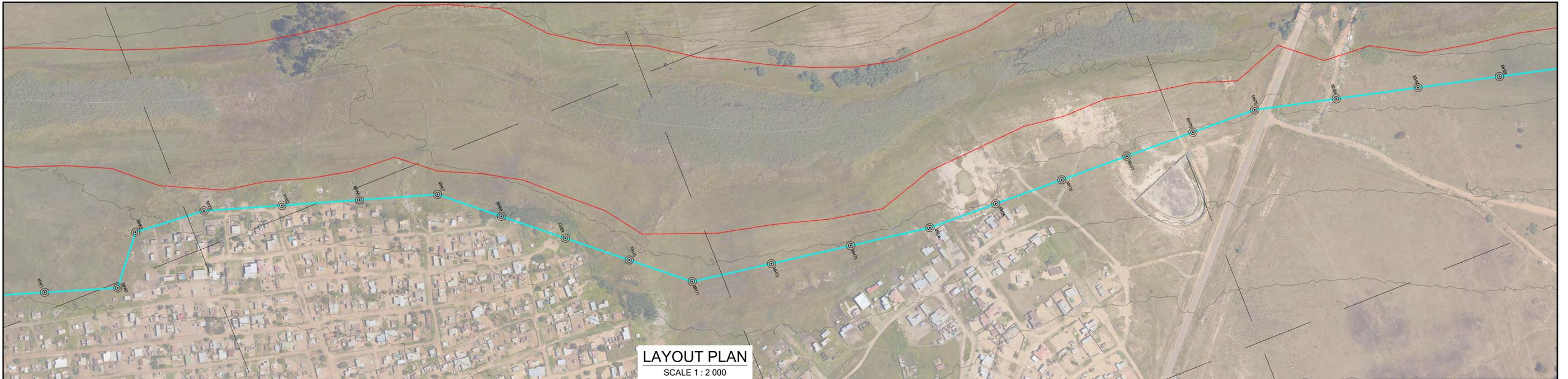


LAYOUT PLAN
SCALE 1 : 2000

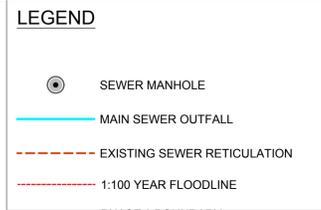


Horizontal scale 1:2000
Vertical scale 1:100

Chainage	Ground Level	Manhole Name	Inlet Level / Outlet Level	Link Type / Link Size	Length / Slope	Flow	Capacity	Velocity	Depth (m)
1480.466	1483.110	MH46	1480.665	HDPE Structured Pipe 500 mm	66.898 m / 1.076 %	165.456 l/s	271.850 l/s	2.520 m/s	2.801
1483.110	1482.703		1480.450						2.680
1482.703	1482.186		1480.234						2.488
1482.186	1481.774	MH49	1480.019	HDPE Structured Pipe 500 mm	70.001 m / 0.500 %	168.188 l/s	185.292 l/s	1.881 m/s	2.167
1481.774	1481.261		1479.519						1.829
1481.261	1480.748		1479.279						2.238
1480.748	1480.235	MH50	1479.019	HDPE Structured Pipe 500 mm	70.000 m / 0.500 %	170.919 l/s	185.292 l/s	1.887 m/s	1.939
1480.235	1479.726		1478.779						1.963
1479.726	1479.213	MH51	1478.519	HDPE Structured Pipe 500 mm	73.780 m / 0.400 %	173.650 l/s	219.350 l/s	1.753 m/s	2.260
1479.213	1478.700		1478.253						2.194
1478.700	1478.187	MH52	1478.019	HDPE Structured Pipe 500 mm	76.408 m / 0.400 %	175.950 l/s	219.350 l/s	1.759 m/s	2.574
1478.187	1477.674		1477.219						2.999
1477.674	1477.161	MH53	1476.919	HDPE Structured Pipe 500 mm	76.407 m / 0.400 %	178.250 l/s	219.350 l/s	1.764 m/s	2.845
1477.161	1476.648		1476.187						2.843
1476.648	1476.135	MH54	1475.919	HDPE Structured Pipe 500 mm	47.806 m / 0.400 %	180.550 l/s	219.350 l/s	1.768 m/s	2.951
1476.135	1475.622		1475.161						3.100
1475.622	1475.109	MH55	1474.919	HDPE Structured Pipe 500 mm	47.806 m / 5.403 %	182.850 l/s	806.170 l/s	4.642 m/s	3.292
1475.109	1474.596		1474.135						3.251
1474.596	1474.083	MH56	1473.919	HDPE Structured Pipe 500 mm	75.000 m / 0.500 %	269.100 l/s	331.562 l/s	2.125 m/s	3.252
1474.083	1473.570		1473.109						3.091
1473.570	1473.057	MH57	1472.919	HDPE Structured Pipe 500 mm	75.000 m / 0.500 %	271.400 l/s	331.562 l/s	2.129 m/s	3.300
1473.057	1472.544		1472.083						3.450
1472.544	1472.031	MH58	1471.919	HDPE Structured Pipe 500 mm	75.000 m / 0.500 %	273.700 l/s	331.562 l/s	2.133 m/s	3.441
1472.031	1471.518		1471.057						3.181
1471.518	1471.005	MH59	1470.919	HDPE Structured Pipe 500 mm	75.000 m / 0.500 %	276.000 l/s	331.562 l/s	2.129 m/s	2.349
1471.005	1470.492		1470.031						1.922
1470.492	1469.979	MH60	1469.919	HDPE Structured Pipe 500 mm	77.091 m / 1.129 %	278.300 l/s	498.124 l/s	2.923 m/s	1.890
1469.979	1469.466		1469.005						1.868
1469.466	1468.953	MH61	1468.919	HDPE Structured Pipe 500 mm	61.392 m / 4.848 %	280.600 l/s	1032.385 l/s	4.994 m/s	1.934
1468.953	1468.440		1467.945						2.656
1468.440	1467.927	MH62	1467.919	HDPE Structured Pipe 500 mm	75.389 m / 2.112 %	282.900 l/s	681.392 l/s	3.699 m/s	2.657
1467.927	1467.414		1466.945						2.850
1467.414	1466.901	MH63	1466.919	HDPE Structured Pipe 500 mm	82.000 m / 1.368 %	285.200 l/s	331.562 l/s	2.152 m/s	2.851
1466.901	1466.388		1465.945						2.133
1466.388	1465.875	MH64	1465.919	HDPE Structured Pipe 500 mm	82.000 m / 1.368 %	286.350 l/s	548.490 l/s	3.162 m/s	2.300
1465.875	1465.362		1464.945						2.189
1465.362	1464.849	MH65	1464.919	HDPE Structured Pipe 500 mm					2.154
1464.849	1464.336		1463.945						1.970
1464.336	1463.823	MH66	1463.919	HDPE Structured Pipe 500 mm					1.972
1463.823	1463.310		1462.945						1.934
1463.310	1462.797		1462.310						1.850
1462.797	1462.284		1461.623						1.850
1462.284	1461.710		1461.023						1.850
1461.710	1461.137		1460.550						1.850
1461.137	1460.563		1460.080						1.850
1460.563	1459.987		1459.510						1.850
1459.987	1459.413		1458.937						1.850
1459.413	1458.843		1458.267						1.850
1458.843	1458.277		1457.701						1.850
1458.277	1457.701		1457.125						1.850
1457.701	1457.125		1456.549						1.850
1457.125	1456.549		1455.973						1.850
1456.549	1455.973		1455.397						1.850
1455.973	1455.401		1454.825						1.850
1455.401	1454.849		1454.273						1.850
1454.849	1454.321		1453.769						1.850
1454.321	1453.715		1453.211						1.850
1453.715	1453.157		1452.653						1.850
1453.157	1452.595		1452.091						1.850
1452.595	1452.033		1451.525						1.850
1452.033	1451.463		1450.957						1.850
1451.463	1450.887		1450.391						1.850
1450.887	1450.321		1449.755						1.850
1450.321	1449.685		1449.119						1.850
1449.685	1448.983		1448.487						1.850
1448.983	1448.381		1447.781						1.850
1448.381	1447.779		1447.079						1.850
1447.779	1447.079		1446.379						1.850
1447.079	1446.679		1445.983						1.850
1446.679	1445.983		1445.283						1.850
1445.983	1444.583		1443.883						1.850
1444.583	1443.183		1442.483						1.850
1443.183	1441.783		1441.083						1.850
1441.783	1440.383		1439.983						1.850
1440.383	1438.983		1438.283						1.850
1438.983	1437.583		1436.983						1.850
1437.583	1436.183		1435.283						1.850
1436.183	1434.783		1433.983						1.850
1434.783	1433.383		1432.583						1.850
1433.383	1431.983		1431.183						1.850
1431.983	1430.583		1430.183						1.850
1430.583	1429.183		1428.783						1.850
1429.183	1427.783		1426.383						1.850
1427.783	1426.383		1424.983						1.850
1426.383	1424.983		1423.583						1.850
1424.983	1422.183		1420.783						1.850
1422.183	1419.383		1418.983						1.850
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1408.183	1406.783		1405.983						1.850
1406.783	1405.383		1404.983						1.850
1405.383	1403.983		1402.983						1.850
1403.983	1402.583		1401.583						1.850
1402.583	1401.183		1400.183						1.850
1401.183	1399.783		1398.383						1.850
1399.783	1398.383		1397.983						1.850
1398.383	1397.583		1396.783						1.850
1397.583	1396.383		1395.983						1.850
1396.383	1395.183		1394.383						1.850
1395.183	1393.983		1392.983						1.850
1393.983	1392.583		1391.583						1.850
1392.583	1391.183		1389.783						1.850
1391.183	1389.383		1387.983						1.850
1389.383	1387.983		1386.583						1.850
1387.983	1386.183		1384.783						1.850
1386.183	1384.383		1382.983						1.850
1384.383	1382.583		1381.183						1.850
1382.583	1380.783		1379.383						1.850
1380.783	1378.983		1377.583						1.850
1378.983	1377.183		1375.783						1.850
1377.183	1375.383		1373.983						1.850
1375.383	1373.583		1371.783						1.850
1373.583	1371.383		1369.583						1.850
1371.383	1368.183		1366.983						1.850
1368.183	1366.								

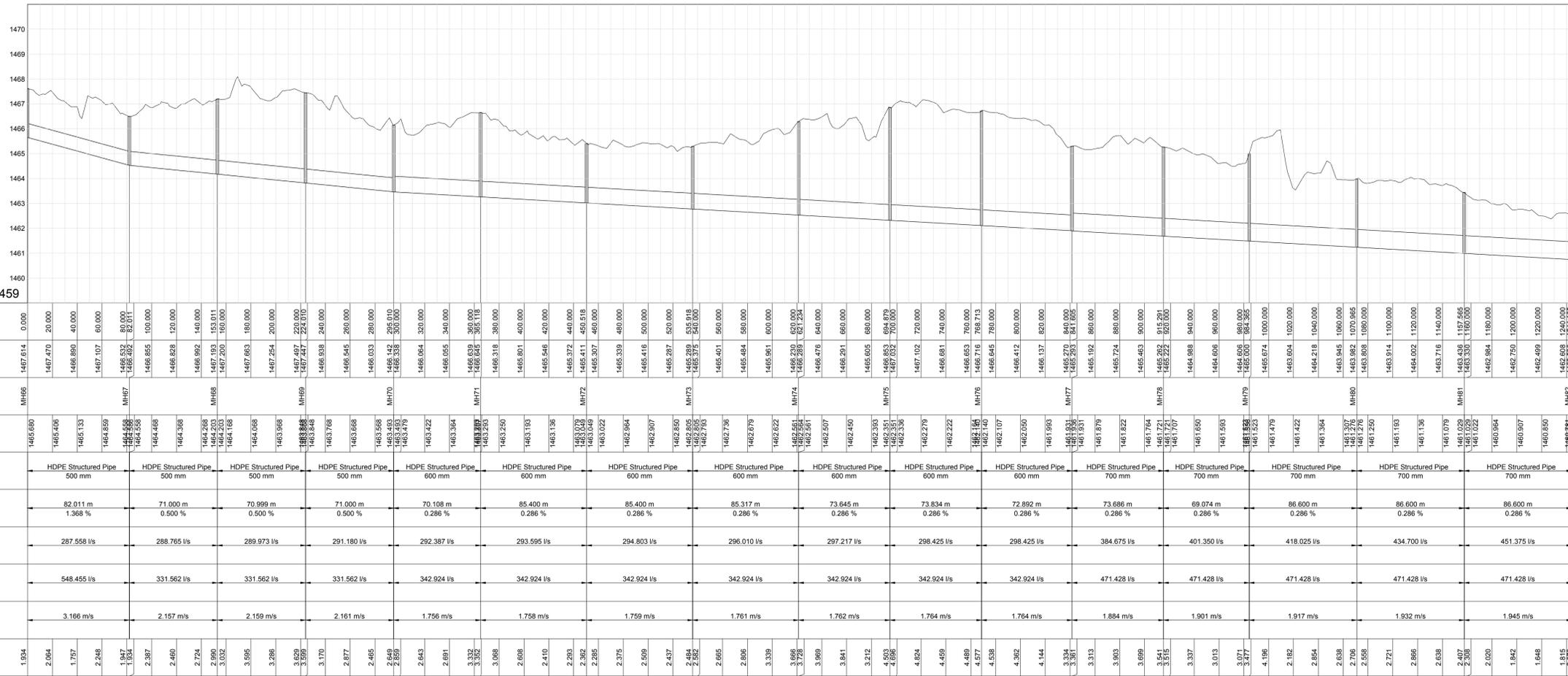


LAYOUT PLAN
SCALE 1 : 2 000



Horizontal scale 1:2000
Vertical scale 1:100

Datum 1459



Chainage	Ground Level	Manhole Name	Inlet Level / Outlet Level	Link Type / Link Size	Length / Slope	Flow	Capacity	Velocity	Depth (m)
0.000	1467.614	MH66	1465.980	HDPE Structured Pipe 500 mm	82.011 m / 0.368 %	287.558 l/s	548.455 l/s	3.166 m/s	1.934
20.000	1467.470		1465.706	HDPE Structured Pipe 500 mm	71.000 m / 0.500 %	288.765 l/s	331.562 l/s	2.157 m/s	2.064
40.000	1466.890		1465.133	HDPE Structured Pipe 500 mm	70.999 m / 0.500 %	289.973 l/s	331.562 l/s	2.159 m/s	1.797
60.000	1467.107	MH67	1464.659	HDPE Structured Pipe 500 mm	71.000 m / 0.500 %	291.180 l/s	331.562 l/s	2.161 m/s	2.248
80.000	1466.532		1464.086	HDPE Structured Pipe 500 mm	70.108 m / 0.286 %	292.387 l/s	342.924 l/s	1.756 m/s	1.947
100.000	1466.492		1464.056	HDPE Structured Pipe 500 mm	85.400 m / 0.286 %	293.595 l/s	342.924 l/s	1.758 m/s	2.387
120.000	1466.805		1464.468	HDPE Structured Pipe 500 mm	85.400 m / 0.286 %	294.803 l/s	342.924 l/s	1.759 m/s	2.460
140.000	1466.992		1464.368	HDPE Structured Pipe 500 mm	73.645 m / 0.286 %	296.010 l/s	342.924 l/s	1.761 m/s	2.724
160.000	1467.193	MH68	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	297.217 l/s	342.924 l/s	1.762 m/s	2.990
180.000	1467.200		1463.338	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	298.425 l/s	342.924 l/s	1.764 m/s	3.032
200.000	1467.254		1463.364	HDPE Structured Pipe 600 mm	72.892 m / 0.286 %	298.425 l/s	342.924 l/s	1.764 m/s	3.095
220.000	1467.663		1463.742	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	300.000 l/s	342.924 l/s	1.764 m/s	3.110
240.000	1467.254		1463.364	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	301.000 l/s	342.924 l/s	1.764 m/s	3.170
260.000	1467.497	MH69	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	302.000 l/s	342.924 l/s	1.764 m/s	3.230
280.000	1467.447		1463.338	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	303.000 l/s	342.924 l/s	1.764 m/s	3.290
300.000	1466.938		1463.768	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	304.000 l/s	342.924 l/s	1.764 m/s	3.350
320.000	1466.545		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	305.000 l/s	342.924 l/s	1.764 m/s	3.410
340.000	1466.033		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	306.000 l/s	342.924 l/s	1.764 m/s	3.470
360.000	1466.142	MH70	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	307.000 l/s	342.924 l/s	1.764 m/s	3.530
380.000	1466.372		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	308.000 l/s	342.924 l/s	1.764 m/s	3.590
400.000	1466.411		1463.338	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	309.000 l/s	342.924 l/s	1.764 m/s	3.650
420.000	1466.307	MH71	1463.338	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	310.000 l/s	342.924 l/s	1.764 m/s	3.710
440.000	1466.055		1463.364	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	311.000 l/s	342.924 l/s	1.764 m/s	3.770
460.000	1466.055		1463.364	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	312.000 l/s	342.924 l/s	1.764 m/s	3.830
480.000	1466.039		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	313.000 l/s	342.924 l/s	1.764 m/s	3.890
500.000	1466.645	MH72	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	314.000 l/s	342.924 l/s	1.764 m/s	3.950
520.000	1466.318		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	315.000 l/s	342.924 l/s	1.764 m/s	4.010
540.000	1466.801		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	316.000 l/s	342.924 l/s	1.764 m/s	4.070
560.000	1466.546		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	317.000 l/s	342.924 l/s	1.764 m/s	4.130
580.000	1466.372		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	318.000 l/s	342.924 l/s	1.764 m/s	4.190
600.000	1466.411	MH73	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	319.000 l/s	342.924 l/s	1.764 m/s	4.250
620.000	1466.307		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	320.000 l/s	342.924 l/s	1.764 m/s	4.310
640.000	1466.339		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	321.000 l/s	342.924 l/s	1.764 m/s	4.370
660.000	1466.416		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	322.000 l/s	342.924 l/s	1.764 m/s	4.430
680.000	1466.297		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	323.000 l/s	342.924 l/s	1.764 m/s	4.490
700.000	1466.297	MH74	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	324.000 l/s	342.924 l/s	1.764 m/s	4.550
720.000	1466.401		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	325.000 l/s	342.924 l/s	1.764 m/s	4.610
740.000	1466.476		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	326.000 l/s	342.924 l/s	1.764 m/s	4.670
760.000	1466.291		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	327.000 l/s	342.924 l/s	1.764 m/s	4.730
780.000	1466.605		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	328.000 l/s	342.924 l/s	1.764 m/s	4.790
800.000	1466.576	MH75	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	329.000 l/s	342.924 l/s	1.764 m/s	4.850
820.000	1466.645		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	330.000 l/s	342.924 l/s	1.764 m/s	4.910
840.000	1466.412		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	331.000 l/s	342.924 l/s	1.764 m/s	4.970
860.000	1466.137		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	332.000 l/s	342.924 l/s	1.764 m/s	5.030
880.000	1466.270	MH76	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	333.000 l/s	342.924 l/s	1.764 m/s	5.090
900.000	1466.293		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	334.000 l/s	342.924 l/s	1.764 m/s	5.150
920.000	1466.192	MH77	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	335.000 l/s	342.924 l/s	1.764 m/s	5.210
940.000	1466.724		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	336.000 l/s	342.924 l/s	1.764 m/s	5.270
960.000	1466.463		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	337.000 l/s	342.924 l/s	1.764 m/s	5.330
980.000	1466.563		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	338.000 l/s	342.924 l/s	1.764 m/s	5.390
1000.000	1466.222	MH78	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	339.000 l/s	342.924 l/s	1.764 m/s	5.450
1020.000	1466.218		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	340.000 l/s	342.924 l/s	1.764 m/s	5.510
1040.000	1466.218		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	341.000 l/s	342.924 l/s	1.764 m/s	5.570
1060.000	1466.945		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	342.000 l/s	342.924 l/s	1.764 m/s	5.630
1080.000	1466.945		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	343.000 l/s	342.924 l/s	1.764 m/s	5.690
1100.000	1466.945	MH79	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	344.000 l/s	342.924 l/s	1.764 m/s	5.750
1120.000	1466.945		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	345.000 l/s	342.924 l/s	1.764 m/s	5.810
1140.000	1466.945		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	346.000 l/s	342.924 l/s	1.764 m/s	5.870
1160.000	1466.945	MH80	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	347.000 l/s	342.924 l/s	1.764 m/s	5.930
1180.000	1466.945		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	348.000 l/s	342.924 l/s	1.764 m/s	5.990
1200.000	1466.945		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	349.000 l/s	342.924 l/s	1.764 m/s	6.050
1220.000	1466.945	MH81	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	350.000 l/s	342.924 l/s	1.764 m/s	6.110
1240.000	1466.945		1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	351.000 l/s	342.924 l/s	1.764 m/s	6.170
1260.000	1466.945	MH82	1463.368	HDPE Structured Pipe 600 mm	73.834 m / 0.286 %	352.000 l/s	342.924 l/s	1.764 m/s	6.230

Manhole MH66 to MH82

Rev	Date	Designed by	Drawn by	Checked by	Description	Stage
00	07.09.2022	ND	CDN	BN	ISSUED FOR TENDER	T

Client:
EMALAHLENI LOCAL MUNICIPALITY
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Mozwell House
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Oxford Office Park
Centurion
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email: info@jalaweprojects.com



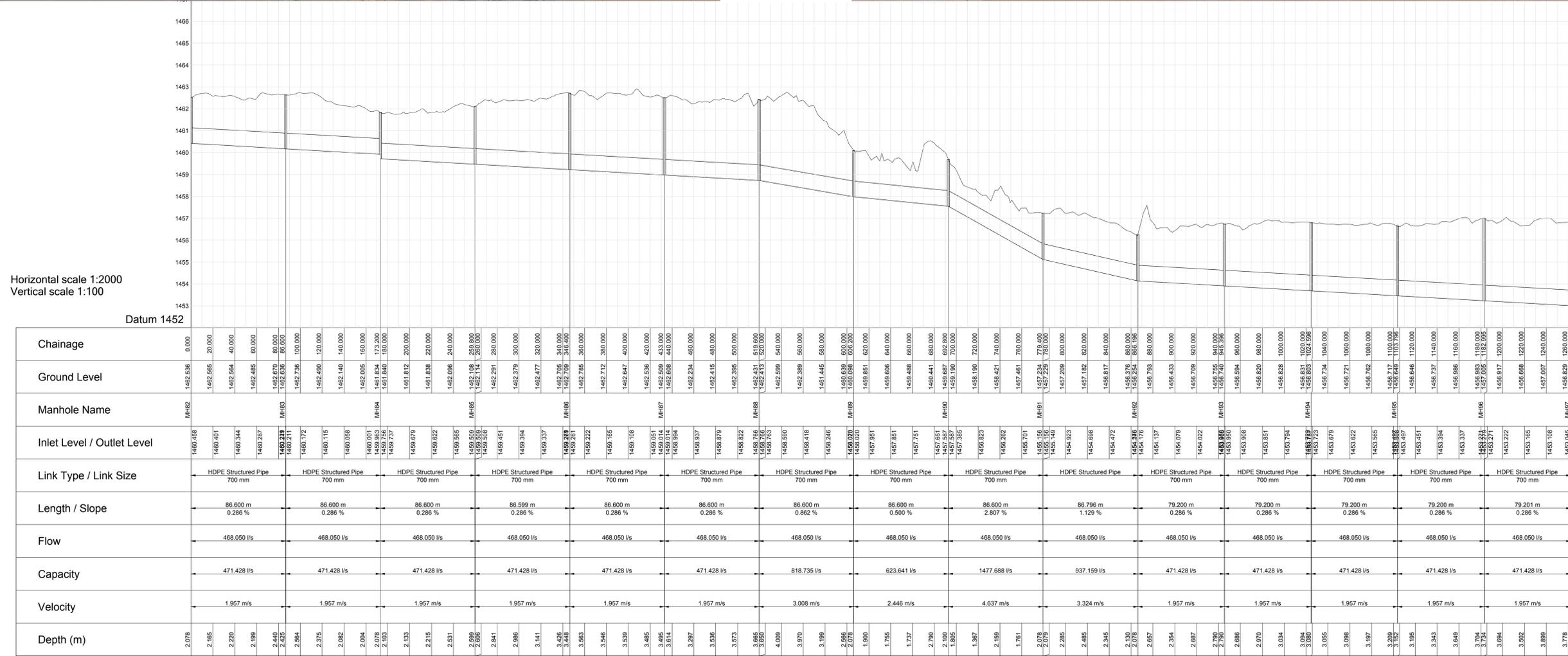
CLIENT ACCEPTANCE
THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING.
Date: _____

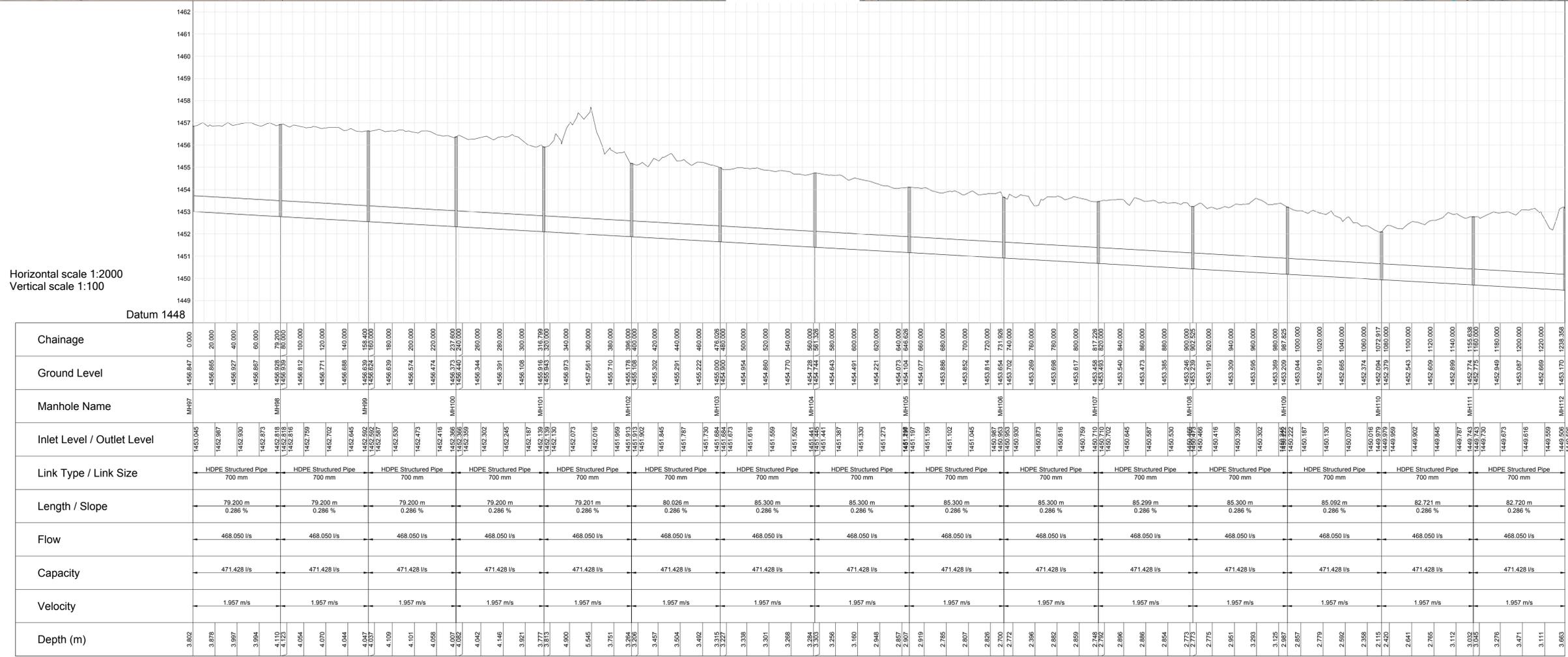
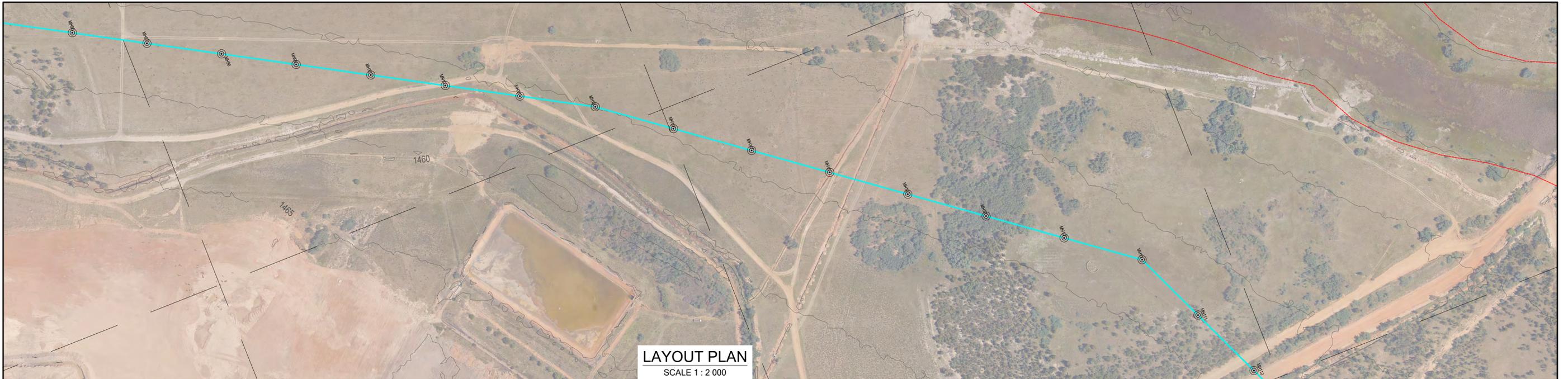
CONSULTANT APPROVAL
Name: _____
Prof. Reg. No.: _____
Date: 07 SEPTEMBER 2022
THE ABOVE SIGNATORY CERTIFIES THAT THE DESIGNER AND CHECKER HAVE CONSENTED TO THEIR NAMES BEING INSERTED ON THIS DRAWING AND THAT THEY HAVE SEEN AND APPROVED THE DRAWING.

Appointment number: XXX-XX-XXX	Project description: EMPUMELELWENI TOWNSHIP BULK SEWER
Scale: As Shown	Drawing name: SEWER LONGITUDINAL SECTIONS MH66-MH82
Original size: A1	Drawing number: 20217 -SEW - LS - 104
Sheet: 1 of 1	Project No. Discipline Type Number
	Revision: 00



LAYOUT PLAN
SCALE 1 : 2 000





LEGEND

- SEWER MANHOLE
- MAIN SEWER OUTFALL
- EXISTING SEWER RETICULATION
- 1:100 YEAR FLOODLINE

Horizontal scale 1:2000
Vertical scale 1:100

Datum 1448

Chainage	Ground Level	Manhole Name	Inlet Level / Outlet Level	Link Type / Link Size	Length / Slope	Flow	Capacity	Velocity	Depth (m)
0.000	1456.847	MH97	1453.045	HDPE Structured Pipe 700 mm	79.200 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.802
20.000	1456.865		1452.887						3.878
40.000	1456.927		1452.930						3.897
60.000	1456.867		1452.873						3.894
80.000	1456.928	MH98	1452.818	HDPE Structured Pipe 700 mm	79.200 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.110
100.000	1456.939		1452.818						4.123
120.000	1456.885		1452.769						4.054
140.000	1456.885		1452.762						4.070
160.000	1456.639	MH99	1452.645	HDPE Structured Pipe 700 mm	79.200 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.044
180.000	1456.639		1452.657						4.047
200.000	1456.574		1452.630						4.031
220.000	1456.474		1452.473						4.109
237.600	1456.373	MH100	1452.416	HDPE Structured Pipe 700 mm	79.201 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.058
240.000	1456.440		1452.386						4.007
260.000	1456.344		1452.359						4.032
280.000	1456.391		1452.302						4.042
300.000	1456.198		1452.245						4.146
320.000	1456.916	MH101	1452.187	HDPE Structured Pipe 700 mm	80.026 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.921
340.000	1456.916		1452.130						3.977
360.000	1456.973		1452.130						3.917
380.000	1457.591		1452.073						4.000
400.000	1457.591		1452.016						5.846
420.000	1455.710	MH102	1451.959	HDPE Structured Pipe 700 mm	85.300 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.751
440.000	1455.710		1451.913						3.284
460.000	1455.221		1451.862						3.206
480.000	1455.222		1451.845						3.457
500.000	1454.954		1451.816						3.504
520.000	1454.991		1451.787						3.492
540.000	1454.221		1451.730						3.301
560.000	1454.073		1451.684						3.288
580.000	1454.104		1451.673						3.844
600.000	1454.077		1451.641						3.303
620.000	1453.886		1451.597						3.296
640.000	1453.886		1451.530						3.160
660.000	1453.852		1451.495						2.848
680.000	1453.814		1451.423						2.857
700.000	1453.654	MH103	1451.388	HDPE Structured Pipe 700 mm	85.300 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	2.907
720.000	1453.702		1451.319						2.919
740.000	1453.702		1451.273						2.785
760.000	1453.269		1451.197						2.807
780.000	1453.698		1451.102						2.828
800.000	1453.617		1451.045						2.884
820.000	1453.458	MH104	1450.987	HDPE Structured Pipe 700 mm	85.300 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	2.896
840.000	1453.458		1450.953						2.772
860.000	1453.385		1450.887						2.396
880.000	1453.385		1450.850						2.882
900.000	1453.309		1450.816						2.859
920.000	1453.458	MH105	1450.759	HDPE Structured Pipe 700 mm	85.300 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	2.748
940.000	1453.458		1450.710						2.792
960.000	1453.483		1450.702						2.896
980.000	1453.540		1450.645						2.886
1000.000	1453.473		1450.587						2.854
1020.000	1453.385		1450.530						2.773
1040.000	1453.246	MH106	1450.468	HDPE Structured Pipe 700 mm	85.299 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	2.773
1060.000	1453.246		1450.416						2.775
1080.000	1453.191		1450.359						2.851
1100.000	1453.309		1450.302						3.293
1120.000	1453.595	MH107	1450.245	HDPE Structured Pipe 700 mm	85.092 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	2.987
1140.000	1453.369		1450.187						2.857
1160.000	1453.209	MH108	1450.130	HDPE Structured Pipe 700 mm	85.092 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	2.719
1180.000	1453.044		1450.073						2.692
1200.000	1452.910		1450.016						2.358
1220.000	1452.665		1449.959						2.115
1240.000	1452.374	MH109	1449.902	HDPE Structured Pipe 700 mm	82.721 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	2.420
1260.000	1452.094		1449.845						2.641
1280.000	1452.379		1449.787						2.785
1300.000	1452.379		1449.730						3.112
1320.000	1452.543	MH110	1449.673	HDPE Structured Pipe 700 mm	82.720 m 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.032
1340.000	1452.543		1449.616						3.056
1360.000	1452.609		1449.559						3.276
1380.000	1452.889	MH111	1449.502	HDPE Structured Pipe 700 mm					3.471
1400.000	1452.889		1449.445						3.111
1420.000	1452.774		1449.388						3.683
1440.000	1452.774		1449.331						
1460.000	1452.949		1449.274						
1480.000	1453.087		1449.217						
1500.000	1452.669	MH112	1449.160	HDPE Structured Pipe 700 mm					
1520.000	1452.669		1449.103						
1540.000	1453.170		1449.046						
1560.000	1453.170		1448.989						

Manhole MH97 to MH112

Rev	Date	Designed by	Drawn by	Checked by	Description	Stage
00	07.09.2022	ND	CDN	BN	ISSUED FOR TENDER	T

Client:
EMALAHLENI LOCAL MUNICIPALITY
Tel: +27 13 591 1730
Civic Centre Mantso's Street Box 3 Emalahleni 1035
email: info@kelmwater.co.za

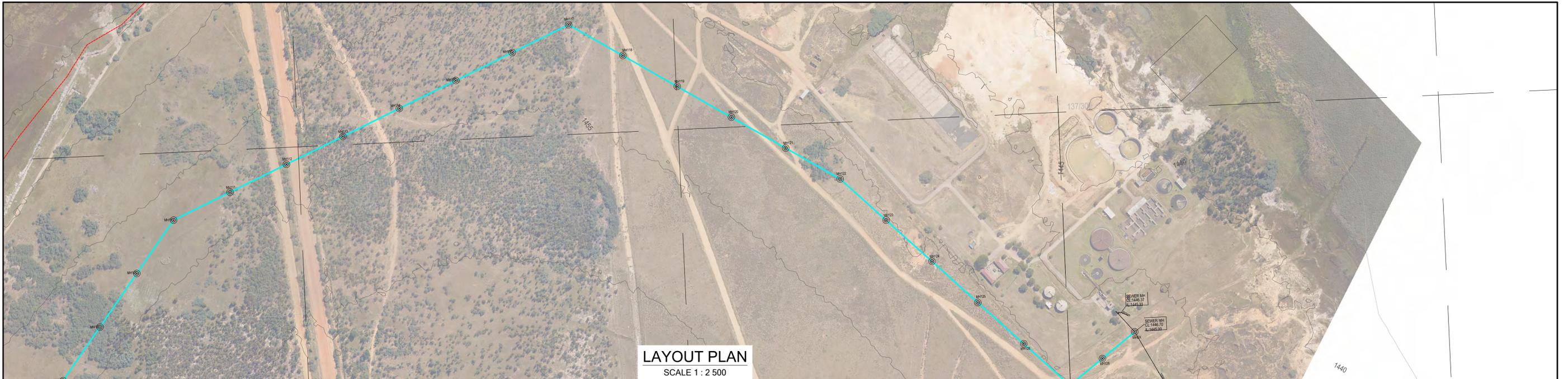
Civil & Structural Engineer:
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 Oxford Office Park
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 email: info@jalaweprojects.com

CLIENT ACCEPTANCE
 THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWSOEVER ARISING.
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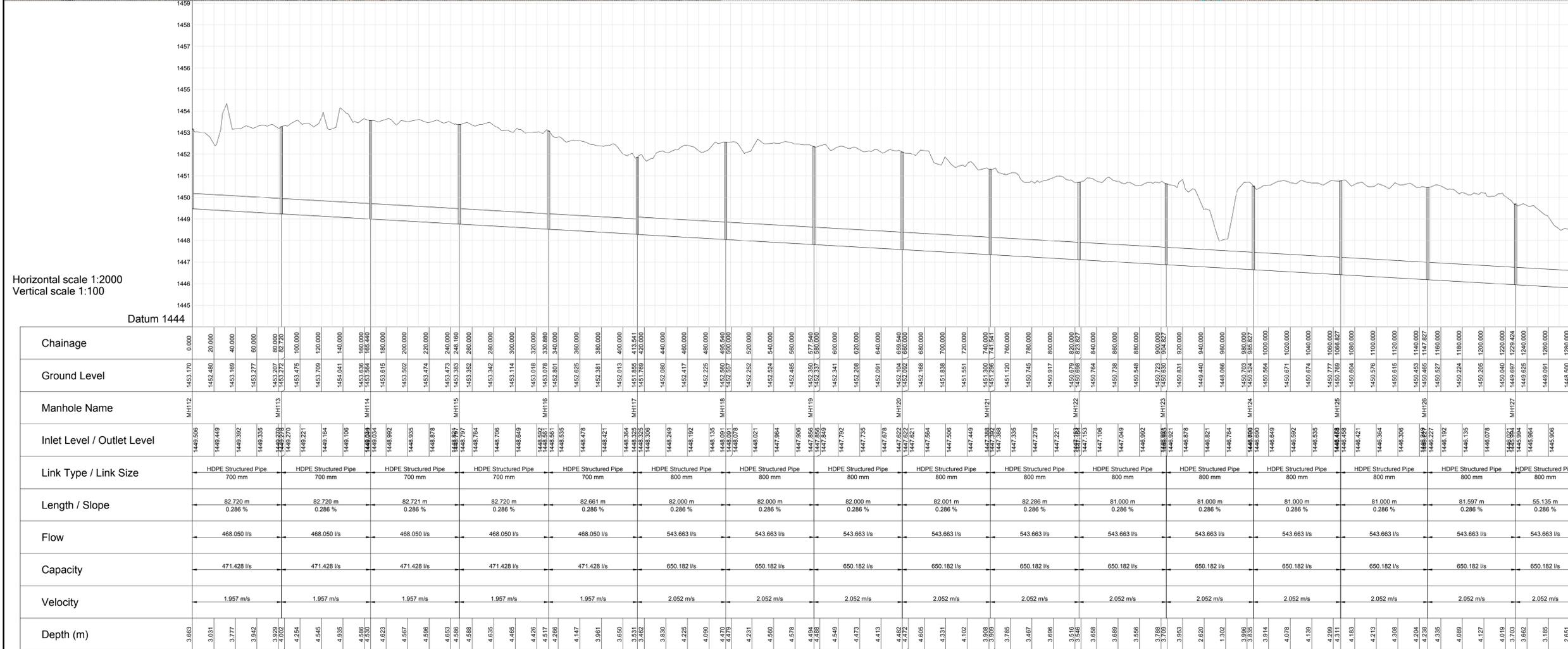
CONSULTANT APPROVAL
 Name: _____
 Prof. Reg. No.: _____
 Date: 07 SEPTEMBER 2022
 THE ABOVE SIGNATORY CERTIFIES THAT THE DESIGNER AND CHECKER HAVE CONSENTED TO THEIR NAMES BEING INSERTED ON THIS DRAWING AND THAT THEY HAVE SEEN AND APPROVED THE DRAWING.

Appointment number:	XXX-XX-XXX
Scale:	As Shown
Original size:	A1
Sheet:	1 of 1

Project description:	EMPUMELELWENI TOWNSHIP BULK SEWER			
Drawing name:	SEWER LONGITUDINAL SECTIONS MH97-MH112			
Drawing number:	20217 -SEW - LS - 106			
Project No.	Discipline	Type	Number	Revision
				00



LAYOUT PLAN
SCALE 1 : 2 500

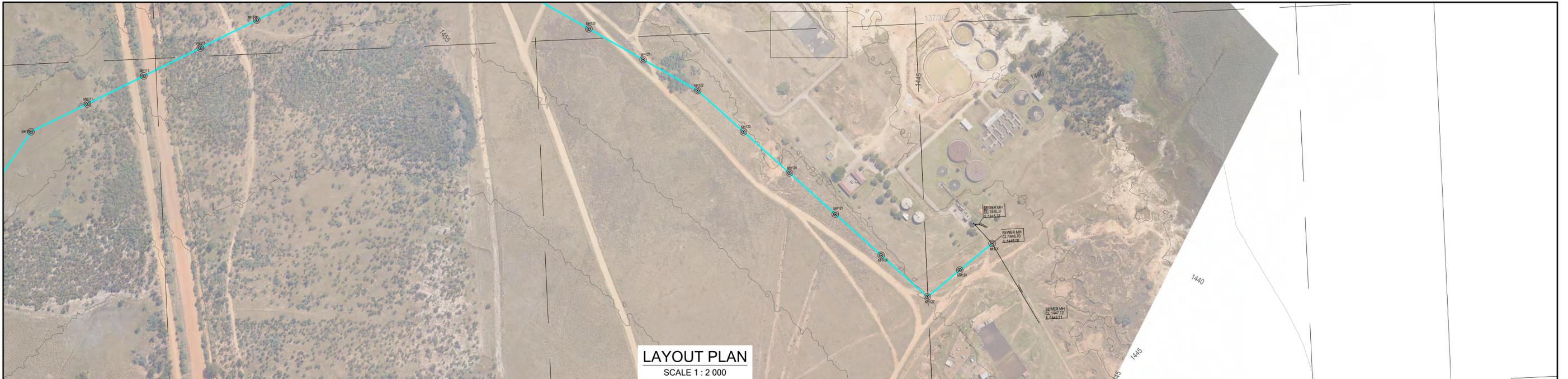


Horizontal scale 1:2000
Vertical scale 1:100

LEGEND

- SEWER MANHOLE
- MAIN SEWER OUTFALL
- - - EXISTING SEWER RETICULATION
- - - 1:100 YEAR FLOODLINE

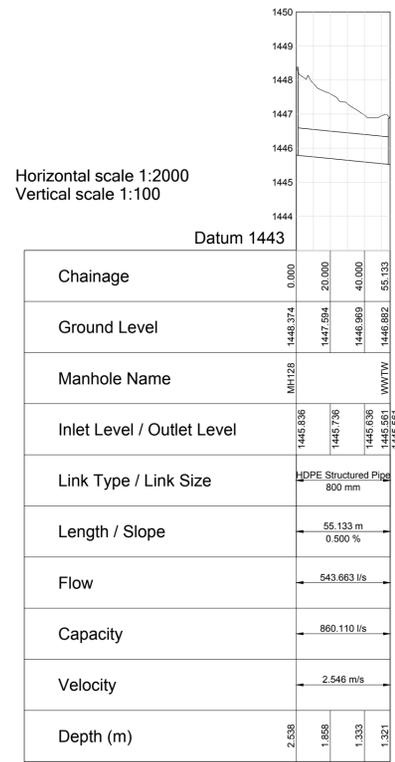
Chainage	Ground Level	Manhole Name	Inlet Level / Outlet Level	Link Type / Link Size	Length / Slope	Flow	Capacity	Velocity	Depth (m)
0.000	1453.170	MH112	1449.506	HDPE Structured Pipe 700 mm	82.720 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.663
20.000	1452.480		1449.449	HDPE Structured Pipe 700 mm	82.720 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.631
40.000	1453.189		1449.392	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.777
60.000	1453.277		1449.335	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.942
80.000	1453.207		1449.278	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.920
82.720	1453.272	MH113	1449.278	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.002
100.000	1453.475		1449.221	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.254
120.000	1453.709		1449.164	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.545
140.000	1454.041		1449.108	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.935
160.000	1453.636		1449.051	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.586
180.000	1453.354	MH114	1449.051	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.530
200.000	1453.615		1448.994	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.623
220.000	1453.502		1448.937	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.567
240.000	1453.474		1448.880	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.598
260.000	1453.423	MH115	1448.880	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.653
280.000	1453.383		1448.823	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.588
300.000	1453.352		1448.766	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.588
320.000	1453.342		1448.709	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.635
340.000	1453.114		1448.652	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.465
360.000	1453.018		1448.595	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.426
380.000	1453.078	MH116	1448.538	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.517
400.000	1452.801		1448.481	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.266
420.000	1452.625		1448.424	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.147
440.000	1452.381		1448.367	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.981
460.000	1452.013		1448.310	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.650
480.000	1451.855	MH117	1448.253	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.531
500.000	1451.789		1448.196	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.462
520.000	1452.080		1448.139	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	3.630
540.000	1452.225		1448.082	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.225
560.000	1452.417		1448.025	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.090
580.000	1452.225		1447.968	HDPE Structured Pipe 700 mm	82.721 m / 0.286 %	468.050 l/s	471.428 l/s	1.957 m/s	4.070
600.000	1452.337	MH118	1447.911	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.479
620.000	1452.267		1447.854	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.379
640.000	1452.262		1447.797	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.231
660.000	1452.524		1447.740	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.560
680.000	1452.445		1447.683	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.578
700.000	1452.350	MH119	1447.626	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.404
720.000	1452.337		1447.569	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.488
740.000	1452.341		1447.512	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.549
760.000	1452.208		1447.455	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.473
780.000	1452.091		1447.398	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.413
800.000	1452.104	MH120	1447.341	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.482
820.000	1452.092		1447.284	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.472
840.000	1452.168		1447.227	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.605
860.000	1451.838		1447.170	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.331
880.000	1451.551		1447.113	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.102
900.000	1451.265	MH121	1447.056	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.966
920.000	1451.265		1447.000	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.909
940.000	1451.120		1446.943	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.785
960.000	1450.745		1446.886	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.667
980.000	1450.917		1446.829	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.696
1000.000	1450.679	MH122	1446.772	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.516
1020.000	1450.695		1446.715	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.546
1040.000	1450.764		1446.658	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.658
1060.000	1450.738		1446.601	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.689
1080.000	1450.545		1446.544	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.596
1100.000	1450.223	MH123	1446.487	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.778
1120.000	1450.223		1446.430	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.189
1140.000	1450.831		1446.373	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.953
1160.000	1449.440		1446.316	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	2.820
1180.000	1448.996		1446.259	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	1.302
1200.000	1450.703	MH124	1446.202	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.998
1220.000	1450.524		1446.145	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.835
1240.000	1450.564		1446.088	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.914
1260.000	1450.571		1446.031	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.078
1280.000	1450.571		1445.974	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.139
1300.000	1450.574		1445.917	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.299
1320.000	1450.777	MH125	1445.860	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.311
1340.000	1450.759		1445.803	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.183
1360.000	1450.604		1445.746	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.213
1380.000	1450.576		1445.689	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.308
1400.000	1450.615		1445.632	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.238
1420.000	1450.453		1445.575	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.335
1440.000	1450.465	MH126	1445.518	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.089
1460.000	1450.527		1445.461	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.127
1480.000	1450.524		1445.404	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	4.019
1500.000	1450.205		1445.347	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.703
1520.000	1450.040		1445.290	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.662
1540.000	1449.897	MH127	1445.233	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	3.185
1560.000	1449.825		1445.176	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	2.651
1580.000	1449.091		1445.119	HDPE Structured Pipe 800 mm	82.000 m / 0.286 %	543.663 l/s	650.182 l/s	2.052 m/s	2.538
1600.000	1448.500	MH128	1445.062	HDPE Structured Pipe 800 mm					



LAYOUT PLAN
SCALE 1 : 2 000

LEGEND

- SEWER MANHOLE
- MAIN SEWER OUTFALL
- EXISTING SEWER RETICULATION
- 1:100 YEAR FLOODLINE



Manhole MH128 to WWTW

00	07.09.2022	ND	CDM	BN	ISSUED FOR TENDER	T
Rev	Date	Designed by	Drawn by	Checked by	Description	Stage

Client:
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CLIENT ACCEPTANCE
THIS ACCEPTANCE IS FOR PROCEDURAL AND ADMINISTRATIVE REVIEW PURPOSES ONLY AND DOES NOT ATTRACT LEGAL LIABILITY OR LIABILITY OF ANY KIND FROM WHATSOEVER CAUSE OR HOWEVER ARISING.
Date: _____

CONSULTANT APPROVAL
Name: _____
Prof. Reg. No.: _____
Date: 07 SEPTEMBER 2022
THE ABOVE SIGNATORY CERTIFIES THAT THE DESIGNER AND CHECKER HAVE CONSENTED TO THEIR NAMES BEING INSERTED ON THIS DRAWING AND THAT THEY HAVE SEEN AND APPROVED THE DRAWING.

Appointment number: XXX-XX-XXX
Scale: As Shown
Original size: A1
Sheet: 1 of 1

Project description: EMPUMELELWENI TOWNSHIP BULK SEWER
Drawing name: SEWER LONGITUDINAL SECTIONS MH128 - WWTW
Drawing number: 20217 -SEW - LS - 108
Project No. Discipline Type Number
Revision: 00

ANNEX D

HEALTH AND SAFETY SPECIFICATION

HEALTH AND SAFETY SPECIFICATION

1. BACKGROUND

In terms of the Construction Regulation 4 (1) (a) of the Occupational Health and Safety Act, No. 85 of 1993, the Client is required to compile a Health & Safety Specification for the intended project and provide such specification to any prospective tenderer.

The Client's further duties are as 4(1) to 4(6) in The Construction Regulations, July 2003.

2. SCOPE

Development of a Health & Safety Specification that addresses all aspects of occupational health and safety as affected by the **Construction of civil engineering services for the Mokobola village Water Supply Project**.

3. OH&S MANAGEMENT

3.1 Structure and Organization of OH&S Responsibilities

3.1.1. Overall Supervision and Responsibility for OH&S

- The Client is to ensure that the Principal Contractor, appointed in terms of Construction Regulation 4(1)(c), implements, and maintains the agreed and approved OH&S Plan.
- The Chief Executive Officer of the Principal Contractor in terms of Section 16 (1) of the Act is to ensure that the Employer (as defined in the Act) complies with the Act. **Annexure 2** - "Legal Compliance Audit" may be used for this purpose.
- Any OH&S Act (85 /1993), Section 16 (2) appointee/s as detailed in his/her respective appointment forms.
- The Construction Supervisor and Assistant Construction Supervisor/s appointed in terms of Construction Regulation 6.

3.1.2. Further (Specific) Supervision Responsibilities for OH&S

Appointments required by the Act and Regulations:

- OH&S Representatives (Sections 17/18 of the Act)
- OH&S Committees (Sections 19/20 of the Act)
- Risk Assessor (Construction Regulation. 7(1))
- Accident/Incident Investigations Co-ordinator (General Administrative Regulation 9 (2))
- Form/Support work Supervisor (Construction Regulation 10(a))
- *Batch Plant Supervisor (Construction Regulation 18(1))*
- *Stacking & Storage Supervisor (Construction Regulation 26(a))*
- *Fire Equipment Inspector (Construction Regulation 27(h))*
- Electrical Installations, Machinery & Appliances Inspector (Construction Regulation 22)
- Excavations Supervisor (Construction Regulation 11(1))
- Demolition Supervisor (Construction Regulation 12(1))

- OH&S Officer (where necessary) (Construction Regulation 6(6))
- Person Responsible for Machinery (General Machinery Regulation 2)
- Emergency, Security and Fire Co-ordinator (Construction Regulation 27(h) & Environmental Regulation 9)
- Fire Equipment Inspector (Construction Regulation 27(h) Environmental Regulation 9)
- First Aider (General Safety Regulation 3(2))
- Hazardous Chemical Substances Supervisor (HCS Regulations)
- Ladders Inspector (General Safety Regulation 13A)
- Lifting Equipment Inspector (Construction Regulation 20)
- Operators & Drivers of Construction Plant & Vehicles (Construction Regulation 21 (i))
- Structures Supervisor (Construction Regulation 9)
- Users Operators of Construction Equipment (Construction Regulation 21(i))
- Welding Supervisor (General Safety Regulation 9)

3.2. Communication and Liaison

- OH&S liaison between the Client, the Principal Contractor, the other Contractors, the Consulting Engineer and other concerned parties will be through the OH&S Committee as in **3.10**.
- In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.
- Consultation with the workforce on OH&S matters will be through their Supervisors, OH&S Representatives, the OH&S Committee, and their elected Trade Union Representatives, if any.
- The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g., design changes agreed with the Client and the Consulting Engineer, instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/ dangerous conditions/ situations etc.

3.3. OH&S File

The Principal Contractor must, in terms of Construction Regulation 5 (7), always keep a health and safety file on site that must include all documentation required in terms of the Act and Regulations and must also include a list of all Contractors on site that are accountable to the Principal Contractor and the agreements between the parties and details of work being done. The following documents must be kept in the OH&S file:

- Notification of Construction Work (Construction Regulation 3.)
- Copy of OH&S Act (updated) (General Administrative Regulation 4.)
- Proof of Registration and good standing with a COID Insurer (Construction Regulation 4 (g))
- Copy of health and safety plan (construction regulation 5 (1))
- OH&S Programme agreed with Client including the underpinning Risk Assessment and Method Statements (Construction regulation 5 (1))

Designs/drawings (Construction Regulation 5 (8))

- A list of Contractors (Subcontractors) including copies of the agreements between the parties and the type of work being done by each contractor (Construction Regulation 9)
- Appointment / Designation forms as per 3.1.1. and 3.1.2. above.
- Registers as follows:
 - * Accident/Incident Register (Annexure 1 of the General Administrative Regulations)
 - * OH&S Representatives Inspection Register
 - * Form/Support work Inspection
 - * Excavations Inspection
 - * Lifting Equipment
 - * Demolition Inspections
 - * Designer's Inspection of Structures Record
 - Batch Plant Inspections
 - Arc & Gas Welding & Flame Cutting Equipment Inspections
 - Construction Vehicles & Mobile Plant Inspections
 - Electrical Installation and Machinery Inspections
 - Fire Equipment Inspection & Maintenance
 - First Aid
 - * Hazardous Chemical Substances
 - Lifting Tackle and Equipment Inspections
 - Inspection of Cranes
 - Inspection of Ladders
 - Inspection of Vessels under Pressure
 - * Machinery Inspections
 - * Drivers/Operators of Mobile Plant/Construction Vehicles Daily Inspections

The Principal Contractor will be required to submit the abovementioned registers monthly to the chairperson of the OH&S Committee for endorsement.

The Health & Safety File must be handed over to the Client on completion of the contract. It must contain all the documentation handed to the Principal Contractor by any subcontractors together with a record of all drawings, designs, materials used and other similar information concerning the completed project.

3.4. OH&S Goals and Objectives and Arrangements for Monitoring and Review of OH&S Performance

The Principal Contractor is required to maintain a Compensation Incidence Frequency Rate (**CIFR**) of at least 8 (Refer **Annexure 3** - "Measuring Injury Experience") and to report on this to the Client monthly.

3.5. Identification of Hazards and Development of Risk Assessments, Standard Working Procedures (SWP) and Method Statements

The Principal Contractor is required to develop Risk Assessments, Standard Working Procedures (SWP) and Method Statements for each activity executed in the contract or project (Refer to **Section 4**. below "Project/Site Specific Requirements")

3.6. Arrangements for Monitoring and Review

3.6.1. Monthly Audit by Client

The Client will be conducting a Monthly Audit to comply with Construction Regulation 4 (1) (d) to ensure that the Principal Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

3.6.2. Other Audits and Inspections by Client

The Client reserves the right to conduct other ad hoc audits and inspections as deemed necessary.

A representative of the Principal Contractor must accompany the Client on all Audits and Inspections and may conduct his/her own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results.

3.6.3 Reports

The Principal Contractor is required to provide the Client with a monthly report in the format as per the attached **Annexure 4**: "SHE Risk Management Report"

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- dies
- becomes unconscious
- loses a limb or part of a limb
- is injured or becomes ill to such a degree that he/she is likely either to die, or to suffer a permanent physical defect, or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

OR where:

- a major incident occurred
- the health or safety of any person was endangered
- where a dangerous substance was spilled

- the uncontrolled release of any substance under pressure took place
- machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- machinery ran out of control to the Provincial Director of the Department of Labour within seven days. (Section 24 of the General Administrative Regulation 8). The Principal Contractor is required to provide the Client with copies of all statutory reports required in terms of the Act.

The Principal Contractor is required to provide the Client with copies of all internal and external accident/incident investigation reports including the reports contemplated in 3.9. below.

3.6.4 Review

The Principal Contractor is to review the Hazard Identification, Risk Assessments and SWP's at each two weekly site inspection/meeting as the construction work develops and progresses and each time that changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client, other Contractors, and all other concerned parties with copies of any changes, alterations or amendments.

3.7 Site Rules and Other Restrictions

3.7.1 Site OH&S Rules

The Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the OH&S aspects of the construction.

3.7.2. Security and Emergency Arrangements

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period.

Access control must include the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of security rules and procedures and maintain these throughout the construction period.

The Principal Contractor must appoint a competent Emergency Controller who must develop emergency contingency plans for any emergency that may arise on site as indicated by the risk assessments. These must include a monthly practice/testing programme for the plans e.g. January: trench collapse, February: flooding etc. and practiced/tested with all persons on site at the time, participating.

3.8 Training

The contents and syllabi of all training required by the Act and Regulations must be included in the Principal Contractor's OH&S Plan.

3.8.1 General Induction Training

All employees of the principal and other Contractors to be in possession of proof of General Induction Training

3.8.2 Site Specific Induction Training

All employees of the principal and other contractors to be in possession of Site Specific OH&S Induction Training.

3.8.3 Other Training

All operators, drivers and users of construction vehicles, mobile plant, and other equipment to be in possession of valid proof of training.

All employees in jobs requiring training in terms of the Act and Regulations to be in possession of valid proof of training.

OH&S Training Requirements: (as required by the Construction Regulations and as indicated by the OH&S Specification and the Risk Assessment/s):

- * General Induction (Section 8 of the Act)
- * Site/Job Specific Induction (also visitors) (Sections 8 & 9 of the Act)
- * Site/Project Manager
- * Construction Supervisor
- * OH&S Representatives (Section 18 (3) of the Act)
- * Training of the Appointees indicated in 3.1.1. & 3.1.2. above
- * Operation of Cranes (Driven Machinery Regulations 18 (11))
- * Operators and Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 21)
 - o Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction regulation 27)
 - o Basic First Aid (General Safety Regulations 3)
 - o Storekeeping Methods & Safe Stacking (Construction Regulation 26)
- * Emergency, Security and Fire Co-ordinator

3.9. Accident and Incident Investigation

The Principal Contractor is responsible for the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she had to be referred for medical treatment by a doctor, hospital, or clinic. (General Administrative Regulation 9).

The results of the investigation to be entered into the Accident/Incident Register. (General Administrative Regulation 9)

The Principal Contractor is responsible for the investigation of all non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

3.10 OH&S Representatives and Committees

3.10.1. Designation of OH&S Representatives

Where the Principal Contractor employs more than 20 persons (including the employees of other contractors (sub-contractors) he must appoint one OH&S Representative for every 50 employees or part thereof. General Administrative Regulation 6 requires that the appointment or election and subsequent designation of the OH&S Representative is executed in consultation with Employee Representatives or Employees. (Section 17 of the Act and General Administrative Regulation 6. & 7.)

OH&S Representatives must be designated in writing and the designation must include the area of responsibility of the person and term of the designation.

3.10.2. Duties and Functions of the OH&S Representatives

The Principal Contractor must ensure that the designated OH&S Representatives conduct a minimum monthly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal Contractor.

OH&S representatives must be included in accident/incident investigations.

OH&S representatives must attend all OH&S committee meetings.

3.10.3. Appointment of OH&S Committee

The Principal Contractor must establish an OH&S Committee consisting of all the designated OH&S Representatives together with several management representatives (this number is not to exceed the number of OH&S representatives on the committee) and a representative of the Client who shall act as the chairperson without a vote. The members of the OH&S committee must be appointed in writing.

The OH&S Committee must meet minimum monthly and consider, at least, the following Agenda:

- Opening and welcome
- Present/Apologies/Absent
- Minutes of previous meeting
- Matters arising from the previous minutes
- OH&S Representatives Reports
- Incident Reports & Investigations
- Incident /Injury statistics
- Other matters
- Endorsement of Registers and the statutory documents by a representative of the Principal Contractor
- Close/Next Meeting

4. PROJECT / SITE SPECIFIC REQUIREMENTS

The following is a list of specific activities and considerations that have been identified for the project and the construction site and for which Risk Assessments, Standard Working Procedures (SWP), management and control measures and Method Statements (where necessary) must be developed by the Principal Contractor:

- * Clearing & Grubbing of the Area/Site
- * Site Establishment including:
 - Office/s
 - Secure/safe storage for materials, plant & equipment
 - Ablutions
 - Sheltered eating area
 - Maintenance workshop
 - Vehicle access to the site
- * Dealing with existing structures (NB: the existing pipeline is also a structure.)
- * Location of existing services
- * Installation and maintenance of temporary construction electrical supply, lighting and equipment
- * Adjacent land uses/surrounding property exposures
- * Boundary and access control/Public Liability Exposures (NB: the Employer is also responsible for the OH&S of non-employees affected by his/her work activities.)
- * Health risks arising from neighbouring as well as own activities and from the environment e.g. threats by dogs, bees, snakes, lightning etc.
- * Exposure to noise
- * Exposure to vibration
- * Protection against dehydration and heat exhaustion
- * Protection from wet & cold conditions
- * Dealing with HIV/Aids and other diseases
- * Use of Portable Electrical Equipment including
 - Angle grinder
 - Electrical drilling machine
 - Skill saw
- * **Excavations including**
 - Ground/soil conditions
 - Trenching
 - Shoring
 - Drainage of trench

- * **Welding including**
 - Arc Welding
 - Gas welding
 - Flame cutting
 - Use of LP gas torches and appliances
- * Loading & offloading of trucks
- * Aggregate/sand and other materials delivery
- * Manual and mechanical handling
- * Lifting and lowering operations
- * Driving & operation of construction vehicles and mobile plant including
 - Trenching machine
 - Excavator
 - Bomag roller
 - Plate compactor
 - Front end loader
 - Mobile cranes and the ancillary lifting tackle
 - Parking of vehicles & mobile plant
 - Towing of vehicles & mobile plant
- * Use and storage of flammable liquids and other hazardous substances
- * Layering and bedding of trench floor
- * Installation of pipes in trench
- * Pressure testing of pipeline
- * Installing heat shrink joint sleeves
- * Backfilling of trench
- * Protection against flooding
- * Gabion work
- * Use of explosives
- * Protection from overhead power lines
- * As discovered by the Principal Contractor's hazard identification exercise
- * As discovered from any inspections and audits conducted by the Client or by the Principal Contractor or any other Contractor on site

* As discovered from any accident/ incident investigation.

Annexure 1: Construction Occupational Health – Safety – Environment Audit System

Annexure 2: Guidelines for the development of a Health and Safety Plan.

Annexure 3: Guide to Risk Assessment

ANNEXURE 1: CONSTRUCTION OCCUPATIONAL HEALTH - SAFETY – ENVIRONMENT AUDIT SYSTEM
(Based on the New Construction Regulations)

** Denotes items applicable to both Construction sites and Contractors Plant/ Storage*

1. Administrative and Legal Requirements

Section/Regulation	Subject	Requirements	Yes/No
Construction. Regulation 3	Notice of carrying out Construction work	Department of Labour notified Copy of Notice available on Site	
General Admin. Regulation 3	*Copy of OH&S Act (Act 85 of 1993)	Updated copy of Act & Regulations on site Readily available for perusal by employees	
COID Act Section 80	*Registration with Compensation Insurer	Written proof of registration / Letter of good standing available on Site	
Construction. Regulation 4 & 5(1)	OH&S Specification & Plan	OH&S Specification received from Client OH&S plan developed Updated regularly	
Section 8(2)(d) and Construction. Regulation 6	*Hazard Identification & Risk Assessment	Hazard Identification carried out/Recorded Risk Assessment and Plan drawn up/Updated Risk Assessment Plan available on Site Employees/Subcontractors informed/trained	
Section 16(2)	*Assigned duties (Managers)	Responsibility of complying with the OH&S Act assigned to another person/ s by CEO.	
Construction. Regulation 5(2)	Designation of Person Responsible on Site	Competent person appointed in writing as Construction Supervisor	
Construction. Regulation 5(5)(a)	Designation of Subordinate Person	Competent person appointed in writing as Sub-ordinate Construction Supervisor	
Section 17 & 18	*Designation of Occupational Health & Safety Representatives	More than 20 employees - one OH&S Representative, one additional OH&S Rep. for each 50 employees or part thereof. Designation in writing, period and area of responsibility specified. Meaningful OH&S Rep. reports. Reports actioned by Management.	
Section 19 & 20	*Occupational Health & Safety Committee/s	OH&S Committee/s established. Members appointed in writing. Meetings held monthly. Minutes kept. Actioned by Management.	
Section 37	*Agreement with Mandatories (Sub-Contractors)	Written agreement with Subcontractors. List of Subcontractors displayed. Proof of Registration with Compensation Insurer/Letter of Good Standing Construction Work Supervisor designated Written arrangements concerning OH&S Reps & OH&S Committee Written arrangements regarding First Aid	
Construction. Regulation 7	Fall Prevention & Protection	Competent person appointed to draw up and supervise the Fall Protection Plan Proof of appointees' competence available on Site Risk Assessment carried out for work at heights Fall Protection Plan drawn up/updated Available on Site	
Construction. Regulation 8	Roof work	Competent person appointed to plan & supervise Roof work. Proof of appointees' competence available on Site Risk Assessment carried out Roof work Plan drawn up/updated Roof works inspect before each shift. Inspection register kept Employees medically examined for physical & psychological fitness. Written proof available	

Section/Regulation	Subject	Requirements	Yes/No
Construction. Regulation 9	Structures	Information re. the structure being erected received from the Designer including: <ul style="list-style-type: none"> - geo-science technical report where relevant - the design loading of the structure - the methods & sequence of construction - anticipated dangers/hazards/special Measures to construct safely Risk Assessment carried out Method statement drawn up All above available on Site Structures inspected before each shift. Inspection's register kept	
Construction. Regulation 10	Formwork & Support work	Competent person appointed in writing to supervise erection, maintenance, use and dismantling of Support & Formwork Design drawings available on site Risk Assessment carried out Support & Formwork inspected: <ul style="list-style-type: none"> - before use/inspection - before pouring of concrete - weekly whilst in place - before stripping/dismantling. Inspection register kept 	
Construction. Regulation 11	Scaffolding	Competent persons appointed in writing to: <ul style="list-style-type: none"> - erect scaffolding (Scaffold Erector/s) - act as Scaffold Team Leaders - inspect Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Written Proof of Competence of above appointees available on Site Copy of SANS 085 available on Site Risk Assessment carried out Inspected weekly/after bad weather. Inspection register/s kept	
Construction. Regulation 12	Suspended Scaffolding	Competent persons appointed in writing to: <ul style="list-style-type: none"> - erect Susp.Scaffolding (Scaffold Erector/s) - act as Susp.Scaffold Team Leaders - inspect Susp.Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Risk Assessment conducted Certificate of Authorization issued by a registered professional engineer available on Site/copy forwarded to the Department of Labour The following inspections of the whole installation carried out by a competent person <ul style="list-style-type: none"> - after erection and before use - daily prior to use. Inspection register kept The following tests to be conducted by a competent person: <ul style="list-style-type: none"> - load test of whole installation and working parts every 12 months - hoisting ropes/hooks/load attaching devices quarterly. Tests logbook kept Employees working on Susp.Scaffold medically examined for physical & psychological fitness. Written proof available	
Construction. Regulation 13	Excavations	Competent person/s appointed in writing to supervise and inspect excavation work Written Proof of Competence of above appointee/s available on Site Risk Assessment carried out Inspected: <ul style="list-style-type: none"> - before every shift - after any blasting - after an unexpected fall of ground - after any substantial damage to the shoring - after rain. Inspection's register kept 	

Section/Regulation	Subject	Requirements	Yes/No
		Method statement developed where explosives will be/ are used	
Constructions. Regulation 14	Demolition Work	Competent person/s appointed in writing to supervise and control Demolition work Written Proof of Competence of above appointee/s available on Site Risk Assessment carried out Engineering survey and Method Statement available on Site Inspections to prevent premature collapse carried out by competent person before each shift. Inspection register kept	
Construction. Regulation 16	Materials Hoist	Competent person appointed in writing to inspect the Material Hoist Written Proof of Competence of above appointee available on Site. Materials Hoist to be inspected weekly by a competent person. Inspection's register kept.	
Construction. Regulation 17	Caissons & Cofferdams	Competent person appointed in writing to supervise, control & inspect the construction, installation/dismantling of caissons/coffer dams Written Proof of Competence of above appointee available on Site Risk Assessment carried out to be inspected daily by a competent person. Inspection's register kept	
Construction. Regulation 18	Explosive Powered Tools	Competent person appointed to control the issue of the Explosive Powered Tools & cartridges and the service, maintenance, and cleaning. Register kept of above Empty cartridge cases/nails/fixing bolts returns recorded Cleaned daily after use	
Construction. Regulation 19	Batch Plants	Competent person appointed to control the operation of the Batch Plant and the service, maintenance, and cleaning. Register kept of above Risk Assessment carried out Batch Plant to be inspected weekly by a competent person. Inspection's register kept	
Construction. Regulation 20/ Mine Health & Safety Act (29 of 1996)	Tunneling	Complying with Mines Health & Safety Act (29 of 1996) Risk Assessment carried out	
Construction. Regulation 21/ Driven Machinery Regulations 18 & 19	Cranes & Lifting Machines Equipment	Competent person appointed in writing to inspect Cranes, Lifting Machines & Equipment Written Proof of Competence of above appointee available on Site. Cranes & Lifting tackle identified/numbered Register kept for Lifting Tackle Logbook kept for each individual Crane Inspection: - All cranes - daily by operator - Tower Crane/s – after erection/6monthly - Other cranes – annually by comp. person - Lifting tackle (slings/ropes/chain slings etc.) - 3 monthly Risk Assessment carried out	
Construction. Regulation 22/Electrical Machinery Regulations 9 & 10/Electrical Installation Regulations	*Inspection & Maintenance of Electrical Installation & Equipment (including portable electrical tools)	Competent person appointed in writing to inspect/test the installation and equipment. Written Proof of Competence of above appointee available on Site. Inspections: - Electrical Installation & equipment inspected after installation, after alterations and quarterly. Inspection Registers kept Portable electric tools and -lights and extension leads identified/numbered. Monthly visual inspection by User/Issuer/Storeman. Register kept.	

Section/Regulation	Subject	Requirements	Yes/No
Construction. Regulation 2 Diving Regulations	Water Environments	Competent person appointed in writing to supervise diving operations and ensure maintenance, statutory inspection and testing by an Approved Inspection Authority of equipment used Written Proof of Competence of above appointee available on Site Proof of registration of all divers present on site available Risk Assessment carried out Diving Manual produced. Available on Site Record of Voice Communications kept Diving Operations record kept Each Diver keeps a personal logbook. Entries countersigned by the Diving Supervisor Decompression tables available on Site Records of any Decompression illness kept Certificate of Manufacture of any Compression Chamber or Diving Bell in use available on Site	
Construction. Regulation 30/ General Safety Regulation 8(1)(a)	*Designation of Stacking & Storage Supervisor.	Competent Person/s with specific knowledge and experience designated to supervise all Stacking & Storage Written Proof of Competence of above appointee available on Site	
Construction. Regulation 31/ Environmental Regulation 9	*Designation of a Person to Co-ordinate Emergency Planning And Fire Protection	Person/s with specific knowledge and experience designated to co-ordinate emergency contingency planning and execution and fire prevention measures Emergency Evacuation Plan developed: - Drilled/Practiced - Plan & Records of Drills/Practices available on Site Fire Risk Assessment carried out All Fire Extinguishing Equipment identified and on register. Inspected weekly. Inspection Register kept Serviced annually	
Construction. Regulation 32/ General Safety Regulation 3	*First Aid	Every workplace provided with sufficient number of First Aid boxes. (Required where 5 persons or more are employed) First Aid freely available Equipment as per the list in the OH&S Act. One qualified First Aider appointed for every 50 employees. (Required where more than 10 persons are employed) List of First Aiders and Certificates Name of person/s in charge of First Aid box/es displayed. Location of F/Aid box/es clearly indicated. Signs instructing employees to report all Injuries/illness including first aid injuries	
Construction. Regulation 33/ General Safety Regulation 2	Personal Safety Equipment (PSE)	PSE Risk Assessment carried out Items of PSE prescribed/use enforced Records of Issue kept Undertaking by Employee to use/wear PSE	
Construction. Regulation 34/ General Safety Regulation 9	*Inspection & Use of Welding/Flame Cutting Equipment	Competent Person/s with specific knowledge and experience designated to Inspect Electric Arc, Gas Welding and Flame Cutting Equipment Written Proof of Competence of above appointee available on Site Equipment identified/numbered and entered into a register Equipment inspected monthly. Inspection Register kept	
Construction. Regulation 35/ Hazardous Chemical Substances (HCS)	*Control of Storage & Usage of HCS	Competent Person/s with specific knowledge and experience designated to Control the Storage & Usage of HCS Written Proof of Competence of above appointee available on Site Risk Assessment carried out Register of HCS kept/used on Site	

Section/Regulation	Subject	Requirements	Yes/No
Construction. Regulation 36/Vessels under Pressure Regulations	Vessels under Pressure (VUP)	Competent Person/s with specific knowledge and experience designated to supervise the use, storage, maintenance, statutory inspections & testing of VUP's Written Proof of Competence of above appointee available on Site Risk Assessment carried out Certificates of Manufacture available on Site Register of VUP's on Site Inspections & Testing by Approved Inspection Authority (AIA): <ul style="list-style-type: none"> - after installation/re-erection or repairs - every 36 months. - Register/Log kept of inspections, tests. Modifications & repair 	
Construction. Regulation 37	Construction Vehicles & Earth Moving Equipment	Operators/Drivers appointed to: <ul style="list-style-type: none"> - Carry out a daily inspection prior to use - Drive the vehicle/plant that he/she is competent to operate/drive Written Proof of Competence of above appointee available on Site Record of Daily inspections kept	
Construction. Regulation 38/ General Safety Regulation 13D	*Inspection of Ladders	Competent person appointed in writing to inspect Ladders Ladders inspected at arrival on site and monthly thereafter. Inspection's register kept	
Construction. Regulation 39/ General Safety regulation 13B	Ramps	Competent person appointed in writing to Supervise the erection & inspection of Ramps. Inspection register kept.	

ANNEXURE 2: GUIDELINES FOR THE DEVELOPMENT OF A HEALTH & SAFETY PLAN

1. Project Background

In terms of the Construction Regulations [Regulation 4 (1) (a)] of the Occupational Health and Safety Act, no. 85 of 1993, the Client is required to compile an Occupational Health and Safety specification for each of its projects and the Principal Contractor, appointed by the Client in terms of Regulation 4 (1) (c), is required to prepare an Occupational Health and Safety Plan. This plan must be prepared in terms of Regulation 5 (1) as well as the Client's Occupational Health & Safety Specification. In terms of Regulation 4 (2), the Client and the Principal Contractor are required to agree on the Occupational Health and Safety Plan before any work may commence.

2. Framework for an Occupational Health and Safety Plan

2.1 Introduction

The Principal Contractor must demonstrate to the Client that he has a suitable and sufficiently documented Occupational Health and Safety Plan as well as the necessary competencies, experience, and resources to perform the construction work safely. The Principal Contractor could be required to submit the following documentation for perusal and verification by the Client:

- *Management Structure*
- *Quality Plan*
- *Human Resources Plan*
- *Registered Workplace Skills Plan*
- *“Letter of good standing” from the Compensation Commissioner or licensed compensation insurer.*
- *Proof of induction and other training of employees*
- *Example copy minutes of previous Occupational Health and Safety Committee meetings and copies of Incident Investigation Reports*

2.2 Contents of an Occupational Health and Safety Plan

2.2.1 Occupational Health and Safety Management Programme

- Management of Occupational Health and Safety risks
- Occupational Health and Safety structures and appointments
- Programme of Occupational Health and Safety inspections
- Occupational Health and Safety Representatives
- Occupational Health and Safety committee

2.2.2 Communication and Management of the Work

- Management structure and responsibilities
- Occupational Health and Safety goals for the project and arrangements for monitoring and review of Occupational Health and Safety performance.
- **Arrangements for:**

- Regular liaison between parties on site
- Consultation with the workforce
- The exchange of design information between the Client, engineer, supervisors and contractors on site
- Handling design changes during the project
- Selection and control of contractors
- The exchange of Occupational Health and Safety information between all contractors
- Security
- Site induction and onsite training
- Facilities and first-aid
- The reporting and investigation of accidents and incidents
- The production and approval of risk assessments and method statements
- Site OH&S rules
- Fire and emergency procedures
- Reporting to the Client i.e., results of Occupational Health and Safety inspections, incident and incident investigations and committee meetings
- Reporting of incidents to the Department of Labour and Compensation insurer where appropriate

2.2.3 Arrangements for controlling significant site risks

The following are some examples of the arrangements for controlling the most significant site risks:

- **Safety risks**
 - Services, including temporary electrical installations
 - Preventing employees from falling into excavations, from trucks etc.
 - Work with, on or near fragile materials
 - Control of lifting operations
 - The maintenance of plant and equipment
 - Poor ground conditions
 - Traffic routes and segregation of vehicles and pedestrians
 - Storage of hazardous materials
 - Dealing with existing unstable structures/land
 - Accommodating adjacent land use

- Other significant safety risks as and when identified
- **Health risks**
 - Storage and use of hazardous chemical substances
 - Dealing with contaminated land or material
 - Manual handling
 - Reducing noise and vibration
 - Provision of adequate lighting
 - Ventilation considerations
 - Extreme heat and cold temperature considerations
 - Dealing with HIV/Aids and other illnesses
 - Provision of and maintaining ablution and eating facilities
 - Other significant health risks as and when identified

2.2.4 Preparation of an Occupational Health and Safety Operational Reference File/Manual

The following are some of the requirements to be addressed:

- Layout, format, and content requirements
- Arrangement for the collection and gathering of information
- Storage and archiving of all the information
- Copy to the Client at completion of project
- ***Suggested Contents of an OH&S File/Manual***
 - OH&S Policy
 - Notice of new project
 - Site start-up
 - Security measures
 - Written designations & appointments
 - Arrangements with contractors/mandataries
 - OH&S rules and procedures
 - Induction
 - OH&S training
 - OH&S promotion
 - OH&S representatives

- OH&S committees
- Workplace facilities e.g., ablutions, sheltered eating areas etc.
- Protective equipment
- Workplace inspections and audits
- Investigation & reporting of incidents/accidents
- Mechanical safeguarding
- Electrical safeguarding
- Safeguarding against hazardous substances
- Lifting machinery & equipment
- Construction vehicles & mobile plant
- Welding, heating & flame cutting
- Excavations
- Protection of the environment affected by construction activities
- Keeping of records in terms of the OH&S Act (85 of 1993)

ANNEXURE 3

GUIDE TO RISK ASSESSMENT

1. HOW TO DO IT?

2. Steps to Effective Risk Assessment

- Step 1 : Identifying the hazards
- Step 2 : Aim to identify major hazards, don't waste time on the minor & detail
- Step 3 : Involve as many people as possible in the process especially those at risk
- Step 4 : Gather all the information and analyse it
- Step 5 : Look at what actually occurs including non-routine operations
- Step 6 : Use a systematic approach to ensure all hazards are adequately addressed
- Step 7 : Assess the risks arising considering the effectiveness of controls
- Step 8 : Ensure the process is practical and realistic
- Step 9 : Always record the assessment in writing including assumptions and why

3. HOW SERIOUS IS IT?

PROBABILITY

- A Common
- B Has Happened
- C Could Happen
- D Not Likely
- E Practically impossible

CONSEQUENCES

- 1 Fatality or permanent disability
- 2 Major injury
- 3 Average Lost Time Injury
- 4 Minor Injury
- 5 Medical Treatment or less

PROBABILITY

		A	B	C	D	E		
SEQUENCES	1			1	2	3	4	5
	2			2	3	4	5	6
	3			3	4	5	6	7
	4			4	5	6	7	8
	5			5	6	7	8	9

Risk Rating:

- 1 – 3 = Serious
- 4 – 5 = High
- 6 – 7 = Moderate
- 8 – 9 = Acceptable

• ACTION

- Immediate (within 1 week)
- Within 1 month
- > 4 weeks
- No action

LIST OF RISK ASSESSMENTS AVAILABLE (as at 2003.07.07)

- | | |
|--|--|
| Access Towers | Lathe |
| Acid Washing | Layering of (Road work) Materials |
| Aggregate/Sand Delivery | Layering Process |
| Angle Grinder | Laying Kerbs |
| Arc Welding | Laying of stormwater drains |
| Armco Barriers - installation | Levelling – of materials |
| Assembly of elements by boilermaker | Lifting Concrete. Beams on to trailers |
| Backfilling | Loading supervisor |
| Bag Filling | Loading/Unloading - of Trucks |
| Bandsaw | Loffels – placing/laying |
| Banksman | Machine operator |
| Batch Plant | Making of steel items |
| Bench Grinder | Material delivery |
| Bin Scraper | Materials Handling |
| Block Feeder | Mixer operator |
| Block Machine | Mobile Cranes |
| Boom Scraper | Pedestal Drill |
| Bricks – Laying of | Pedestal Grinder |
| Brickwork | Placing Concrete |
| Bulk Earthworks | Plastering |
| Cement Spray Truck | Portable Electric Drill |
| Clearing & Grubbing of Area/Site | Portable Electric Tools |
| Compr. Gas Cylinders-handling | Portable Ladders |
| Compressors – Air | Post Tensioning |
| Concrete – placing of (1) | Radial Arm Drill |
| Concrete – placing of (2) | Refuelling Vehicles/Plant |
| Confined Spaces – Working in | Reinforcing Steel – placement (1) |
| Conveyors | Reinforcing Steel – placement (2) |
| Cutting – of Earthworks | Road Traffic Signs – placement of |
| David Arm | Roadworks - Deviations |
| Deck Panels – placing | Roof Truss erection |
| Depilator Operator | Sandblasting |
| Diss Assembly Rejects | Scaffolding |
| Distribution Boards – Electrical | Shuttering – Erection |
| Drivers – of Vehicles | Shuttering – Stripping |
| Dry Tile Deracking | Site Establishment (1) |
| Dumpers - Concrete | Site Establishment (2) |
| Electrical Installation – Maintenance of | Skill Saw |
| Elevated Positions | Spray Painting |
| Erecting – Instal/ Shutters | Stormwater pipes - laying |
| Excavations (1) | Structural Steel – Erection |
| Excavations (2) | Structural Steel – Laydown |
| Explosive Powered Tools | Surveying |
| Finger Car | Suspended Scaffolds |
| Fire Fighting Prevention | Termite Proofing |
| Fire Prevention & Protection | Tile Machine |
| Formwork | Tile stacking |
| Friction Saw | Timber Feeder |
| Front End Loader | Tower Cranes |
| Fuel Supply | Traffic Accommodation |
| Gas Cylinders – Handling of | Traffic Control/Regulation |
| Gas Welding-cutting operations | Trench Excavation |
| Gas Welding-cutting operations | Use of angle grinder |
| Guillotine | Use of Port. Elec. Tools. |
| Hand & Spray Painting | Wet tile racking |
| Hand Tools Jacking – with Hydraulic Pump | Work confined spaces |
| Hanging scaffolding | Work in Elevated Positions |
| Hauling | Working Platforms |
| High cut operations | Workshops |
| Jacking Hydraulic Pump (1) | |
| Jacking Hydraulic Pump (2) | |
| Kerb Laying | |
| Landscaping | |

RISK ASSESSMENT: SITE ESTABLISHMENT

TYPE OF WORK PERFORMED: _____ DATE COMPLETED: _____

ASSESSMENT PERFORMED BY: _____

Step No.	Activity Rules	What can cause injury/damage?	Result of cause (injury/damage)	Preventative Measures (tools, PPE, equipment)	Controls (test, check list)	Weights		
1.	Access to be a main consideration when positioning offices, stores and parking areas on site during planning stage. Possible one-way traffic to be introduced	Restricted access to parking and delivery areas to storage areas.	Damage to transport and plant	Proper layout of site by Construction Manager and Site Agent taking into consideration all transport plant and material movements and storage on site.	Site Agent to check layout Drg. To compare with OHS Act requirements and whether they are to Concor's standards.			
2.	Oxygen and acetylene store to be a minimum distance of five metres away from other buildings. It needs to be well ventilated and have a roof to keep direct exposure to the sun.	Fire explosion leaking gas may spread if to close to other buildings.	Damage to property and plant. Health of employees.	See item 1.	See item 1.			
3.	Diesel tanks to be at least a distance of 10 metres away from any building and parking areas. A slab with a bund wall capable of carrying 110% of the tank capacities must be constructed for the tanks to stand in.	Fire may spread to adjacent buildings and plant if is too close.	Burns on all parts of body. Damage to plant and property.	See item 1. Persons in charge of tanks should be inducted regarding all the hazards involved and how to control them	See item 1. Supervisor to monitor on an ongoing basis if rules are complied with			

 Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

Step No.	Activity Rules	What can cause injury/damage?	Result of cause (injury/damage)	Preventative Measures (tools, PPE, equipment)	Controls (test, check list) During erection & ongoing	Weights		
						Safety	Health	R/R
4.	All cables from distribution board to offices, store and for security to be under-ground. The distribution board is to stand on a firm level base and should be locked at all times.	Damaged cables loose wires exposed.			•			
5.	Security fencing minimum height of 1.8 meter around site area together with two double gates.	Theft of property. Access to unauthorised persons.	Loss of property. Injury to persons.	Security guards to be appointed to keep watch.	Supervisor to put system of control in place			
6. 6.1 6.2 6.3 6.4 6.5	Services to be available during site establishment. Fire fighting equipment. First aid boxes. First aider. Drinking water. Toilets.	Not having the essential services at hand.	Health of employees. Loss of property through fire.	6.1 to 6.5 are to be included on first order placed for contract. Dry chemical powder ABCDE fire extinguishers to be ordered 4 off for start.	Site Agent to see that these requirements are on site from start of site establishment.			
7.	Water tank tower to consist of very well cross braced pipe structure standing on concrete base.	Badly constructed water tower under designed structurally could cause tower to collapse.	Injury to persons. Damage to property.	Supervisor to erect as per design office specifications.				

Step No.	Activity Rules	What can cause injury/damage?	Result of cause (injury/damage)	Preventative Measures (tools, PPE, equipment)	Controls (test, check list) During erection & ongoing	Weights		
						Safety	Health	R/R
8.	Safety sign & notice board to be placed close to entrance of main gate	Not informing employees and public what the site rules are.	Injury to persons. Damage to property.	Concur standard notices/ Posters to be displayed. Available from Head Office.	Site manager to check that board has been erected.			
9.	Laydown areas to be sufficient in size. timber poles to be available to stack materials on.	With inadequate space various materials will be stacked on top of each other causing unstable stacks.	Injury to persons loading, unloading materials.	Allow sufficient space for laydown area during planning stage of site layout. Access to be considered important.	Site agent to discuss with Foreman regarding his requirement at planning stage.			
10.	Toilets are to be well ventilated.	No ventilation in toilets may cause germs to propagate.	Possible health problems due to germs.	Extraction fans to be fitted if required.	Supervisor to check if he is satisfied with ventilation.			

ASSESSMENT: 1 – 10 (HIGH) 11 – 16 (MEDIUM) 17 – 25 (LOW)

Contractor Witness 1 Witness 2 Employer Witness 1 Witness 2

RISK ASSESSMENT: EXCAVATIONS (PLANT & MANUAL)

TYPE OF WORK PERFORMED: _____

DATE COMPLETED: _____

ASSESSMENT PERFORMED BY: _____

Step No	Activity Rules	What can cause injury/damage	Result of cause (injury/damage)	Preventative measures (tools, PPE, equipment)	Controls (test, checks)			
	When using a machine to excavate, observe the following:					Safety	Health	Finan.
1	Operator must ensure there are no employees working in this area.	Employees not visible to operate or moving machine.	An injury to all parts of the body and as well as more serious fatal injuries.	Operator must work under close supervision. He must inspect the work area prior to commencing work.	Supervisor to ensure employees are informed and operator works under his supervision.			
2	Machine not to operate while employees are working in same excavations.	Danger of injury of employee by machine.	Bruises, scratches, fractures and fatal.	Supervisor must instruct operator when to commence work.	Supervisor to control and enforce procedure.			
3	All excavated materials must be discharged not closer than 2m from the edge of the excavation. When excavating manually, observe the following. See original	Materials can fall onto employees and the excavation may need extra work.	Injuries to employees and the excavation may need extra work.	Supervisor must instruct operator where to place discharged soil and gravel.	Supervisor to control.			
4	Using a pick and a shovel.	Unsafe use of a pick or a shovel.	Injury to employees.	Induct employees on safe working procedures.	Supervisor and charge hand to control.			
5	Check sides of excavations.	Unstable / loose material causes unsafe condition.	Injury to employees and damage to excavations.	Supervisor to inspect sides on a regular basis.	Supervisor / charge hand to control.			
6	Excavated material to be placed away from side of excavation.	Materials can fall onto employees when working inside the excavation.	Bruises, scratches, fractures and fatal.	Employees to be instructed not to place loose soil on edge of the excavation.	Supervisor to control.			
7	All excavations deeper than 1,5 m must have an access ladder available for employees to get into and out of the excavation safely.	Employees not able to enter or exit the excavation safely.	In case of an emergency too many employees may be buried as a result of inadequate access. Employees may also strain muscles to get into or out of an excavation without safe and convenient access.	Providing a ladder makes access into and out of the excavation area easy and safe.	Supervisors to ensure employees are given safe and convenient access to excavations.			
8	Sides of excavation to be shored (if necessary) and barricaded immediately.	Sides may collapse. Employees may NOT BE AWARE OF THE EXCAVATION AND FALL INTO IT.	Damage to the excavation. Injury to employees,	Put adequate shoring and strong physical barricades in place immediately.	Supervisor and chargehand to control.			
9	Excavations must be backfilled as soon as possible after excavation.	Excavations could collapse. Employees could trip and fall in. Vehicles and machinery could damage excavations.	Damage to excavations. Injury to employees. Damage to plant and machinery.	Keep area barricaded with a strong physical barricade and backfill as soon as possible.	Supervisor and chargehand to control.			

C4: SITE INFORMATION

C4.1 SCOPE

EMPUMELELWENI TOWNSHIP BULK SEWER PROJECT

C4.2 SUBSOIL INVESTIGATIONS, BOREHOLE RECORDS AND TEST RESULTS

Information available

C4.3 REPORTS OBTAINED BY THE EMPLOYER CONCERNING THE PHYSICAL CONDITIONS WITHIN THE SITE OR ITS SURROUNDINGS INCLUDING MAPPING, HYDRO-GRAPHIC DATA, AND HYDROLOGICAL INFORMATION

Information available

C4.4 INFORMATION ABOUT PIPED AND OTHER SERVICES BELOW THE SURFACE OF THE SITE FOR CONTRACTS INVOLVING GROUND WORKS, AND ABOUT HOOK-UP AND BOUNDARY DETAILS FOR CONTRACTS WITH PLANT INTERFACES, IN ADDITION TO ANYTHING ABOUT THE PHYSICAL SITE WHICH IMPACTS UPON THE CONTRACT

Information available

APPENDICES

APPENDIX A
STANDARD CONDITIONS OF TENDER

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 fulfil 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

F.1.5.1 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.

F.1.5.2 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

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

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

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

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

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

F.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than

English, and the parts communicated electronically in the same format as they were issued by the employer.

- F.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.
- F.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- F.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- F.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.
- F.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.
- 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

- F.2.14.1 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 BBEE 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 advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

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.

F.3.9.2 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.

F.3.11 Evaluation of tender offers

F.3.11.1 General

Appoint an evaluation panel 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.

F.3.11.2 Method 1: Price and Preference

In the case of a price and preference:

- 1) Score tender evaluation points for price
- 2) Score points for BBBEE contribution
- 3) Add the points scored for price and BBBEE.

F.3.11.3 Method 2: Functionality, Price, and Preference

In the case of a functionality, price, and preference:

- 1) Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality as stated in the Tender Data.
- 2) No tender must be regarded as an acceptable tender if it fails to achieve the minimum qualifying score for functionality as indicated in the tender invitation.

- 3) Tenders that have achieved the minimum qualification score for functionality must be evaluated further in terms of the preference points system prescribed in paragraphs 4 and 5 below.

The 80/20 preference point system for acquisition of services, works or goods up to Rand value of R1 million

4) Preferences

- (a) (i) The following formula must be used to calculate the points for price in respect of tenders (including price quotation) with a rand value equal to, or above R 200 000 and up to Rand value of R 50 000 000 (all applicable taxes included):

$$P_s = 80 \frac{(P_t - P_{min})}{(1 + P_{min})}$$

Where:

P_s = Points scored for comparative price of tender or offer under consideration;

P_t = Comparative price of tender or offer under consideration; and

P_{min} = Comparative price of lowest acceptable tender or offer.

- (ii) An employer of state may apply the formula in paragraph (i) for price quotations with a value less than R200 000, if and when appropriate:

- (b) Subject to subparagraph(4)(c), points must be awarded to a tender for attaining the B-BBEE status level of contributor in accordance with the table below:

B-BBEE status level of contributor	Number of points
1	20
2	18
3	16
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

- (c) A maximum of 20 points may be allocated in accordance with subparagraph (4)(b)
- (d) The points scored by tender in respect of B-BBEE contribution contemplated in subparagraph (4) (b) must be added to the points scored for price as calculated in accordance with subparagraph (4)(a).
- (e) Subject to paragraph 4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

The 90/ 10 preference points system for acquisition of services, works or goods with a Rand value above R 1 million

5) Preferences

- (a) The following formula must be used to calculate the points for price in respect of tenders with a Rand value above R50 000 000 (all applicable taxes included):

90/10

$$P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where:

P_s = Points scored for comparative price of tender or offer under consideration;

P_t = Comparative price of tender or offer under consideration; and

P_{\min} = Comparative price of lowest acceptable tender or offer.

- (b) Subject to subparagraph(5)(c), points must be awarded to a tender for attaining the B-BBEE status level of contributor in accordance with the table below:

B-BBEE status level of contributor	Number of points
3	8
4	5
5	4
6	3
7	2
8	1
Non-compliant contributor	0

- (c) A maximum of 10 points may be allocated in accordance with subparagraph (5)(b).
- (d) The points scored by tender in respect of B-BBEE contribution contemplated in subparagraph (5) (b) must be added to the points scored for price as calculated in accordance with subparagraph (5)(a).
- (e) Subject to paragraph 4.3.8 the contract must be awarded to the tender who scores the highest total number of points.

F.3.12 Decimal places

Score price, preference and functionality, as relevant, to two decimal places.

F.3.12.1 Scoring Price

Score price 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 price.

W_1 is the maximum possible number of tender evaluation points awarded for price 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.			

F.3.12.2 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.

F.3.12.3 Scoring functionality

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:

$$N_Q = W_2 \times S_0 / M_S$$

where:

S_0 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; and

W_2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data

F.3.13 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.3.14 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.3.15 Prepare contract documents

F.3.15.1 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.3.15.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

F.3.16 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.3.17 Notice to unsuccessful tenderers

F.3.17.1 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.3.17.2 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.3.18 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.3.19 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.

F.3.20 F3.19 Transparency in the procurement process

F.3.20.1 The CIDB prescripts require that tenders must be advertised and be registered on the CIDB i-tender system.

F.3.20.2 The employer must adopt a transparency model that incorporates the disclosure and accountability as transparency requirements in the procurement process.

F.3.20.3 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.

F.3.20.4 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

F.3.20.5 The employer must establish a Consultative Forum which will conduct a random audit in the implementation of the transparency requirements in the procurement process.

F.3.20.6 Consultative Forum must be an independent structure from the bid committees.

F.3.20.7 The information must be published on the employer's website.

F.3.20.8 Records of such disclosed information must be retained for audit purposes.

APPENDIX B
EMALAHLENI LM SUPPLY CHAIN MANAGEMENT POLICY

PLEASE CHECK ELM WEBSITE

WWW.EMALAHLENI.GOV.ZA

THE NATIONAL TREASURY

Republic of South Africa



GOVERNMENT PROCUREMENT: GENERAL CONDITIONS OF CONTRACT

July 2010

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General Conditions of Contract

1. Definitions

1. The following terms shall be interpreted as indicated:
 - 1.1 "Closing time" means the date and hour specified in the bidding documents for the receipt of bids.
 - 1.2 "Contract" means the written agreement entered into between the purchaser and the supplier, as recorded in the contract form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
 - 1.3 "Contract price" means the price payable to the supplier under the contract for the full and proper performance of his contractual obligations.
 - 1.4 "Corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.
 - 1.5 "Countervailing duties" are imposed in cases where an enterprise abroad is subsidized by its government and encouraged to market its products internationally.
 - 1.6 "Country of origin" means the place where the goods were mined, grown or produced or from which the services are supplied. Goods are produced when, through manufacturing, processing or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
 - 1.7 "Day" means calendar day.
 - 1.8 "Delivery" means delivery in compliance of the conditions of the contract or order.
 - 1.9 "Delivery ex stock" means immediate delivery directly from stock actually on hand.
 - 1.10 "Delivery into consignees store or to his site" means delivered and unloaded in the specified store or depot or on the specified site in compliance with the conditions of the contract or order, the supplier bearing all risks and charges involved until the goods are so delivered and a valid receipt is obtained.
 - 1.11 "Dumping" occurs when a private enterprise abroad market its goods on own initiative in the RSA at lower prices than that of the country of origin and which have the potential to harm the local industries in the RSA.

- 1.12 "Force majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but is not restricted to, acts of the purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.
- 1.13 "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of any bidder, and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the bidder of the benefits of free and open competition.
- 1.14 "GCC" means the General Conditions of Contract.
- 1.15 "Goods" means all of the equipment, machinery, and/or other materials that the supplier is required to supply to the purchaser under the contract.
- 1.16 "Imported content" means that portion of the bidding price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or his subcontractors) and which costs are inclusive of the costs abroad, plus freight and other direct importation costs such as landing costs, dock dues, import duty, sales duty or other similar tax or duty at the South African place of entry as well as transportation and handling charges to the factory in the Republic where the goods covered by the bid will be manufactured.
- 1.17 "Local content" means that portion of the bidding price, which is not included in the imported content provided that local manufacture does take place.
- 1.18 "Manufacture" means the production of products in a factory using labour, materials, components and machinery and includes other related value-adding activities.
- 1.19 "Order" means an official written order issued for the supply of goods or works or the rendering of a service.
- 1.20 "Project site," where applicable, means the place indicated in bidding documents.
- 1.21 "Purchaser" means the organization purchasing the goods.
- 1.22 "Republic" means the Republic of South Africa.
- 1.23 "SCC" means the Special Conditions of Contract.
- 1.24 "Services" means those functional services ancillary to the

supply of the goods, such as transportation and any other incidental services, such as installation, commissioning, provision of technical assistance, training, catering, gardening, security, maintenance and other such obligations of the supplier covered under the contract.

- 1.25 "Supplier" means the successful bidder who is awarded the contract to maintain and administer the required and specified service(s) to the State.
- 1.26 "Tort" means in breach of contract.
- 1.27 "Turnkey" means a procurement process where one service provider assumes total responsibility for all aspects of the project and delivers the full end product / service required by the contract.
- 1.28 "Written" or "in writing" means hand-written in ink or any form of electronic or mechanical writing.

2. Application

- 2.1 These general conditions are applicable to all bids, contracts and orders including bids for functional and professional services (excluding professional services related to the building and construction industry), sales, hiring, letting and the granting or acquiring of rights, but excluding immovable property, unless otherwise indicated in the bidding documents.
- 2.2 Where applicable, special conditions of contract are also laid down to cover specific goods, services or works.
- 2.3 Where such special conditions of contract are in conflict with these general conditions, the special conditions shall apply.

3. General

- 3.1 Unless otherwise indicated in the bidding documents, the purchaser shall not be liable for any expense incurred in the preparation and submission of a bid. Where applicable a non-refundable fee for documents may be charged.
- 3.2 Invitations to bid are usually published in locally distributed news media and on the municipality/municipal entity website.

4. Standards

- 4.1 The goods supplied shall conform to the standards mentioned in the bidding documents and specifications.

5. Use of contract documents and information inspection

- 5.1 The supplier shall not, without the purchaser's prior written consent, disclose the contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the purchaser in connection therewith, to any person other than a person employed by the supplier in the performance of the contract. Disclosure to any such employed person shall be made in confidence and shall

extend only so far as may be necessary for purposes of such performance.

- 5.2 The supplier shall not, without the purchaser's prior written consent, make use of any document or information mentioned in GCC clause 5.1 except for purposes of performing the contract.
- 5.3 Any document, other than the contract itself mentioned in GCC clause 5.1 shall remain the property of the purchaser and shall be returned (all copies) to the purchaser on completion of the supplier's performance under the contract if so required by the purchaser.
- 5.4 The supplier shall permit the purchaser to inspect the supplier's records relating to the performance of the supplier and to have them audited by auditors appointed by the purchaser, if so required by the purchaser.

6. Patent Rights

- 6.1 The supplier shall indemnify the purchaser against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the goods or any part thereof by the purchaser.
- 6.2 When a supplier developed documentation / projects for the municipality / municipal entity, the intellectual, copy and patent rights or ownership of such documents or projects will vest in the municipality / municipal entity.

7. Performance security

- 7.1 Within thirty (30) days of receipt of the notification of contract award, the successful bidder shall furnish to the purchaser the performance security of the amount specified in SCC.
- 7.2 The proceeds of the performance security shall be payable to the purchaser as compensation for any loss resulting from the supplier's failure to complete his obligations under the contract.
- 7.3 The performance security shall be denominated in the currency of the contract, or in a freely convertible currency acceptable to the purchaser and shall be in one of the following forms:
 - (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the purchaser's country or abroad, acceptable to the purchaser, in the form provided in the bidding documents or another form acceptable to the purchaser; or
 - (b) a cashier's or certified cheque.
- 7.4 The performance security will be discharged by the purchaser and returned to the supplier not later than thirty (30) days following the date of completion of the supplier's performance obligations under the contract, including any warranty obligations, unless otherwise specified.

8. Inspections, tests and analyses

- 8.1 All pre-bidding testing will be for the account of the bidder.
- 8.2 If it is a bid condition that goods to be produced or services to be rendered should at any stage be subject to inspections, tests and analyses, the bidder or contractor's premises shall be open, at all reasonable hours, for inspection by a representative of the purchaser or organization acting on behalf of the purchaser.
- 8.3 If there are no inspection requirements indicated in the bidding documents and no mention is made in the contract, but during the contract period it is decided that inspections shall be carried out, the purchaser shall itself make the necessary arrangements, including payment arrangements with the testing authority concerned.
- 8.4 If the inspections, tests and analyses referred to in clauses 8.2 and 8.3 show the goods to be in accordance with the contract requirements, the cost of the inspections, tests and analyses shall be defrayed by the purchaser.
- 8.5 Where the goods or services referred to in clauses 8.2 and 8.3 do not comply with the contract requirements, irrespective of whether such goods or services are accepted or not, the cost in connection with these inspections, tests or analyses shall be defrayed by the supplier.
- 8.6 Goods and services which are referred to in clauses 8.2 and 8.3 and which do not comply with the contract requirements may be rejected.
- 8.7 Any contract goods may on or after delivery be inspected, tested or analysed and may be rejected if found not to comply with the requirements of the contract. Such rejected goods shall be held at the cost and risk of the supplier who shall, when called upon, remove them immediately at his own cost and forthwith substitute them with goods, which do comply with the requirements of the contract. Failing such removal the rejected goods shall be returned at the suppliers cost and risk. Should the supplier fail to provide the substitute goods forthwith, the purchaser may, without giving the supplier further opportunity to substitute the rejected goods, purchase such goods as may be necessary at the expense of the supplier.
- 8.8 The provisions of clauses 8.4 to 8.7 shall not prejudice the right of the purchaser to cancel the contract on account of a breach of the conditions thereof, or to act in terms of Clause 22 of GCC.

9. Packing

- 9.1 The supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing, case size

weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.

9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the contract, including additional requirements, if any, and in any subsequent instructions ordered by the purchaser.

10. Delivery and documents

10.1 Delivery of the goods and arrangements for shipping and clearance obligations, shall be made by the supplier in accordance with the terms specified in the contract.

11. Insurance

11.1 The goods supplied under the contract shall be fully insured in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery in the manner specified.

12. Transportation

12.1 Should a price other than an all-inclusive delivered price be required, this shall be specified.

13. Incidental Services

13.1 The supplier may be required to provide any or all of the following services, including additional services, if any:

- (a) performance or supervision of on-site assembly and/or commissioning of the supplied goods;
- (b) furnishing of tools required for assembly and/or maintenance of the supplied goods;
- (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied goods;
- (d) performance or supervision or maintenance and/or repair of the supplied goods, for a period of time agreed by the parties, provided that this service shall not relieve the supplier of any warranty obligations under this contract; and
- (e) training of the purchaser's personnel, at the supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied goods.

13.2 Prices charged by the supplier for incidental services, if not included in the contract price for the goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the supplier for similar services.

14. Spare parts

14.1 As specified, the supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the supplier:

- (a) such spare parts as the purchaser may elect to purchase from the supplier, provided that this election shall not relieve the supplier of any warranty obligations under the contract; and;
- (b) in the event of termination of production of the spare parts:
 - (i) advance notification to the purchaser of the pending termination, in sufficient time to permit the purchaser to procure needed requirements; and
 - (ii) following such termination, furnishing at no cost to the purchaser, the blueprints, drawings, and specifications of the spare parts, if requested.

15. Warranty

- 15.1 The supplier warrants that the goods supplied under the contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the contract. The supplier further warrants that all goods supplied under this contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the purchaser's specifications) or from any act or omission of the supplier, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.
- 15.2 This warranty shall remain valid for twelve (12) months after the goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise.
- 15.3 The purchaser shall promptly notify the supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the supplier shall, within the period specified and with all reasonable speed, repair or replace the defective goods or parts thereof, without costs to the purchaser.
- 15.5 If the supplier, having been notified, fails to remedy the defect(s) within the period specified, the purchaser may proceed to take such remedial action as may be necessary, at the supplier's risk and expense and without prejudice to any other rights which the purchaser may have against the supplier under the contract.

16. Payment

- 16.1 The method and conditions of payment to be made to the supplier under this contract shall be specified.
- 16.2 The supplier shall furnish the purchaser with an invoice accompanied by a copy of the delivery note and upon fulfillment of other obligations stipulated in the contract.

16.3 Payments shall be made promptly by the purchaser, but in no case later than thirty (30) days after submission of an invoice or claim by the supplier.

16.4 Payment will be made in Rand unless otherwise stipulated.

17. Prices

17.1 Prices charged by the supplier for goods delivered and services performed under the contract shall not vary from the prices quoted by the supplier in his bid, with the exception of any price adjustments authorized or in the purchaser's request for bid validity extension, as the case may be.

18. Variation orders

18.1 In cases where the estimated value of the envisaged changes in purchase does not vary more than 15% of the total value of the original contract, the contractor may be instructed to deliver the goods or render the services as such. In cases of measurable quantities, the contractor may be approached to reduce the unit price, and such offers may be accepted provided that there is no escalation in price.

19. Assignment

19.1 The supplier shall not assign, in whole or in part, its obligations to perform under the contract, except with the purchaser's prior written consent.

20. Subcontracts

20.1 The supplier shall notify the purchaser in writing of all subcontracts awarded under this contracts if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the supplier from any liability or obligation under the contract.

21. Delays in the supplier's performance

21.1 Delivery of the goods and performance of services shall be made by the supplier in accordance with the time schedule prescribed by the purchaser in the contract.

21.2 If at any time during performance of the contract, the supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the goods and performance of services, the supplier shall promptly notify the purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the supplier's notice, the purchaser shall evaluate the situation and may at his discretion extend the supplier's time for performance, with or without the imposition of penalties, in which case the extension shall be ratified by the parties by amendment of contract.

21.3 The right is reserved to procure outside of the contract small quantities or to have minor essential services executed if an emergency arises, the supplier's point of supply is not situated at or near the place where the goods are required, or the supplier's services are not readily available.

21.4 Except as provided under GCC Clause 25, a delay by the supplier in the performance of its delivery obligations shall render the supplier liable to the imposition of penalties, pursuant to GCC Clause 22, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of penalties.

21.5 Upon any delay beyond the delivery period in the case of a goods contract, the purchaser shall, without cancelling the contract, be entitled to purchase goods of a similar quality and up to the same quantity in substitution of the goods not supplied in conformity with the contract and to return any goods delivered later at the supplier's expense and risk, or to cancel the contract and buy such goods as may be required to complete the contract and without prejudice to his other rights, be entitled to claim damages from the supplier.

22. Penalties

22.1 Subject to GCC Clause 25, if the supplier fails to deliver any or all of the goods or to perform the services within the period(s) specified in the contract, the purchaser shall, without prejudice to its other remedies under the contract, deduct from the contract price, as a penalty, a sum calculated on the delivered price of the delayed goods or unperformed services using the current prime interest rate calculated for each day of the delay until actual delivery or performance. The purchaser may also consider termination of the contract pursuant to GCC Clause 23.

23. Termination for default

23.1 The purchaser, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate this contract in whole or in part:

- (a) if the supplier fails to deliver any or all of the goods within the period(s) specified in the contract, or within any extension thereof granted by the purchaser pursuant to GCC Clause 21.2;
- (b) if the supplier fails to perform any other obligation(s) under the contract; or
- (c) if the supplier, in the judgement of the purchaser, has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

23.2 In the event the purchaser terminates the contract in whole or in part, the purchaser may procure, upon such terms and in such manner, as it deems appropriate, goods, works or services similar to those undelivered, and the supplier shall be liable to the purchaser for any excess costs for such similar goods, works or services. However, the supplier shall continue performance of the contract to the extent not terminated.

23.3 Where the purchaser terminates the contract in whole or in part, the purchaser may decide to impose a restriction penalty on the supplier by prohibiting such supplier from doing business with the public sector for a period not exceeding 10 years.

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- 23.4 If a purchaser intends imposing a restriction on a supplier or any person associated with the supplier, the supplier will be allowed a time period of not more than fourteen (14) days to provide reasons why the envisaged restriction should not be imposed. Should the supplier fail to respond within the stipulated fourteen (14) days the purchaser may regard the supplier as having no objection and proceed with the restriction.
- 23.5 . Any restriction imposed on any person by the purchaser will, at the discretion of the purchaser, also be applicable to any other enterprise or any partner, manager, director or other person who wholly or partly exercises or exercised or may exercise control over the enterprise of the first-mentioned person, and with which enterprise or person the first-mentioned person, is or was in the opinion of the purchaser actively associated.
- 23.6 If a restriction is imposed, the purchaser must, within five (5) working days of such imposition, furnish the National Treasury, with the following information:
- (i) the name and address of the supplier and / or person restricted by the purchaser;
 - (ii) the date of commencement of the restriction
 - (iii) the period of restriction; and
 - (iv) the reasons for the restriction.

These details will be loaded in the National Treasury's central database of suppliers or persons prohibited from doing business with the public sector.

- 23.7 . If a court of law convicts a person of an offence as contemplated in sections 12 or 13 of the Prevention and Combating of Corrupt Activities Act, No. 12 of 2004, the court may also rule that such person's name be endorsed on the Register for Tender Defaulters. When a person's name has been endorsed on the Register, the person will be prohibited from doing business with the public sector for a period not less than five years and not more than 10 years. The National Treasury is empowered to determine the period of restriction and each case will be dealt with on its own merits. According to section 32 of the Act the Register must be open to the public. The Register can be perused on the National Treasury website

24. Anti-dumping and countervailing duties and rights

24.1 When, after the date of bid, provisional payments are required, or anti-dumping or countervailing duties are imposed, or the amount of a provisional payment or anti-dumping or countervailing right is increased in respect of any dumped or subsidized import, the State is not liable for any amount so required or imposed, or for the amount of any such increase. When, after the said date, such a provisional payment is no longer required or any such anti-dumping or countervailing right is abolished, or where the amount of such provisional payment or any such right is reduced, any such favourable difference shall on demand be paid forthwith by the supplier to the purchaser or the purchaser may deduct such amounts from moneys (if any) which may otherwise be due to the supplier in regard to goods or services which he delivered or rendered, or is to deliver or render in terms of the contract or any other contract or any other amount which may be due to him.

25. Force Majeure

25.1 Notwithstanding the provisions of GCC Clauses 22 and 23, the supplier shall not be liable for forfeiture of its performance security, damages, or termination for default if and to the extent that his delay in performance or other failure to perform his obligations under the contract is the result of an event of force majeure.

25.2 If a force majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the force majeure event.

26. Termination for insolvency

26.1 The purchaser may at any time terminate the contract by giving written notice to the supplier if the supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the purchaser.

27. Settlement of Disputes

27.1 If any dispute or difference of any kind whatsoever arises between the purchaser and the supplier in connection with or arising out of the contract, the parties shall make every effort to resolve amicably such dispute or difference by mutual consultation.

27.2 If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the purchaser or the supplier may give notice to the other party of his intention to commence with mediation. No mediation in respect of this matter may be commenced unless such notice is given to the other party.

27.3 Should it not be possible to settle a dispute by means of mediation, it may be settled in a South African court of law.

27.4 Notwithstanding any reference to mediation and/or court proceedings herein,

- (a) the parties shall continue to perform their respective obligations under the contract unless they otherwise agree; and
- (b) the purchaser shall pay the supplier any monies due the supplier for goods delivered and / or services rendered according to the prescripts of the contract.

28. Limitation of Liability

28.1 Except in cases of criminal negligence or willful misconduct, and in the case of infringement pursuant to Clause 6;

- (a) the supplier shall not be liable to the purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the supplier to pay penalties and/or damages to the purchaser; and
- (b) the aggregate liability of the supplier to the purchaser, whether under the contract, in tort or otherwise, shall not exceed the total contract price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment.

29. Governing language

29.1 The contract shall be written in English. All correspondence and other documents pertaining to the contract that is exchanged by the parties shall also be written in English.

30. Applicable law

30.1 The contract shall be interpreted in accordance with South African laws, unless otherwise specified.

31. Notices

31.1 Every written acceptance of a bid shall be posted to the supplier concerned by registered or certified mail and any other notice to him shall be posted by ordinary mail to the address furnished in his bid or to the address notified later by him in writing and such posting shall be deemed to be proper service of such notice.

31.2 The time mentioned in the contract documents for performing any act after such aforesaid notice has been given, shall be reckoned from the date of posting of such notice.

32. Taxes and duties

32.1 A foreign supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the purchaser's country.

- 32.2 A local supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted goods to the purchaser.
- 32.3 No contract shall be concluded with any bidder whose tax matters are not in order. Prior to the award of a bid SARS must have certified that the tax matters of the preferred bidder are in order.
- 32.4 No contract shall be concluded with any bidder whose municipal rates and taxes and municipal services charges are in arrears.
- 33. Transfer of contracts**
- 33.1 The contractor shall not abandon, transfer, cede assign or sublet a contract or part thereof without the written permission of the purchaser
- 34. Amendment of contracts**
- 34.1 No agreement to amend or vary a contract or order or the conditions, stipulations or provisions thereof shall be valid and of any force unless such agreement to amend or vary is entered into in writing and signed by the contracting parties. Any waiver of the requirement that the agreement to amend or vary shall be in writing, shall also be in writing.
- 35. Prohibition of restrictive practices**
- 35.1 In terms of section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, an agreement between, or concerted practice by, firms, or a decision by an association of firms, is prohibited if it is between parties in a horizontal relationship and if a bidder(s) is / are or a contractor(s) was / were involved in collusive bidding.
- 35.2 If a bidder(s) or contractor(s) based on reasonable grounds or evidence obtained by the purchaser has / have engaged in the restrictive practice referred to above, the purchaser may refer the matter to the Competition Commission for investigation and possible imposition of administrative penalties as contemplated in section 59 of the Competition Act No 89 Of 1998.
- 35.3 If a bidder(s) or contractor(s) has / have been found guilty by the Competition Commission of the restrictive practice referred to above, the purchaser may, in addition and without prejudice to any other remedy provided for, invalidate the bid(s) for such item(s) offered, and / or terminate the contract in whole or part, and / or restrict the bidder(s) or contractor(s) from conducting business with the public sector for a period not exceeding ten (10) years and / or claim damages from the bidder(s) or contractor(s) concerned.