



DEPARTMENT
TECHNICAL SERVICES
DIRECTORATE
Waste Management
DIVISION
Plant and Engineering

PROCUREMENT DOCUMENT : [Infrastructure \(GCC 2015\)](#)

Documents can be obtained, free of charge, in electronic format, from the [National Treasury's eTenders website](#) or the [eThekweni Municipality website](#)

Contract No: 34703-6W

Contract Title: Lovu Landfill Site: Construction of Cell 7 and Ancillary Works

Estimated CIDB: Grade: 7 Class: CE

CLARIFICATION MEETING AND QUERIES

Clarification Meeting: Compulsory Clarification Meeting

Meeting Location: Lovu Landfill Site, off D982, Illovo Farm, Inkwal

Date, Time: On [23/03/2026] at [11:00]

Queries can be addressed to: Name: Ziphelele S Zuma

The Employer's Agent's: Tel: 031 322 2514

Representative: eMail: ziphelele.zuma@durban.gov.za

Name: J Pass Pr. Eng; Wilson and Pass Incorporated

Tel: 082 463 1227 (m)

eMail: jon.pass@pixie.co.za. All email queries must be submitted by 02/04/2026, Consolidated questions and answers are to be uploaded on the website for the benefit of the tenderers by 09/04/2026

TENDER SUBMISSION

Tender Submission: The Tender Offer (hard copy) shall be delivered to:

Delivery location: [The Tender Box in the foyer of the Municipal Building, 166 KE Masinga Road, Durban](#)

Closing Date/ Time: [17/04/2026](#) at [11h00](#)

JDE Submission: An **electronic submission** is also to be made via the eThekweni Municipality **JDE System (SSS Module)**

JDE Queries

Lindo Dlamini: Tel: 031-322-7133 / 031-322-7153

Contact:

Email: supplier.selfservice@durban.gov.za

Tender Offers submitted via any means other than that stated in the Tender Data will be deemed invalid

Issued by:

ETHEKWINI MUNICIPALITY

Deputy Head: Plant and Engineering

Date of Issue: [13/03/2026](#)

Version: 01/12/2025

FOR OFFICIAL USE ONLY

Tenderer Name:			VAT Registered: Yes No
	Price (excl)	VAT	Price (incl)
Submitted:	R	R	R
Corrected:	R	R	R

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PART T1: TENDERING PROCEDURES

T1.1.1: TENDER NOTICE AND INVITATION TO TENDER

Tenders are hereby invited for the works to **construct Cell 7 (approximately 25 200 m2 of landfill lining) requiring some 135 000 m3 of bulk earthworks, layerworks, stormwater and leachate drainage as well as ancillary works at the Cleansing and Solid Waste (CSW) Lovu Landfill Site. The ancillary works are primarily concrete paving for all weather access and storage platforms.**

Subject	Description	Tender Data
Employer	The Employer is the eThekweni Municipality as represented by: Deputy Head: Plant and Engineering	C.1.1.1
Tender Documents	Documentation is to be downloaded from the National Treasury's eTenders website or the eThekweni Municipality Website : <ul style="list-style-type: none"> https://www.etenders.gov.za/ https://www.durban.gov.za/pages/business/procurement 	C.1.2
CIDB Eligibility	It is <u>estimated</u> that Tenderers should have a CIDB contractor grading designation of 7 CE (or higher).	C.2.1.2
Meeting Type	Compulsory Clarification Meeting	C.2.7
Meeting Details	Lovu Landfill Site, off D982, Illovo Farm, Inkwali On [23/03/2026] at [11:00]	C.2.7
Seek Clarification	Queries relating to these documents are to be addressed to the Employer's Agent's Representative whose contact details are: Name: Ziphelele S Zuma Tel: 031 322 2514 eMail: ziphelele.zuma@durban.gov.za Name: J Pass Pr. Eng; Wilson and Pass Incorporated Tel: 082 463 1227 (m) eMail: jon.pass@pixie.co.za. All email queries must be submitted by 02/04/2026, Consolidated questions and answers are to be uploaded on the website for the benefit of the tenderers by 09/04/2026	C.1.4
Submitting a Tender Offer	The Tender Offer (hard copy) shall be delivered to: The Tender Box in the foyer of the Municipal Building, 166 KE Masinga Road, Durban An electronic submission , via the eThekweni Municipality JDE System (SSS Module) , is also to be made. Refer to Part T1.1.2 and Tender Data: C.2.13. Notwithstanding the electronic submission , a tender offer will only be deemed valid if the "hard copy" submission has been made.	C.2.13
Closing Time	The Tender Offer (hard copy) shall be delivered, and the electronic submission completed, both on or before 17/04/2026 , at or before 11h00 .	C.2.15
Evaluation of Tender Offers	The 80/20 Price Preference Point System, as specified in the SCM Policy: Section 52: Preferential Procurement will be applied in the evaluation of tenders. Tender Data: C.3.11: Evaluation of Tender Offers details the awarding of Preference Points, and other related evaluation requirements.	C.3.11

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

CIDB B.U.I.L.D. Programme Standards

Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts	Not Applicable
Standard for Developing Skills through Infrastructure Contracts	Not Applicable

T1.1.2: NOTES TO TENDERERS

These “Notes to Tenderers” are intended to provide guidance regarding tendering obligations and requirements.

Compliance requirements are stated in the relevant parts of the Tender Data: T1.2.

GENERAL

- 1) The words BID, TENDER, QUOTATION, and REQUEST FOR QUOTATION (RFQ) are interchangeable throughout this procurement document.
- 2) **JDE-SSS Module** refers to the Supplier Self Service module on the eThekweni Municipality JDE System. Refer to Part T1.1.2.

eThekweni Supply Chain Management Policy (SCMP)

The requirements as stated in the Employer's SCM Policy include, but are not limited to, the following:

1) Section 14(4): ETM Supplier Database

The eThekweni Supply Chain Management Policy requires suppliers/ service providers/ contractors to be registered on the **eThekweni Municipality's Supplier Portal**.

In the event of the Tenderer not being registered on the eThekweni Municipality's Supplier Portal, the Tenderer must register on the internet at www.durban.gov.za by following these links:

- Business
 - Supply Chain Management (SCM)
 - Accredited Supplier and Contractor Database.

The following is to be noted:

- The information for registration as in the possession of the eThekweni Municipality will apply.
- It is the Tenderer's responsibility to ensure that the details submitted to the Municipality are correct.
- Tenderers are to register prior to the submission of tenders.

2) Section 20(1)(d)(i): Audited Financial Statements

Audited Financial Statements are required to be submitted if the value of the tender offer exceeds R10 million (incl. VAT). See **Returnable Form: MBD 5** and **Returnable Form: Contracts awarded by Organs of State** in the past 5 years.

3) Section 20(1)(d)(iii): Contracts Awarded during the past 5 Years

Tenderers are to include with their submission a listing of any contracts awarded to the Tenderer during the past 5 years, including particulars of any material non-compliance or dispute concerning the execution of the contracts. Tenderers are referred to **Returnable Form: MBD 5**

4) Section 13.1(b)(vii), 20(1)(d)(ii), 28.2(d), 29.6(a), 38.1(d), and 29.14: Municipal Rates and Taxes (Fees)

Tenderers are to refer to **Returnable Form: Declaration of Municipal Fees** to certify that they have no undisputed commitments for municipal services towards any municipality. Prior to an award, a Tenderer's municipal rates and taxes cannot be in arrears. Should a Tenderer be in arrears with respect to municipal services and has formalised an agreement with the respective municipality to offset the arrears, the agreement must be in place at time of tender closing.

5) Section 21.2: Tender Validity

Tenders are to remain valid for twelve (12) months after the expiry of the **original tender validity period** as stated in the **Tender Data**, unless the Municipality is notified, in writing, of anything to the contrary.

The eThekweni Municipality reserves the right to request confirmation from Tenderers of tender validity at any time during the twelve (12) month period.

6) Section 28(2)(d), Section 28(2)(h) and Section use 29(12): Certifications and Registrations

CIDB Registration and Status, B-BBEE Certificates, and Tax Compliance Status PINs must be valid at the time of tender closing, and before final award.

The Tenderer's Tax Compliance Status, CIDB Registration and Status (if required), and B-BBEE Level Status (if required), will be verified using the National Treasury Central Supplier Database (CSD). Tenderers are referred to **Returnable Form: Compulsory Enterprise Questionnaire**.

It is the Tenderer's responsibility to ensure that their data on the CSD is kept updated and correctly reflects the status of the tendering entity.

7) Section 28(2)(f), and 52.5.13: Joint Ventures (JV)

Each party of a JV must submit separate Tax Compliance Status PINs. Unless otherwise stated, the requirements for a single entity submission in terms of documentation requirements, will apply to each member of a JV making a submission.

As proof that a JV has been formalised, or that the parties to the JV agree to formalise the JV should they be successful in being recommended for the award of this tender, Tenderers are referred to **Returnable Form: Joint Venture Agreements**.

8) Section 49.1.2: Complaints and Objections (Appeals)

A non-refundable tariff, as per the approved Council tariffs, is payable by the Complainant to the Municipality. Proof of the payment of the Fee must be attached to the complaint.

CIDB**Regulation 25(8)**

- 9) It should be noted that this contract, unless otherwise stated, is not part of a **Targeted Development Programme (TDP)**. The CIDB provisions in relation to a Contractor's **Potentially Emerging (PE) status** do not apply.

Tenderers are referred to **CIDB Inform Practice Note #32: "Application of the Potentially Emerging (PE) Status"**.

B.U.I.L.D. Programme

- 10) A programme to accelerate transformation in the construction industry, increase the capacity of the construction industry to deliver infrastructure and support the growth of emerging contractors, was launched on 14 March 2024 by the Deputy Minister of Public Works and Infrastructure and the Construction Industry Development Board.

Details of the B.U.I.L.D. Programme were published in a Government Gazette in 2020 (GG 43726) and B.U.I.L.D. has gradually been phased in at various levels of government and the private sector. The CIDB, a public entity with the mandate to promote improved performance in construction, oversees the programme and manages the B.U.I.L.D Fund.

The B.U.I.L.D programme determines that public sector entities which implement construction projects, that meet certain minimum requirements, must include developmental goals to the deliverables defined in the tenders. If applicable, Contractors are required to include these goals in the plans and pricing when they submit their tender bids.

T1.1.3: INFORMATION REGARDING THE ETHEKWINI JDE SYSTEM

This Part (T1.1.3) is for information purposes only.

Compliance requirements are stated in Part T1.2: Tender Data.

1) General

eThekwini Municipality Bids, Tenders and Quotations (hereafter referred to as Tenders) are going to be submitted using the JDE System.

This JDE System will be used for:

- Viewing of available (open) Tenders,
- Downloading procurement documentation for Tenders,
- Uploading completed and signed Tender documentation,
- Completion and submission of Tenders electronically,
- Viewing the Tender opening schedule.

2) Registrations

To be granted access to the **JDE System** prospective service providers must be registered on the **National Treasury's Central Supplier Database (CSD)**, the **eThekwini Municipality Supplier Portal**, and the **eThekwini Municipality JDE System**.

National Treasury: Central Supplier Database

- Registration can be made on <https://secure.csd.gov.za>.
- Service Providers will be issued a "MAAA" number when registered.

eThekwini Municipality Supplier Portal

- Registration can be made on <https://www.durban.gov.za> by following these links:
>Business >Supply Chain Management (SCM) >Accredited Supplier & Contractor Database.

eThekwini Municipality JDE System

- Service providers requiring access must send an email to supplier.selfservice@durban.gov.za
A copy of the **Director's ID** is required:
- On receipt of this email, the Procurement and Supply Chain Management (P&SCM) Directorate will respond with the login credentials and a link to the **JDE System**.

3) Assistance with using the JDE System

The following P&SCM Official(s) can be contacted in connection with the use of the **JDE System**:

General Queries:

- Lindo Dlamini Tel: 031 322 7153 or 031 322 7133
 Email: supplier.selfservice@durban.gov.za

Technical Queries:

- Jabulani Chauke Tel: 031 322 9535
 Email: Jabulani.Chauke@durban.gov.za

4) Viewing of available tenders

By following link <https://rfq.durban.gov.za/jde/E1Menu.maf> prospective Service Providers will be able to view available (open) Tender opportunities without signing into the system. However, Service Providers will not be able to respond to a Tender without being signed into the system using a JDE User ID and Password.

5) **Tender documentation**

By accessing the **JDE System** (using <https://rfq.durban.gov.za/>) and viewing any available Tenders, prospective Service Providers will be able to download the relevant Tender documentation.

The Tender documentation consists of the **TENDER** and **CONTRACT Parts**, as described in the INDEX, and will include any drawings and other information (if applicable). Referred to, or included in the documentation, are the **Standard Conditions of Tender (and associated Tender Data)**, and the **Conditions of Contract (and associated Contract Data)** which will govern the tendering and contract processes respectively.

6) **Submission of tender offers**

Reference is to be made to the **Tender Data: C.2.13** that specifies compliance requirements.

Should the **Tender Offer** be required in “**hard copy**” format, the submission is to be delivered to the Delivery Location as stated in the **Tender Data**.

In addition to the above, **Tender Offers are also to be SUBMITTED ELECTRONICALLY** (uploaded) on the eThekweni Municipality JDE System (Supplier Self Service (JDE-SSS) Module). Notwithstanding the **electronic submission**, a tender offer will only be deemed valid if the “hard copy” submission has been made. The “hard copy” submission will be deemed to be the ruling version.

Bidders are responsible for resolving all access rights and submission queries on the JDE System before the tender closing date/ time, as stated in the **Tender Data: C.2.15**.

7) **Viewing the Tender opening schedule**

Users on the **JDE System** will be able to view the **Tender Opening Schedule** for each closed Tender. The tender opening schedule will also be made available on the eThekweni Municipal website at URL: <https://www.durban.gov.za/pages/business/publication-of-received-bids>

PART T1: TENDERING PROCEDURES

T1.2: TENDER DATA

T1.2.1 STANDARD CONDITIONS OF TENDER

The conditions of tender are the **Standard Conditions of Tender** as contained in **Annex C** of the CIDB Standard for Uniformity in Construction Procurement as published in Government Gazette No 42622, Board Notice 423 of 8 August 2019, as duplicated below.

The Standard Conditions of Tender make several references to the **Tender Data** for details that apply specifically to this tender. The **Tender Data** (T1.2.2) shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Annex C

Standard Conditions of Tender

C.1	General	
C.1.1	Actions	
C.1.1.1	The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.	2) <i>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.</i>
C.1.1.2	The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.	C.1.1.3 The employer shall not seek, and a tenderer shall not submit a tender, without having a firm intention and the capacity to proceed with the contract.
		C.1.2 Tender Documents
		The documents issued by the employer for the purpose of a tender offer are listed in the <i>Tender Data</i> .
		C.1.3 Interpretation
		C.1.3.1 The <i>Tender Data</i> and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.
		C.1.3.2 These conditions of tender, the <i>Tender Data</i> and tender schedules which are required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.
	<i>Note:</i> 1) <i>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.</i>	

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

- a) **conflict of interest** means any situation in which:
 - i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially;
 - ii) an individual or tenderer is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
 - iii) incompatibility or contradictory interests exist between an employee and the tenderer who employs that employee.
- b) **comparative offer** means the price after the factors of a non-firm price and all unconditional **discounts** it can be utilised to have been taken into consideration;
- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;

C.1.4 Communication and employer's agent

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

C.1.5 Cancellation and Re-Invitation of Tenders

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

- a) due to changed circumstances, there is no longer a need for the engineering and construction works specified in the invitation;
- b) funds are no longer available to cover the total envisaged expenditure;

- c) no acceptable tenders are received;
- d) there is a material irregularity in the tender process.

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

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

C.1.6 Procurement procedures

C.1.6.1 General

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

C.1.6.2 Competitive negotiation procedure

C.1.6.2.1 Where the **Tender Data** require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of C.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

C.1.6.2.2 All responsive tenderers or at least a minimum of not less than three responsive tenderers that are highest ranked in terms of the evaluation criteria stated in the **Tender Data** shall be invited to enter into competitive negotiations based on the principle of equal treatment, keeping confidential the proposed solutions and associated information.

Notwithstanding the provisions of C.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

C.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to revise their tender offer based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.	submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.
C.1.6.2.4 The contract shall be awarded in accordance with the provisions of C.3.11 and C.3.13 after tenderers have been requested to submit their best and final offer.	C.2.2 Cost of tendering
C.1.6.3 Proposal procedure using the two stage-system	C.2.2.1 Accept that, unless otherwise stated in the Tender Data , the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.
C.1.6.3.1 Option 1	C.2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.
Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The employer shall evaluate each responsive submission in terms of the method of evaluation stated in the Tender Data , and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.	C.2.3 Check documents
C.1.6.3.2 Option 2	Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.
C.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.	C.2.4 Confidentiality and copyright of documents
C.1.6.3.2.2 The employer shall evaluate tenders received during the second stage, in terms of the method of evaluation stated in the Tender Data , and award the contract in terms of these conditions of tender.	Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.
C.2 Tenderer's obligations	C.2.5 Reference documents
C.2.1 Eligibility	Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.
C.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the Tender Data and the tenderer, or any of his principals, is not under any restriction to do business with employer.	C.2.6 Acknowledge addenda
C.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to	Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the Tender Data , in order to take the addenda into account.
	C.2.7 Clarification meeting
	Attend, where required, a clarification meeting at which tenderers may familiarize themselves

<p>with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the Tender Data.</p>	<p>C.2.12 Alternative tender offers</p>
<p>C.2.8 Seek clarification</p> <p>Request clarification of the tender documents, if necessary, by notifying the employer at least five (5) working days before the closing time stated in the Tender Data.</p>	<p>C.2.12.1 Unless otherwise stated in the Tender Data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.</p>
<p>C.2.9 Insurance</p> <p>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.</p>	<p>C.2.12.2 Accept that an alternative tender offer must be based only on the criteria stated in the Tender Data or criteria otherwise acceptable to the employer.</p> <p>C.2.12.3 An alternative tender offer must only be considered if the main tender offer is the winning tender.</p>
<p>C.2.10 Pricing the tender offer</p>	<p>C.2.13 Submitting a tender offer</p>
<p>C.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable fourteen (14) days before the closing time stated in the Tender Data.</p>	<p>C.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works identified in the Contract Data and described in the scope of works, unless stated otherwise in the Tender Data.</p>
<p>C.2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.</p>	<p>C.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.</p>
<p>C.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the Contract Data.</p>	<p>C.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the Tender Data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.</p>
<p>C.2.10.4 State the rates and prices in Rand unless instructed otherwise in the Tender Data. The conditions of contract identified in the Contract Data may provide for part payment in other currencies.</p>	<p>C.2.13.4 Sign the original and all copies of the tender offer where required in terms of the Tender Data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.</p>
<p>C.2.11 Alterations to documents</p> <p>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.</p>	<p>C.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the</p>

<p>employer's address and identification details stated in the <i>Tender Data</i>, as well as the tenderer's name and contact address.</p>	<p>C.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the <i>Tender Data</i> after the closing time stated in the <i>Tender Data</i>.</p>
<p>C.2.13.6 Where a two-envelope system is required in terms of the <i>Tender Data</i>, place and seal the returnable documents listed in the <i>Tender Data</i> 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 <i>Tender Data</i>, as well as the tenderer's name and contact address.</p>	<p>C.2.16.2 If requested by the employer, consider extending the validity period stated in the <i>Tender Data</i> for an agreed additional period with or without any conditions attached to such extension.</p>
<p>C.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the <i>Tender Data</i>.</p>	<p>C.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted. If the validity period stated in C.2.16 lapses before the employer evaluating tender, the contractor reserves the right to review the price based on Consumer Price Index (CPI).</p>
<p>C.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.</p>	<p>C.2.16.4 Where a tender submission is to be substituted, a tenderer must submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as "SUBSTITUTE".</p>
<p>C.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the <i>Tender Data</i>.</p>	<p>C.2.17 Clarification of tender offer after submission</p> <p>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.</p> <p><i>Note: Sub-clause C.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.</i></p>
<p>C.2.14 Information and data to be completed in all respects</p> <p>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.</p>	<p>C.2.18 Provide other material</p>
<p>C.2.15 Closing time</p>	<p>C.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment.</p> <p>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</p>
<p>C.2.15.1 Ensure that the employer receives the tender offer at the address specified in the <i>Tender Data</i> not later than the closing time stated in the <i>Tender Data</i>. Accept that proof of posting shall not be accepted as proof of delivery.</p>	
<p>C.2.15.2 Accept that, if the employer extends the closing time stated in the <i>Tender Data</i> for any reason, the requirements of these conditions of tender apply equally to the extended deadline.</p>	
<p>C.2.16 Tender offer validity</p>	

	the employer's request, the employer may regard the tender offer as non-responsive.		
C.2.18.2	Dispose of samples of materials provided for evaluation by the employer, where required.		
C.2.19	Inspections, tests and analysis		
	Provide access during working hours to premises for inspections, tests and analysis as provided for in the Tender Data .		
C.2.20	Submit securities, bonds and policies		
	If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the Contract Data .		
C.2.21	Check final draft		
	Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.		
C.2.22	Return of other tender documents		
	If so instructed by the employer, return all retained tender documents within twenty-eight (28) days after the expiry of the validity period stated in the Tender Data .		
C.2.23	Certificates		
	Include in the tender submission or provide the employer with any certificates as stated in the Tender Data .		
C.3	The employer's undertakings		
C.3.1	Respond to requests from the tenderer		
C.3.1.1	Unless otherwise stated in the Tender Data , respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who collected tender documents.		<ul style="list-style-type: none"> a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements; b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.
C.3.1.2	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:		
C.3.2	Issue Addenda		
	If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three (3) working days before the tender closing time stated in the Tender Data . If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data , the Employer may grant such extension and, shall then notify all tenderers who collected tender documents.		
C.3.3	Return late tender offers		
	Return tender offers received after the closing time stated in the Tender Data , unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.		
C.3.4	Opening of tender submissions		
C.3.4.1	Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the Tender Data . Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.		
C.3.4.2	Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the Tender Data , the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main tender offer only.		
C.3.4.3	Make available the record outlined in C.3.4.2 to all interested persons upon request.		

C.3.5 Two-envelope system

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

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

C.3.6 Non-disclosure

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

C.3.7 Grounds for rejection and disqualification

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

C.3.8 Test for responsiveness

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

- a) complies with the requirements of these Conditions of Tender,
- b) has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the tender documents.

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

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
- c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

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

C.3.9 Arithmetical errors, omissions and discrepancies

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

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

- a) the gross misplacement of the decimal point in any unit rate;
- b) omissions made in completing the pricing schedule or bills of quantities; or
- c) arithmetic errors in:
 - (i) line-item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
 - (ii) the summation of the prices.

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

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

- a) If bills of quantities or pricing schedules apply and there is an error in the line-item total resulting from the product of the unit rate and the quantity, the line-item total

shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line-item total as quoted shall govern, and the unit rate shall be corrected.

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

C.3.10 Clarification of a tender offer

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

C.3.11 Evaluation of tender offers

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

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

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

The activities associated with evaluating tender offers are as follows:

- Open and record tender offers received
- Determine whether or not tender offers are complete
- Determine whether or not tender offers are responsive
- Evaluate tender offers
- Determine if there are any grounds for disqualification
- Determine acceptability of preferred tenderer
- Prepare a tender evaluation report
- Confirm the recommendation contained in the tender evaluation report .

C.3.11.1 General

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

C.3.12 Insurance provided by the employer

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

C.3.13 Acceptance of tender offer

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

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement;
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract;
- c) has the legal capacity to enter into the contract;
- d) is not; insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act No. 2008, bankrupt or being wound up, has his/her affairs administered by a court or a judicial officer, has suspended his/her business activities or is subject to legal proceedings in respect of any of the foregoing;
- e) complies with the legal requirements, if any, stated in the **Tender Data**; and
- f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

C.3.14 Prepare contract documents

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

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents and
- c) other revisions agreed between the employer and the successful tenderer.

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

C.3.15 Complete adjudicator's contract

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

C.3.16 Registration of the award

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

C.3.17 Provide copies of the contracts

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

C.3.18 Provide written reasons for actions taken

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

T1.2.2 TENDER DATA

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

C.1: GENERAL**C.1.1 The employer:**

The Employer for this Contract is the **eThekwini Municipality** as represented by:

Deputy Head: Plant and Engineering

C.1.2 Tender documents:

The Tender Documents issued by the Employer comprise:

- 1) The Procurement Document comprising of the PARTS as listed in the "INDEX" on page 1.
- 2) **EXCEL Bill of Quantities file, if issued separately.**
- 3) **Drawings**, issued separately from this document, or bound in Section C3.4: "Particular Specifications".

Electronically downloaded documentation is obtainable from the National Treasury's **eTenders Website** and/ or the **eThekwini Municipality Website** at URL:

- <https://www.etenders.gov.za/>
- <https://www.durban.gov.za/pages/business/procurement>

Tenderers are to regularly check both web sites for the downloadable documentation.

C.1.4 Communication and employer's agent:

The Employer's Agent is:

Name: J Pass Pr. Eng; Wilson and Pass
Incorporated
Tel: 082 463 1227 (m)
eMail: jon.pass@pixie.co.za

The Employer's Representative is:

Name: Logan Moodley
Tel: 031 322 4575
eMail: logan.moodley2@durban.gov.za

The Tenderer's contact details, as indicated on **Returnable Document "Compulsory Enterprise Questionnaire"**, shall be deemed as the only valid contact details for the Tenderer for use in communications between the Employer's Agent and the Tenderer during tender evaluation.

C.1.6 Procurement procedures:

The following Sections of the **Standard Conditions of Tender** are not applicable to this tender:

- **C.1.6.2: Competitive negotiation procedure**, and
- **C.1.6.3: Proposal procedure using the two-stage system.**

C.1.6.2 Procurement procedures:

The competitive negotiation procedure shall be applied.

C.1.6.3 Procurement procedures:

Option 2 of the proposal procedure using the functionality and price and preference points shall be applied.

C.2: TENDERER'S OBLIGATIONS

C.2.1 Eligibility:

Entities may only submit one (1) tender offer, either as a single tendering entity or as a partner of a joint venture. Should a tendering entity submit more than one (1) tender, all submissions by that tendering entity, including submissions where the entity is a partner of a joint venture, will be deemed not to be eligible.

C.2.1.1 Eligibility: General

A Tenderer will not be eligible to submit a tender if:

- (a) In the event of a Compulsory Clarification Meeting:
 - i) the Tenderer fails to attend the Compulsory Clarification Meeting, or
 - ii) the Tenderer fails to have **Returnable Document “Certificate of Attendance at Clarification Meeting / Site Inspection”** signed by the Employer’s Agent or their representative at the meeting.
- (b) At the time of tender closing, the Tenderer is not registered on the **National Treasury Central Supplier Database (CSD)** and the **eThekweni Municipality Supplier Portal**. In the case of a Joint Venture, this requirement will apply individually to each party in the Joint Venture. Tenderers are to reference **Returnable Document “Compulsory Enterprise Questionnaire”** (section 1.5) and **Returnable Document “CSD Registration Report”**.
- (c) In the case of Joint Venture (JV) submissions, two or more JV entities have common directors/ shareholders or common entities tendering for the same works.
- (d) The following documentation is not completed in full, signed, and returned with the tender submission. **Failure to comply will result in the tender offer being deemed non-responsive.**
 - T2.2.1: Compulsory Enterprise Questionnaire.
 - T2.2.5: MBD 4: Declaration of Interest.
 - T2.2.6: MBD 5: Declaration for Procurement Above R10 Million.
 - T2.2.7: MBD 6.2: Declaration for Local Production and Content.
 - T2.2.8: MBD 8: Declaration of Bidder’s Past SCM Practices.
 - T2.2.9: MBD 9: Certificate of Independent Bid Determination.
 - T2.2.10: Declaration of Municipal Fees
- (e) The certificates listed in the **Tender Data: C.2.23: Certificates** are to be included with the tender submission. **Failure to comply will result in the tender offer being deemed non-responsive.**
 - T2.2.1: SARS Tax Compliance Status - PIN Issued (submitted with the Compulsory Enterprise Questionnaire).
 - T2.2.12: Central Supplier Database (CSD) Report.
 - T2.2.13: CIDB Registration and Status.

C.2.1.2 Eligibility: CIDB

Tenderers are to reference the provisions of **Tender Data: C.2.23 “Certificates**, and **Returnable Document “Verification of CIDB Registration and Status”** with respect to CIDB registration.

Only those Tenderers who are registered (as “Active”) with the CIDB (at time of tender closing), in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations, for a **CE** class of construction work, are eligible to have their tenders evaluated.

Joint ventures are eligible to submit tenders provided that:

- (a) Every member of the joint venture is registered (as “Active”) with the CIDB (at time of tender closing),
- (b) The lead partner has a contractor grading designation in the **CE** class of construction work and has a grading designation of not lower than one level below the required grading designation, and
- (c) The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations (2013) is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a **CE** class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.

C.2.2.2 The cost of the tender documents:

Replace this paragraph with the following:

“Documents are to be downloaded, free of charge, from the **National Treasury’s eTenders website** or the **eThekweni Municipality’s Website**.”

C.2.5 Reference documents:

Tenderers are to obtain their own copies of:

- 1) The **Conditions of Contract** identified in Section C1.2.1.1.
Tenderers/ Contractors are required to obtain their own copies.
- 2) The **Specifications** identified in Section C3.3.1.
Tenderers/ Contractors are required to obtain their own copies.
- 3) The following acts, regulations, policies, and standards referred to in this document, including but not limited to:
 - The Employer’s Supply Chain Management Policy (as at advertising date).
 - The Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the Construction Regulations (2014).
 - The Construction Industry Development Board Act No 38 of 2000 and the Regulations issued in terms of the Act (July 2013 as amended).
 - The Preferential Procurement Policy Framework Act (PPPFA), and the PPPFA Regulations (November 2022).
 - The Amended Construction Sector Code (Government Gazette No.41287) applicable to B-BBEE compliance measurement.
 - SANS 1921:2004 – Construction and Management Requirements for Works Contract, Parts 1-3.
 - South African Road Traffic Signs Manual - Vol 2: Chapter 13: Roadworks Signing.
 - CIDB Standard for Developing Skills Through Infrastructure Contracts, published in Gazette Notice No. 48491 of 28 April 2023.
 - CIDB Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, published in Gazette Notice No. 36190 of 25 February 2013.
 - Any other eThekweni Policy documents referenced in the Tender Documents.

C.2.6 Acknowledge addenda:

Add the following paragraphs:

“Addenda will be published on the **eThekweni Municipality website** as stated in **Tender Data: C.1.2**. Tenderers are to ensure that this website is consulted for any published addenda pertaining to this tender up to three days before the tender closing time as stated in the **Tender Data**.”

“Acknowledgement of receipt of the addenda will be by the return of the relevant completed, dated, and signed portion of the addenda, to the physical or email address as specified on the addenda.”

Failure of the Tenderer to comply with the requirements of the addenda will result in the tender submission being made non-responsive.

C.2.7 Clarification meeting:

Clarification Meeting Type: **Compulsory Clarification Meeting**

Lovu Landfill Site, off D982, Illovo Farm, Inkwali
On [23-03-2026] at [11:00]

Bidders are requested to submit emailed queries related to the bid. All emailed queries are to be submitted to the **Employer’s Agent’s Representative** (refer to C.1.4) by **2026/04/02**. Emailed questions and answers will be consolidated and posted on the eTenders/Municipal website for the benefit of all tenderers by **2026/04/09**.

In the event of a Compulsory Clarification Meeting the Tenderer’s representative(s) must be able to clearly convey the discussions at the meeting to the person(s) responsible for compiling the entity’s tender offer.

If an attendance register is applicable, Tenderers must sign the attendance register and provide the name of the tendering entity.

Tenderers are referred to Clause C.2.1.1(a).

C.2.10.2 Pricing the tender offer:

The following is to be noted in terms of Tenderers being **VAT Registered**, or being a **Non-VAT Vendor** (i.e. not VAT registered).

If the Tenderer is **VAT registered**, the Tenderer’s Rates in the Bill of Quantities (BoQ) are to exclude VAT. VAT is to be shown separately on the BoQ summary page, and on the Form of Offer (Part C1.1.1).

If the Tenderer is a **Non-VAT Vendor**, the Tenderer’s Rates in the Bill of Quantities are to include VAT. VAT is not to be shown separately on the BoQ summary page, or on the Form of Offer (Part C1.1.1). VAT will not be added to, or deducted from, rates or prices submitted from **Non-VAT Vendors**. The tendered priced will be deemed to include all VAT, taxes, and any applicable excise duties.

Tenderers are to refer to Part C2.1: PRICING ASSUMPTIONS / INSTRUCTIONS prior to pricing the tender offer.

C.2.12 Alternative tender offers:

No alternative tender offers will be considered.

C.2.13 Submitting a tender offer:

The signed Tender Offer (“hard copy”) is to be sealed in an envelope, addressed to the City Manager, marked with the **identification details** and be delivered to the **delivery address**, both as stated

below.

The **Tender Offer** (hard copy) is to be delivered to the following **delivery address**:
the Tender Box in the foyer of the Municipal Building, 166 KE Masinga Road, Durban

Identification details to be shown on the hard copy package are:

- Contract No. : **34703-6W**
- Contract Title : **Lovu Landfill Site: Construction of Cell 7 and Ancillary Works**

Tender Offers are also to be **SUBMITTED ELECTRONICALLY** (uploaded) on the eThekweni Municipality **JDE System** (Supplier Self Service (SSS Module)). For information pertaining to the JDE System, Tenderers are referred to **Section T1.1.2**.

Notwithstanding the **electronic submission**, a tender offer will only be deemed valid if the “hard copy” submission has been made. The “hard copy” submission will be the governing submission.

The Tender documentation, issued by the eThekweni Municipality (refer to **Tender Data: C.1.2**), is to be printed in its entirety. Printing should be done on white A4 paper, with printing on only one side of the paper. (It is suggested that the Tender documentation is not stapled, or punched for filing, prior to scanning, as this could affect the scanning process.)

After completion and signature (using **BLACK INK**), the entire Tender document is to be scanned to a single PDF (**P**ortable **D**ocument **F**ormat) document, at a resolution of 300 DPI (dots per inch). The PDF document is to be uploaded via the (Tender specific) upload option on the JDE System (SSS Module). Tenderers are responsible for resolving all access rights and submission queries on the JDE System before the tender closing date/ time (**Tender Data: C.2.15**).

Tender Offer delivery, and the electronic submission on the JDE System, are both to be completed on or before the closing date/ time stated in the **Tender Data: C.2.15**.

The submission of Tender Offers via any means other than that stated above will not be accepted, and those that are will be deemed invalid.

C.2.15 Closing date and time:

The closing time is:

- **Date** : **Friday, 17 April 2026**
- **Time** : **11h00**

The **delivery of the hard copy AND** the completion of the requirements on the **JDE System (SSS Module)** are to be completed prior to the Tender **closing date and time** as stated above. Any Tender Offer submitted thereafter will not be considered.

C.2.16 Tender offer validity:

The Tender Offer validity period is **120 Days** (original validity period) from the closing date for submission of tenders.

In terms of the SCM Policy (CI.21.2) tenders must remain valid for acceptance for a period of twelve (12) months after the expiry of the original validity period, unless the Municipality is notified in writing of anything to the contrary by the tenderer.

The eThekweni Municipality reserves the right to request confirmation from Tenderers of tender validity at any time during the twelve (12) month period.

C.2.23 Certificates:

Refer to **T2.1: “List of Returnable Documents”** for a listing of certificates that must be provided with the tender. All certificates must be valid at the time of tender closing.

Tenderers are to include a printout of the required documents/ certificates at the back of their tender submission.

1) SARS Tax Compliance Status – PIN Issued

Reference is to be made to **Returnable Document “Compulsory Enterprise Questionnaire”** which requires the “SARS Tax Compliance Status – PIN Issued” to be included with this returnable document.

2) Central Supplier Database (CSD)

Reference is to be made to **Returnable Document “CSD Registration Report”**.

The entities **CSD Registration Report**, obtained from the National Treasury Central Supplier Database (CSD), is to be included in the tender submission (<https://secure.csd.gov.za>).

Separate **CSD Registration Reports** are required for each party to a Joint Venture.

The date of obtaining the CSD printout is to be indicated on the printout and should be on or after the date of advertising of this tender.

3) CIDB Registration (if applicable)

Reference is to be made to **Returnable Document “Verification of CIDB Registration and Status”**.

Tenderers are to include with their submission a printout of their **CIDB Registration**, obtained from the CIDB website (<https://portal.cidb.org.za/RegisterOfContractors/>).

Separate **CIDB Registration printouts** are required for each party to a Joint Venture.

The **Joint Venture Grading Designation Calculator** printout should be included when making a submission as a Joint Venture:

(<https://registers.cidb.org.za/PublicContractors/JVGradingDesignationCalc>)

The date of obtaining the CIDB printout(s) is to be indicated on the printout and should be on or after the date of advertising of this tender. The Tenderer’s registration with the CIDB must be reflected as “Active” as at the date of tender closing.

Failure to comply with 1), 2), and 3) above will result in the tender offer being deemed non-responsive.

4) B-BBEE Status Level of Contribution Certificate

Tenderers are referred to **Returnable Document “MBD 6.1: Preference Points Claim”** for the B-BBEE Certificate requirements. Notwithstanding the completion of **Returnable Document “MBD 6.1: Preference Points Claim”**, should a B-BBEE Status Level of Contribution Certificate **not be returned** no points for Preferential Procurement will be deemed to have been claimed.

The Amended Construction Sector Code (Government Gazette No.41287) is applicable to the B-BBEE compliance measurement of all entities that fall within the Construction Sector (Built Environment Professionals (BEP) and Contractors). The requirements for measurement and verification of entities are contained in the “Amended Code Series CSC000: Framework for Measuring Broad Based Black Economic Empowerment in the Construction Sector”, as published in Notice 931 of 2017, Government Gazette No.41287 of 01/12/2017.

An EME Contractor with a Total Annual Revenue of less than R3 million, or a BEP with a total annual revenue of less than R1.8 million, may present an affidavit OR a certificate issued by the CIPC, OR an authorised B-BBEE verification certificate by a SANAS accredited Verification Agency.

Any B-BBEE Certificate where the entity has been assessed using **Generic Codes** will not be accepted.

C.3: THE EMPLOYER'S UNDERTAKINGS

C.3.1.1 Respond to requests from the tenderer:

Replace the words "five working days" with "three working days".

C.3.2 Issue addenda:

Add the following paragraph:

"Addenda will be published on the National Treasury's **eTenders-Website** and/ or the **eThekwini Municipality Website**." (Refer to **Tender Data: C.1.2**).

C.3.4 Opening of Tender Submissions:

Tenders will be opened immediately after the closing time for tenders. The public reading of tenders will take place in the P&SCM Boardroom, 6th Floor, (Municipal Building), 166 KE Masinga Road, Durban.

The tender opening schedule will also be made available on the eThekwini Municipal website at URL: <https://www.durban.gov.za/pages/business/publication-of-received-bids>

C.3.9 Arithmetical errors, omissions and discrepancies:

Add the following Clause:

"C.3.9.5 Reject a tender offer if the Tenderer does not accept the correction of the arithmetical error in the manner described in C.3.9.4."

Any interactions between the Tenderer and the Employer in terms of this clause will be conducted through the Employer's Agent (or Representative) as identified in **Tender Data C.1.4**.

C.3.11 Evaluation of Tender Offers:

Eligibility

Tenders will be checked for compliance with the ELIGIBILITY requirements, as specified in the **Tender Data: C.2.1**. Tenders not in compliance will be deemed non-responsive.

Functionality

FUNCTIONALITY will be evaluated to determine the responsiveness of tenders received. The minimum score for FUNCTIONALITY is **60 points**. Those tenders not achieving the minimum score will be deemed non-responsive.

The functionality Criteria, Sub-Criteria, Points per Criteria/ Sub-Criteria, Returnable Documentation and Schedules, Method of Evaluation, and Prompts for Judgement are as specified in **Part T1.2.3: Additional Conditions of Tender**.

Preference Point System

The procedure for the evaluation of responsive tenders is **PRICE AND PREFERENCE**, in accordance with the Employer's **SCM Policy: Section 52: Preferential Procurement**.

The **80/20** preference points system, for requirements with a Rand value of up to R50,000,000 (all applicable taxes included), will be applied. The Formula used to calculate the **Price Points (max. 80)** will be according to that specified below.

Price Points

The financial offer will be reduced to a comparative basis using the **Tender Assessment Schedule**.

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

80/20 Procurement System

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

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

Preference Points

Reference is to be made to **Returnable Form: MBD 6.1: Preference Points Claim**.

The Basket of Preference Goals (SCM Policy Section 52.7)

The provisions of the SCM Policy: **Section 52.7: The Basket of Preference Goals** shall apply. Reference is to be made to **Returnable Form: MBD 6.1: Preference Points Claim**.

The Preference Points (either 20 or 10) will be derived from points claimed for **Specific Goals** as indicated in the table(s) below, according to the specified **Goal/ Category Weightings**.

• Ownership Goal

Goal Weighting: **50%**

The tendering entity's **Percentage Ownership**, in terms of the **Ownership Category(s)** listed below, is to be used in the determination of the Tenderer's claim for **Preference Points**.

Ownership Categories	Criteria	80/20
Race: Black	Equals 0%	0
	Between 0% and 51%	4
	Greater or equal to 51% and less than 100%	8
	Equals 100%	10
Gender: Female	Equals 0%	0
	Between 0% and 51%	4
	Greater or equal to 51% and less than 100%	8
	Equals 100%	10
Disabilities	Equals 0%	0
	Between 0% and 51%	0
	Greater or equal to 51% and less than 100%	0
	Equals 100%	0

Maximum Ownership Goal Points: 20

Proof of claim as declared on MBD 6.1 (1 or more of the following will be used in verifying the Tenderer's status)

- Companies and Intellectual Property Commission registration document (CIPC)
- CSD report.
- B-BBEE Certificate of the tendering entity.
- Consolidated BBEE Certificate if the tendering entity is a Consortium, Joint Venture, or Trust (Issued by verification agency accredited by the South African Accreditation System).
- Agreement for a Consortium, Joint Venture, or Trust.

• RDP Goal: The promotion of South African owned enterprises

Goal Weighting: **25%**

The tendering entity's **Address** (as stated on the National Treasury Central Supplier Database (CSD) or on the eThekweni Municipality Vendor Portal) is to be used in the determination of the Tenderer's claim for **Preference Points** for this Specific Goal.

Location	80/20
Not in South Africa	0
South Africa	5
Kwa Zulu Natal	10
eThekweni Municipality	20
Maximum Goal Points:	20
Proof of claim as declared on MBD 6.1 (1 or more of the following will be used in verifying the Tenderer's status)	
<ul style="list-style-type: none"> • CSD report 	

- **RDP Goal: The promotion SMMEs owned by Black People – Contracts > R5m**

Goal Weighting: **25%**

The tendering entity's **Commitment to Sub-Contracting** (to Sub-Contractors conforming to the specified ownership demographics) the **percentage works**, as specified below, is to be used in the determination of the **Tenderer's claim for Preference Points** for this Specific Goal.

Contract Participation Goal	80/20
Sub-contracting 0%	0
Sub-contracting <25%	5
Sub-contracting 25%	10
Sub-contracting ≥25% and <50%	20
Maximum Goal Points:	20
Proof of claim as declared on MBD 6.1 (1 or more of the following will be used in verifying the Tenderer's status) <ul style="list-style-type: none"> • Contract Participation Goal Plan (% work to be allocated) 	

C.3.13 Acceptance of tender offer:

In addition to the requirements of **Tender Data: C.3.13** of the **Standard Conditions of Tender**, tender offers will only be accepted if:

- The Tenderer's municipal rates and taxes are not in arrears, or they have made arrangements to meet outstanding municipal fee obligations.
- The Tenderer's tax compliance status has been verified, or they have made arrangements to meet outstanding tax obligations.
- If applicable, the Tenderer is **registered**, and "**Active**", with the **Construction Industry Development Board** in an appropriate contractor grading designation.
- The Tenderer or any of its directors/ shareholders are **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.
- The Tenderer has not:
 - Abused the Employer's Supply Chain Management System; or
 - Failed to perform on any previous contract and has been given a written notice to this effect.
- The Employer is reasonably satisfied that the Tenderer has in terms of the Construction Regulations (2014), issued in terms of the Occupational Health and Safety Act (1993), the **necessary competencies and resources to carry out the work safely**.

The Municipality does not bind itself to accept the lowest or any tender. It reserves the right to accept the whole or any part of a tender to place orders. Bidders shall not bind the Municipality to any minimum quantity per order. The successful Tenderer(s) shall be bound to provide any quantities stipulated in the specification.

The municipality has a firm intention to proceed with the work, subject to funding being identified. Notwithstanding the **Standard Conditions of Tender: C.1.1.3** of, the municipality reserves the right to award or not award the tender based on the municipalities available budget.

C.3.15 Complete adjudicator's contract:

Refer to the **Conditions of Contract** and the **Contract Data**.

C.3.17 Copies of contract:

The number of paper copies of the signed contract to be provided by the Employer is **ONE (1)**. Tenderers are referred to the requirements as stated in the **Tender Data: C.2.13**.

T1.2.3 ADDITIONAL CONDITIONS OF TENDER**T1.2.3.1 Complaints and Objections (Appeals)**

Reference is to be made to Clause 49 of the eThekweni Supply Chain Management Policy.

In terms of Section 49 of the EtheKwini SCM Policy any person aggrieved by decisions taken in the implementation of the SCM System may lodge, within 14 days of notification thereof, a written objection against the decision. The objection with regard to the decision is to be directed to:

The City Manager
Attention Ms S. Pillay eMail: Simone.Pillay@durban.gov.za
P O Box 1394
DURBAN
4000

Any objection will only be processed upon receipt of a non-refundable administration fee of **R1,814.00** (including VAT), as stipulated in the Municipality's current SCM Policy. An objection will only be considered upon receipt of proof of payment of this fee which must be paid into the following bank account as a real-time payment:

EThekweni Metropolitan Municipality
First National Bank (FNB)
Account Number: 631-6574-6331
Reference Number: **34703-6W**

T1.2.3.2 Prohibition on awards to persons in the service of the state

Clause 44 of the Supply Chain Management Regulations states that the Municipality or Municipal Entity may not make any award to a person:

- (a) Who is in the service of the State;
- (b) If that person is not a natural person, of which a director, manager, principal shareholder or stakeholder is a person in the service of the state; or
- (c) Who is an advisor or consultant contracted with the municipality or a municipal entity.

Should a contract be awarded, and it is subsequently established that Clause 44 has been breached, the Employer shall have the right to terminate the contract with immediate effect.

T1.2.3.3 Code of Conduct and Local Labour

The Tenderers shall make themselves familiar with the requirements of the following policies:

- Code of Conduct;
- The Use of CLOs and Local Labour.

T1.2.3.4 Functionality Specification

The value of W_2 is 100. The Functionality criteria (and sub criteria if applicable) and maximum score in respect of each of the criteria are as follows:

Functionality Criteria / Sub Criteria		Maximum Points Score
Tenderer's Experience		40
Project Organogram and Experience of Key Staff	Contracts Manager	10
	Site agent	20
	Foremen	15
Preliminary Programme		5
Construction Methodology & Quality Control		10
Maximum possible score for Functionality (M_s)		100

The minimum number of evaluation points for Functionality is **60**. Only those Tenderers who achieve the minimum number of Functionality evaluation points (or greater) will be eligible to have their tenders further evaluated.

Functionality shall be scored by not less than three evaluators and the scores of each of the evaluators will be averaged, weighted and then totalled to obtain the final score for Functionality. Each evaluation criteria will be assessed in terms of six indicators and scores allocated according to the following table:

Level 0	Level 1	Level 2	Level 3	Level 4	Level 5
0	20	40	60	80	100

Evaluation criteria will be adjudicated according to submissions made in accordance with the following schedules, which are found in T2.2: Returnable Schedules:

Functionality Criteria	Returnable Schedules
Tenderer's Experience	<ul style="list-style-type: none"> Experience of Tenderer
Project Organogram and Experience of Key Staff	<ul style="list-style-type: none"> Proposed Organisation and Staffing Key Personnel CV's with Experience of Key Personnel
Preliminary Programme	<ul style="list-style-type: none"> Preliminary Programme
Construction Methodology & Quality Control	<ul style="list-style-type: none"> Construction Approach, Methodology, and Quality Control Schedule of Proposed Subcontractors Plant and Equipment

Unless otherwise stated, evaluation criteria will be adjudicated with respect to the contract specific Scope of Work, as specified in C.3. In this regard the following definitions apply to the evaluation criteria prompts for judgement:

- “**successfully completed**” implies a project has been completed on time and to specification;
- “**similar nature**” implies projects that were of a value of at least 70% of this tender’s value, and had a comparable Scope of Work in terms of technical requirements and operations;
- “**experience**” implies experience on projects of a similar nature;
- “**accredited degree / diploma**” implies a minimum 3 year qualification within the built environment, from a registered University or University of Technology.

Criterion: Tenderer’s Experience	
Note: Projects of a similar nature that will be considered shall be one, or a combination of, Landfill Lining Project and Bulk Earthworks Projects .	
Level 0	No information provided; OR submission of no substance / irrelevant information provided
Level 1	To have successfully completed <u>1 projects</u> of a similar nature within the past 10 years.
Level 2	To have successfully completed <u>2 projects</u> of a similar nature within the past 10 years.
Level 3	To have successfully completed <u>3 to 4 projects</u> of a similar nature within the past 10 years.
Level 4	To have successfully completed <u>5 to 6 projects</u> of a similar nature within the past 10 years.
Level 5	To have successfully completed <u>+7 or more projects</u> of a similar nature within the past 10 years.

Criterion: Project Organogram and Experience of Key Staff			
	CONTRACTS MANAGER	SITE AGENT	FOREMAN
Level 0	No information provided OR submission of no substance / irrelevant information provided OR less than 2 year’s experience OR Relevant accredited diploma / degree and less than 1 year’s experience.	No information provided OR submission of no substance / irrelevant information provided OR less than 2 year’s experience. OR Relevant accredited diploma / degree and less than 1 year’s experience.	No information provided OR submission of no substance / irrelevant information OR Less than 2 year’s experience.
Level 1	Relevant accredited diploma / degree and minimum 1 year’s experience.	Relevant accredited diploma / degree and minimum 1 year’s experience.	Minimum 2 year’s experience.
Level 2	Relevant accredited diploma / degree and minimum 2 year’s experience.	Relevant accredited diploma / degree and minimum 2 year’s experience.	Minimum 3 year’s experience.
Level 3	Relevant accredited diploma / degree and minimum 4 year’s experience.	Relevant accredited diploma / degree and minimum 4 year’s experience.	Minimum 5 year’s experience.
Level 4	Relevant accredited diploma / degree and minimum 7 year’s experience.	Relevant accredited diploma / degree and minimum 7 year’s experience.	Minimum 8 year’s experience.
Level 5	Relevant accredited diploma / degree and minimum 9 year’s experience.	Relevant accredited diploma / degree and minimum 9 year’s experience.	Minimum 10 year’s experience.

Criterion: Preliminary Programme	
Level 0	No information provided OR submission of no substance / irrelevant information provided
Level 1	Programme <u>does not cover</u> all the applicable individual activities which are in an acceptable sequence, with appropriate durations, and is in accordance with generally accepted construction practice, and not in line with Clause 1.1.1.14 of the Conditions of Contract (time for achieving Practical Completion).
Level 2	Programme <u>covering</u> all the applicable individual activities which are in an acceptable sequence, with appropriate durations, and is in accordance with generally accepted construction practice, and is in line with Clause 1.1.1.14 of the Conditions of Contract (time for achieving Practical Completion).
Level 3	Programme <u>covering</u> all the applicable individual activities which are in an acceptable sequence, with appropriate durations, and is in accordance with generally accepted construction practice, and is in line with Clause 1.1.1.14 of the Conditions of Contract (time for achieving Practical Completion). Plus: Shows critical path with logical linking of tasks/activities
Level 4	Programme <u>covering</u> all the applicable individual activities which are in an acceptable sequence, with appropriate durations, and is in accordance with generally accepted construction practice, and is in line with Clause 1.1.1.14 of the Conditions of Contract (time for achieving Practical Completion). Plus: <ul style="list-style-type: none"> Shows critical path with logical linking of tasks/activities, and Detailed activity and resources breakdown. Cashflow included
Level 5	Programme <u>covering</u> all the applicable individual activities which are in an acceptable sequence, with appropriate durations, and is in accordance with generally accepted construction practice, and is in line with Clause 1.1.1.14 of the Conditions of Contract (time for achieving Practical Completion). Plus: <ul style="list-style-type: none"> Shows critical path with logical linking of tasks/activities, and Detailed activity and resources breakdown. Cashflow included Detailed Plant and equipment resource breakdown

Criterion: Construction Methodology & Quality Control	
Level 0	No information provided; OR submission of no substance / irrelevant information provided
Level 1	The technical approach / methodology, plant and equipment is poor and gives no relevant information in satisfying the projects objectives Quality control statement is poor with no relevant information
Level 2	The technical approach and/or methodology is less than acceptable and unlikely to satisfy project objectives or requirements. Plant and equipment is unlikely to provide adequate protection of the works. Quality control statement is generic.
Level 3	Brief overview of a site specific methodology which encompasses all programmed activities in appropriate order and includes staff, plant and equipment resources, including subcontractors if applicable, a brief description of preparatory work, construction processes including finishing works for each activity. Quality control statements are site specific with statements covering required sampling and testing requirements for the programmed activities.
Level 4	The methodology is specifically tailored to address specific project requirements. The methods and approach to managing risk etc. are specifically tailored to the critical characteristics of the project. The plant and equipment are specifically tailored to the project requirements and are sufficiently adaptable to accommodate changes that may be required during execution Quality control statements are site specific covering required sampling and testing for programmed activities including site specific quality control checklist for programmed activities
Level 5	Besides meeting the "above Level 4" rating, the important issues are approached in an innovative and efficient way, indicating that the Tenderer has excellent knowledge of working in the projects environment and producing the required final product. Plant and equipment proposals and ownership/provision arrangements are most likely to ensure a satisfactory project outcome. Quality control statements are site specific covering required sampling and testing for all programmed activities including site specific quality control checklist for all programmed activities

PART T2: RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

T2.1.1 General

The Tender Submission Documentation must be submitted in its entirety. All forms must be properly completed and signed as required.

The Tenderer is required to complete and sign each and every Schedule and Form listed below to the best of their ability as the evaluation of tenders and the eventual contract will be based on the information provided by the Tenderer.

Failure of a Tenderer to complete the Schedules and Forms to the satisfaction of the Employer will inevitably prejudice the tender and may lead to rejection on the grounds that the tender is non-responsive.

T2.1.2 Returnable Schedules, Forms and Certificates

Entity Specific

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T2.2.7	MBD 6.2: Declaration for Local Production and Content (if applicable)	42
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Technical or Functionality Evaluation

T2.2.16	Experience of Tenderer	53
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T2.2.20	Preliminary Programme	57
T2.2.21	Construction Approach, Methodology, and Quality Control	58
T2.2.22	Schedule of Proposed Subcontractors	59

T2.2.23	Plant and Equipment	60
T2.2.24	Contractor's Health and Safety Plan	61
 Contract Part: The Tenderer is required to complete following forms:		
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C2.2	Bill of Quantities	74

T2.2.1 COMPULSORY ENTERPRISE QUESTIONNAIRE

Ref	Description	Tenderer to Complete	
1.1	Name of enterprise		
1.2	Name of enterprise's representative		
1.3	Email address of representative		
1.4	Contact numbers of representative	Tel:	Cell:
1.5	National Treasury Central Supplier Database Registration number	MAAA	
1.6	VAT registration number, if any:		
1.7	CIDB registration number, if any:		
1.8	Department of Labour: Registration number		
1.9	Department of Labour: Letter of Good Standing Certificate number		

2.0 Particulars of sole proprietors and partners in partnerships (attach separate pages if more than 4 partners)			
	Full Name	Identity No.	Personal income tax No. *
2.1			
2.2			
2.3			

3.0 Particulars of companies and close corporations	
3.1	Company registration number, if applicable:
3.2	Close corporation number, if applicable:
3.3	Tax Reference number, if any:
3.4	* South African Revenue Service: Tax Compliance Status PIN:

4.0	MBD 4, MBD 6, MBD 8, and MBD9 issued by National Treasury <u>must be completed for each tender and be included as a tender requirement.</u>
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* Tenderers are to include, at the back of their tender submission, a printout of their SARS **"Tax Compliance Status – PIN Issued"** certificate, failing which the tender submission will be deemed non-responsive.

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:	
i) authorizes the Employer to verify the Tenderer's tax clearance status from the South African Revenue Services that it is 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.	

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.2 CERTIFICATE OF ATTENDANCE AT CLARIFICATION MEETING / SITE INSPECTION

Reference is to be made to the **Tender Data: C.2.1.1(a) and C.2.7.**

This is to certify that:

(entity name):

of (address):

was represented by the person(s) named below at the Clarification Meeting for Contract **34703-6W** held for all Tenderers, the details of which are stated in the **Tender Data: C.2.7.**

I / We acknowledge that the purpose of the meeting was to acquaint myself / ourselves with the site of the works and / or matters incidental to doing the work specified in the tender documents in order for me / us to take account of everything necessary when compiling our rates and prices included in the tender.

Particulars of person(s) attending the meeting:

Name:

Name:

Signature:

Signature:

Capacity:

Capacity:

Attendance of the above person(s) at the meeting is confirmed by the Employer's Agent's Representative, namely:

Name:

Signature:

Date:

T2.2.3 MBD 4: DECLARATION OF INTEREST

MSCM Regulations: “**in the service of the state**” means to be:

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

“**Shareholder**” means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

- 1 No bid will be accepted from persons **in the service of the state**¹.
- 2 Any person, having a kinship with persons **in the service of the state**, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to **persons in service of the state**, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.
- 3 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

3.1 Name of enterprise

Name of enterprise’s representative

3.2 ID Number of enterprise’s representative

3.3 Position enterprise’s representative occupies in the enterprise

3.4 Company Registration number

3.5 Tax Reference number

3.6 VAT registration number

3.7 The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below. In the case of a joint venture, information in respect of each partnering enterprise must be completed and submitted.

Circle Applicable

3.8 Are you presently in the service of the state?

YES

NO

If yes, furnish particulars:

.....

3.9 Have you been in the service of the state for the past twelve months?

YES

NO

If yes, furnish particulars:

3.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?

YES

NO

If yes, furnish particulars:

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

YES

NO

If yes, furnish particulars:

3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?

YES

NO

If yes, furnish particulars:

3.13 Are any spouse, child or parent of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?

YES

NO

If yes, furnish particulars:

3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract ?

YES

NO

If yes, furnish particulars:

- 4 The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers must be indicated below. In the case of a joint venture, information in respect of each partnering enterprise must be completed and submitted

Full Name	Identity No.	State Employee No.	Personal income tax No.
Use additional pages if necessary			

Failure to complete this form in full, sign, and return with the tender submission will result in the tender offer being deemed non-responsive.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.4 MBD 5: 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.

		Circle Applicable	
		YES	NO
1.0	Are you by law required to prepare annual financial statements for auditing?		
1.1	<p>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.</p> <p>The audited annual financial statements are to be included at the back of the tender submission.</p>		
2.0	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.		
<div style="border-bottom: 1px dotted black; height: 1em; margin-bottom: 5px;"></div> <div style="border-bottom: 1px dotted black; height: 1em; margin-bottom: 5px;"></div>			
3.0	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, provide particulars.		
SEE Returnable Document "Contracts Awarded by Organs of State in the Past 5 Years"			
4.0	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, provide particulars.		
<div style="border-bottom: 1px dotted black; height: 1em; margin-bottom: 5px;"></div> <div style="border-bottom: 1px dotted black; height: 1em; margin-bottom: 5px;"></div>			

Failure to complete this form in full, sign, and return with the tender submission will result in the tender offer being deemed non-responsive.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and, if required, that the requested documentation has been included in the tender submission.

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.5 CONTRACTS AWARDED BY ORGANS OF STATE IN THE PAST 5 YEARS

In terms of SCM Policy Section 20(1)(d)(iii), Tenderers are to provide details of Works undertaken for the Government or Public Sector entities/ Organs of State in the past 5 Years, including particulars of any material non-compliance or dispute concerning the execution of such contract.

Material non-compliance or dispute (Yes or No)													
Date Completed													
Value of Work													
Consulting Engineer/Engineers representative													
Employer													
Contract Number													

I, the undersigned, who warrants that they are authorised to sign on behalf of the entity, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): _____

Date

SIGNATURE: _____

T2.2.6 MBD 6.1: PREFERENCE POINTS CLAIM

(SCMP 52.7: Basket of Preference Goals)

This form serves as a claim form for preference points according to **The Basket of Preference Goals. Reference is to be made to the Tender Data: C.3.11.**

1.0 GENERAL CONDITIONS

- 1.1 The relevant **Preference Points System (80/20 or 90/10)** applicable to this bid is stated in the **Tender Data: C.3.11.**
- 1.2 Failure on the part of the Tenderer to submit the required proof or documentation, in terms of the requirements in the Tender Data for claiming specific goal preference points, will be interpreted that **Preference Points for Specific Goals** are not claimed.
- 1.3 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 in regard to preferences, in any manner required by the purchaser.

2.0 ADJUDICATION USING A POINT SYSTEM

- 2.1 The bidder obtaining the highest number of total points will be recommended for the award of the contract.
- 2.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts.
- 2.3 Points scored will be rounded off to the nearest 2 decimal places.
- 2.4 In the event that 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.
- 2.5 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.
- 2.6 Should two or more bids be equal in all respects the award shall be decided by the drawing of lots.

3.0 POINTS AWARDED FOR PRICE

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

80/20 Procurement System

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

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

4.0 POINTS ALLOCATED FOR THE BASKET OF PREFERENCE GOALS

4.1 Preference points may be claimed for the **Specific Goals** stated in the **Tender Data: C.3.11**.

For the purposes of this tender, the Tenderer may claim points based on the goal(s) stated in the table below, as supported by proof/ documentation specified in the Tender Data.

80/20 Preference Points System The Specific Goals to be allocated points in terms of this tender:	Maximum Number of points ALLOCATED	Tenderer's Number of points CLAIMED
Ownership Goal: Race (black)	8	
Ownership Goal: Gender (female)	2	
Ownership Goal: Disabilities	0	
RDP Goal: The promotion of South African owned enterprises.	5	
RDP Goal: The promotion of SMMEs owned by Black People (contracts >R5m)	5	
Total CLAIMED Points (maximum 20)	20	

5.0 REMEDIES FOR THE SUBMISSION OF FALSE INFORMATION

5.1 The remedies for the submission of false information regarding claims for specific goals are stated in the **SCM Policy: Section 52.9**.

Tenderers are to include, at the back of their tender submission, the required proof/ documentation in support of their Preference Goal claims (reference is to be made to the Specific Goals stated in the Tender Data: C.3.11).

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and, if required, that the requested documentation has been included in the tender submission.

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.8 MBD 8: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

- 1.0 This Municipal Bidding Document must form part of all bids invited.
- 2.0 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
- 3.0 The bid of any bidder may be rejected if that bidder, or any of its directors have:
- a) abused the municipal entity's supply chain management system or committed any improper conduct in relation to such system.
 - b) been convicted for fraud or corruption during the past five years.
 - c) wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years.
 - d) been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).
- 4.0 In order to give effect to the above, the following questions must be completed and submitted with the bid.

- 4.1 Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?

(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer / Authority of the institution that imposed the restriction after the audi alteram partem rule was applied.)

The Database of Restricted Suppliers now resides on the National Treasury's website (www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.

- 4.1.1 If YES, provide 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)?

The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.

- 4.2.1 If YES, provide particulars.

.....

.....

- 4.3 Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?

- 4.3.1 If YES, provide particulars.

.....

.....

Circle Applicable	
YES	NO

YES	NO
-----	----

YES	NO
-----	----

		Circle Applicable	
		YES	NO
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?		
4.4.1	If YES, provide particulars.		
<p>.....</p> <p>.....</p>			
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?		
4.5.1	If YES, provide particulars.		
<p>.....</p> <p>.....</p>			

Failure to complete this form in full, sign, and return with the tender submission will result in the tender offer being deemed non-responsive.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both 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.

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.9 MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION**NOTES**

- 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.
- ³ Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

- 1.0 This Municipal Bidding Document (MBD) must form part of all **bids**¹ invited.
- 2.0 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.
- 3.0 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
- take all reasonable steps to prevent such abuse;
 - reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
- 4.0 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.
- 5.0 In order to give effect to the above, the below **Certificate of Independent Bid Determination** must be completed and submitted with the bid.

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid for: Contract **34703-6W**
 Lovu Landfill Site: Construction of Cell 7 and Ancillary Works

in response to the invitation for the bid made by: **ETHEKWINI MUNICIPALITY**

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

I certify, on behalf of:

that:

(continued on next page)

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.
 - (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.
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.
 - (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.

Failure to complete this form in full, sign, and return with the tender submission will result in the tender offer being deemed non-responsive.

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.10 DECLARATION OF MUNICIPAL FEES

Reference is to be made to the **Tender Data: C.2.23 and C.3.13(a)**.

I, the undersigned, do hereby declare that the Municipal fees of:

.....
(full name of Company / Close Corporation / partnership / sole proprietary/Joint Venture)

(hereinafter referred to as the TENDERER) are, as at the date hereunder, fully paid or an Acknowledgement of Debt has been concluded with the Municipality to pay the said charges in instalments.

The following account details relate to property of the said TENDERER:

<u>Account</u>	<u>Account Number: to be completed by Tenderer</u>											
Consolidated Account												
Electricity												
Water												
Rates												
JSB Levies												
Other												

- If applicable, a copy of a recent (within the past 3 months) Metro Bill is to be provided.

I acknowledge that should the aforesaid Municipal charges fall into arrears, the Municipality may take such remedial action as is required, including termination of any contract, and any payments due to the Contractor by the Municipality shall be first set off against such arrears.

- Where the Tenderer's place of business or business interests are outside the jurisdiction of eThekweni municipality, a copy of the accounts/ agreements from the relevant municipality are to be provided.
- Where the Tenderer's Municipal Accounts are part of their lease agreement, then a copy of the agreement, or an official letter to that effect, is to be provided.
- Where a Tenderer's place of business or business interests are carried out from premises as part of any other agreement, then a copy of the agreement, or an official letter to that effect, is to be provided.

Tenderers are to include, at the back of their tender submission, copies of the above-mentioned account's, agreements signed with the municipality, lease agreements, or official letters.

Failure to complete this form in full, sign, and return the required documents with the tender submission will result in the tender offer being deemed non-responsive.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, **and that the requested documentation has been included in the tender submission.***

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.11 CONTRACTOR'S HEALTH AND SAFETY DECLARATION

Reference is to be made to Clauses C.2.1(e) and C.2.23 of the Tender Data.

In terms of Clause 5(1)(h) of the OHSA 1993 Construction Regulations 2014 (referred to as "the Regulations" hereafter), a Principal Contractor may only be appointed to perform construction work if the Client is satisfied that the Principal Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHSA 1993 Construction Regulations 2014.

To that effect, a person duly authorised by the Tenderer, must complete and sign the declaration hereafter in detail.

Declaration by Tenderer

- 1 I, the undersigned, hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHSA 1993 Construction Regulations 2014.
- 2 I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.
- 3 I propose to achieve compliance with the Regulations by one of the following **(Tenderers are to Circle Applicable - Yes or No)**:

(a) From my own competent resources as detailed in 4(a) hereafter.

(b) From my own resources still to be appointed or trained until competency is achieved, as detailed in 4(b) hereafter:

(c) From outside sources by appointment of competent specialist Subcontractors as detailed in 4(c) hereafter:

Circle Applicable	
Yes	No
Yes	No
Yes	No

- 4 Details of resources I propose:

(Note: Competent resources shall include safety personnel such as a construction supervisor and construction safety officer as defined in Regulation 8, and competent persons as defined in Regulations 9, 10, 11, 12, 13, 14, 16, 17, 20, 21, 22, 23(1), 24, 25, 26, 27, 28 and 29, as applicable).

- (a) Details of the competent and qualified key persons from my company's own resources, who will form part of the contract team:

NAMES OF COMPETENT PERSONS	POSITIONS TO BE FILLED BY COMPETENT PERSONS

(b) Details of training of persons from my company's own resources (or to be hired) who still have to be trained to achieve the necessary competency:

(i) By whom will training be provided?

(ii) When will training be undertaken?

(iii) Positions to be filled by persons to be trained or hired:

(c) Details of competent resources to be appointed as subcontractors if competent persons cannot be supplied from own company:

Name of proposed subcontractor:

Qualifications or details of competency of the subcontractor:

- 5 I, the undersigned, hereby undertake, if this tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 7(1) of the Construction Regulations, which plan shall be subject to approval by the Client.
- 6 I, the undersigned, confirm that copies of this company's approved Health and Safety Plan, the Client's Safety Specifications as well as the OHSA 1993 Construction Regulations 2014 will be provided on site and will at all times be available for inspection by the Principal Contractor's personnel, the Client's personnel, the Employer's Agent, visitors, and officials and inspectors of the Department of Labour.
- 7 I, the undersigned, hereby confirm that adequate provision has been made in the tendered rates and prices in the Bill of Quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2014, and that I will be liable for any penalties that may be applied by the Client in terms of the said Regulations (Regulation 33) for failure on the Principal Contractor's part to comply with the provisions of the Act and the Regulations.
- 8 I, the undersigned, agree that failure to complete and execute this declaration to the satisfaction of the Client will mean that this company is unable to comply with the requirements of the OHSA 1993 Construction Regulations (2014) and accept that this tender will be prejudiced and may be rejected at the discretion of the Client.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.12 CSD REGISTRATION REPORT

Reference is to be made to **Tender Data: C.2.1.1(b) and C.2.23**.

The **Tender Data: C.2.1: Eligibility**, requires a Tenderer to be registered, at the time of tender closing, on the **National Treasury Central Supplier Database (CSD)** as a service provider.

CSD Registration Reports can be obtained from the National Treasury's CSD website at <https://secure.csd.gov.za/Account/Login>.

The following is an example of the printout obtained from the above website.

Note: the printout will contain more than one page.

CENTRAL SUPPLIER DATABASE FOR GOVERNMENT

Report Date:

Report Ran By:

CSD REGISTRATION REPORT

SUPPLIER IDENTIFICATION

Supplier number	<input type="text"/>	Have Bank Account	<input type="text"/>
Is supplier active?	<input type="text"/>	Total annual turnover	<input type="text"/>
Supplier type	<input type="text"/>	Financial year start date	<input type="text"/>
Supplier sub-type	<input type="text"/>	Registration date	<input type="text"/>
Legal name	<input type="text"/>	Created by	<input type="text"/>
Trading name	<input type="text"/>	Created date	<input type="text"/>
Identification type	<input type="text"/>	Edit by	<input type="text"/>
Government breakdown	<input type="text"/>	Edit date	<input type="text"/>
Business status	<input type="text"/>	Restricted Supplier	<input type="text"/>
Country of origin	<input type="text"/>	Restriction Last Verification Date	<input type="text"/>
South African company/CC registration number	<input type="text"/>		

Tenderers are to include, at the back of their tender submission, a printout of their CSD Registration Report. The date of obtaining the CSD printout is to be indicated on the printout and should be on or after the date of advertising of this tender.

Failure to comply will result in the tender offer being deemed non-responsive.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, **and that the requested documentation has been included in the tender submission.***

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.13 CIDB REGISTRATION AND STATUS

Reference is to be made to the **Tender Data: C.2.1.2, C.2.23, and C.3.13(c).**

The **Tender Data: C.2.1.1: Eligibility**, requires a Tenderer to be registered, as “Active”, with the CIDB (at time of tender closing), in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.

The required class of construction work is specified in the **Tender Data: C.2.1.2.**

CIDB Registrations can be obtained from the CIDB website at:

<https://portal.cidb.org.za/RegisterOfContractors/>

The following is an example of the printout obtained from the above website using the provided “Print” button.
Note: the printout may contain more than one page.

Tenderers are to include, at the back of their tender submission, a printout of their CIDB Registration and Status. The date of obtaining the CIDB Registration and Status printout is to be indicated on the printout and should be on or after the date of advertising of this tender.

Failure to comply will result in the tender offer being deemed non-responsive.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, **and that the requested documentation has been included in the tender submission.***

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.14 JOINT VENTURES AGREEMENTS

If this tender submission is to be made by an established Joint Venture, the Joint Venture Agreements and Power of Attorney Agreements are to be attached here.

Should the Joint Venture, at the time of submission, not yet be formalised, this form is to be completed in full and signed by all parties to the proposed Joint Venture.

The Lead Partner of the Joint Venture is to sign the **Form of Offer** in Section **C1.1.1**.

INTENT TO FORM A JOINT VENTURE

Should our submission for CONTRACT: **34703-6W** be successful, a Joint Venture will be established by the parties as listed below, as an unincorporated association, with the purposes of securing and executing the Contract, for the benefit of the Members.

Proposed Joint Venture

Joint Venture Title (name):

Represented by (name):

Tel:

Lead Partner/ Member 1

Entity Name:

Ownership Interest in JV %:

CSD Registration:

CIDB #:

Represented by (name):

Signature:

Partner/ Member 2

Entity Name:

Ownership Interest in JV %:

CSD Registration:

CIDB #:

Represented by (name):

Signature:

Partner/ Member 3

Entity Name:

Ownership Interest in JV %:

CSD Registration:

CIDB #:

Represented by (name):

Signature:

Note: All requirements for Joint Ventures, as stated elsewhere in this procurement document, must be complied with in full.

T2.2.15 RECORD OF ADDENDA TO TENDER DOCUMENTS

Reference is to be made to the **Tender Data: C.2.6**.

I / We confirm that the following communications received from the Employer or his representative before the date of submission of this tender offer, amending the tender documents, have been taken into account in this tender offer.

ADD.No	DATE	TITLE OR DETAILS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

It is also confirmed that the requirements, as stated on the Addenda, have been complied with.

NAME (Block Capitals): _____

Date

SIGNATURE: _____

Refer to Additional Conditions of Tender: T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

Tenderers are to submit copies of signed completion certificates for all projects submitted.

EMPLOYER: CONTACT PERSON AND TELEPHONE NUMBER	CONSULTING ENGINEER: CONTACT PERSON AND TELEPHONE NUMBER	NATURE OF WORK	VALUE OF WORK (inclusive of VAT)	DATE COMPLETED

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

SIGNATURE:

T2.2.17 PROPOSED ORGANISATION and STAFFING

Refer to Additional Conditions of Tender: T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

The Tenderer should propose the structure and composition of their team i.e. the main disciplines involved, the key staff member / expert responsible for each discipline, and the proposed technical and support staff and site staff.

The roles and responsibilities of each key staff member / expert should be set out as job descriptions. In the case of an association / joint venture / consortium, it should, indicate how the duties and responsibilities are to be shared.

The Tenderer must attach their organization and staffing proposals to this page. (this is to include both the on-site and off-site staffing resources used for this project)

In addition to any lists, this information should also be shown in an organogram format (flow chart) clearly indicating the staff hierarchy and reporting lines, again for on- and off-site resources.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.18 KEY PERSONNEL

Refer to Additional Conditions of Tender: T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel (Contract's Manager, Site Agent, and Foremen) which may have to be brought in from outside if not available locally.

CATEGORY OF EMPLOYEE	NUMBER OF PERSONS	
	KEY PERSONNEL, PART OF THE CONTRACTOR'S ORGANISATION	KEY PERSONNEL TO BE IMPORTED IF NOT AVAILABLE LOCALLY
Site Agent, Project Managers		
Foremen, Quality Control and Safety Personnel		
Technicians, Surveyors, etc		
Artisans and other Skilled workers		
Plant Operators		
Unskilled Workers		
Others:		
..... ...		

Note: CVs of key personnel may be requested during the contract period.

The Tenderer is to indicate below the names of the key personnel to be evaluated in this tender:

Contracts Manager:

Site Agent:

Forman:.....

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): _____

Date

SIGNATURE: _____

T2.2.19 EXPERIENCE OF KEY PERSONNEL

Refer to Additional Conditions of Tender: T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

The experience of assigned staff member in relation to the Scope of Work will be evaluated from three different points of view:

- 1) General experience (total duration of professional activity), level of education and training and positions held of each discipline specific team leader.
- 2) The education, training, skills and experience of the Assigned Staff in the specific sector, field, subject, etc which is directly linked to the scope of work.
- 3) The key staff members' / experts' knowledge of issues which the Tenderer considers pertinent to the project e.g. local conditions, affected communities, legislation, techniques etc.

A CV of the contract manager, site agent(s) and general foreman of not more than 2 pages should be attached to this schedule:

Each CV should be structured under the following headings:

- a) Personal particulars
 - name
 - date and place of birth
 - place (s) of tertiary education and dates associated therewith
 - professional awards
- b) Qualifications (degrees, diplomas, grades of membership of professional societies and professional registrations)
- c) Skills
- d) Name of current employer and position in enterprise
- e) Overview of post-graduate / diploma experience (year, organization and position)
- f) Outline of recent assignments / experience that has a bearing on the scope of work

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.21 CONSTRUCTION APPROACH, METHODOLOGY, AND QUALITY CONTROL

Refer to Additional Conditions of Tender: T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

Construction Approach and Methodology

The construction approach and methodology must respond to the Scope of Work and outline the proposed approach to undertake the work showing a detailed programme including health and safety aspects, the use of plant and resources for this Project.

Quality Control

The quality control statement must discuss what tests and control measures are to be employed on site to attain the specified results and is to cover the program associated activities.

The Tenderer must attach their Construction Methodology and Quality Control information to this page.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals):**Date****SIGNATURE:**

Refer to Additional Conditions of Tender: T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

[illegible]

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

T2.2.23 PLANT and EQUIPMENT

Refer to Additional Conditions of Tender: T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

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

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

DESCRIPTION (type, size, capacity etc)	QUANTITY	YEAR OF MANUFACTURE

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 accepted

DESCRIPTION (type, size, capacity etc)	QUANTITY	HOW ACQUIRED	
		HIRE/ BUY	SOURCE

Attach additional pages if more space is required

The Tenderer undertakes to bring onto site without additional cost to the Employer any additional plant not listed but which may be necessary to complete the contract within the specified contract period.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals):

Date

SIGNATURE:

T2.2.24 CONTRACTOR'S HEALTH AND SAFETY PLAN

Refer to Additional Conditions of Tender: T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

At tender stage only a brief overview (**to be attached to this page**) of the Tenderers perception on the safety requirements for this contract will be adequate.

Only the successful Tenderer **shall submit separately** the Contractor's Health and Safety Plan as required in terms of Regulation 7 of the Occupational Health and Safety Act 1993 Construction Regulations 2014.

The detailed safety plan will take into consideration the site specific risks as mentioned under **C.3: Project Specification**. A generic plan will not be acceptable.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals):

Date

SIGNATURE:

PART C1: AGREEMENT AND CONTRACT DATA**C1.1: FORM OF OFFER AND ACCEPTANCE****C1.1.1: OFFER**

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

Contract No: **34703-6W**

Contract Title: **Lovu Landfill Site: Construction of Cell 7 and Ancillary Works**

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

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

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

R..... (In words)
.....)

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

For the Tenderer:

*** Name of Tenderer** (organisation) :

*** Signature** (of person authorized to sign the tender) :

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

Capacity (of Signatory) :

Address :

:

Telephone :

Witness:

Signature : **Date** :

Name (in capitals) : :

Notes:

*** Indicates what information is mandatory.**

Failure to complete the mandatory information and sign this form will invalidate the tender.

C1.1: FORM OF OFFER AND ACCEPTANCE**C1.1.2: FORM OF ACCEPTANCE****This Form will be completed by the Employer**

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

The terms of the contract are contained in:

- Part C1 : Agreement and Contract Data, (which includes this Agreement)
- Part C2 : Pricing Data, including the Bill of Quantities
- Part C3 : Scope of Work
- Part C4 : Site Information

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

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representatives of both parties.

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

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties.

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

Name (*of signatory in capitals*) :

Capacity (*of Signatory*) :

Name of Employer (*organisation*) :

Address :

:

Witness:

Signature : **Date** :

Name(*in capitals*) : :

C1.1: FORM OF OFFER AND ACCEPTANCE

C1.1.3: SCHEDULE OF DEVIATIONS

This form will be completed by THE EMPLOYER and ONLY THE SUCCESSFUL TENDERER

1. **Subject** :
- Details** :
- :
2. **Subject** :
- Details** :
- :
3. **Subject** :
- Details** :
- :

By the duly authorised representatives signing this Schedule of Deviations, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from and amendments to the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance.

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

FOR THE TENDERER

FOR THE EMPLOYER

.....	Signature	.....
.....	Name (<i>in capitals</i>)	.....
.....	Capacity	.....
.....	Name and Address of	.....
.....	Organisation	.....
.....	
.....	
.....	Witness Signature	.....
.....	Witness Name	.....
.....	Date	.....

C1.2: CONTRACT DATA

C1.2.1 CONDITIONS OF CONTRACT

C1.2.1.1 GENERAL CONDITIONS OF CONTRACT

The Conditions of Contract are the **General Conditions of Contract for Construction Works (2015 3rd Edition)** (**GCC 2015**) published by the South African Institution of Civil Engineering. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011-805-5947, Fax: 011-805-5971, E-mail: civilinfo@saice.org.za).

The Contract Data (including variations and additions) shall amplify, modify, or supersede, the GCC 2015 to the extent specified below, and shall take precedence and shall govern.

Each item of data given below is cross-referenced to the clause in the GCC 2015 to which it mainly applies.

C1.2.2 CONTRACT DATA

C1.2.2.1 DATA TO BE PROVIDED BY THE EMPLOYER

- 1.1.1.13 The **Defects Liability Period**, from the date of the Certificate of Completion, is **1 Year**.
- 1.1.1.14 The **time for achieving Practical Completion**, from the Commencement Date is **18 Months**. The period as stated in 5.3.2, and the 7 days referred to in 5.3.3, are included in the above time for achieving Practical Completion. The special non-working days as stated in 5.8.1 are excluded from the above time for achieving Practical Completion.
- 1.1.1.15 The Employer is the eThekweni Municipality as represented by:
Deputy Head: **Plant and Engineering**
- 1.2.1.2 The address of the Employer is:
Physical: **22 Electron Road, Springfield, Durban, 4001/ Cleansing & Solid Waste Unit, 17 Electron Road, Springfield, Durban, 4001**
Postal: **22 Electron Road, Springfield, Durban, 4001**
Telephone: **031 322 4575**
E-Mail: **Logan.Moodley2@durban.gov.za**
- 1.1.1.16 The **name of the Employer's Agent** is J Pass Pr. Eng; Wilson and Pass Incorporated
- 1.2.1.2 The address of the Employer' Agent is:
Physical: **7 Huntly Wood, 156 Jan Hofmeyr Road, Westville, 3630**
Postal: **P O Box 641, Westville 3630**
Telephone: **082 463 1127(t)**
Fax: **031 266 2840 (f)**
E-Mail: **jon.pass@pixie.co.za / jonathan@wpice.co.za**
- 1.1.1.26 The **Pricing Strategy** is by **Re-measurement Contract**.
- 3.2.3 The Employer's Agent shall obtain the **specific approval of the Employer** before executing any of his functions or duties according to the following Clauses of the General Conditions of Contract:
- **6.3: Council approval in order to authorise any expenditure in excess of the Tender Sum plus 10% contingencies.**
- 4.11.1 To carry out and complete the works, the Contractor shall employ a competent Site Agent and Foreman as part of the key staff. It is a requirement for the Contractor's Site Agent and Foreman

to each have a minimum of 3 years relevant experience including experience on projects of a similar nature. The CV's of the Site Agent and the Foreman should be submitted to the Employer's Agent's Representative for acceptance by the Division (reference is made to Cl.5.3.1 of the Contract Data).

Note:

- i) "similar nature" implies projects that were of a value of at least 70% of this tender's value, and had a comparable Scope of Work in terms of technical requirements and operations.
- ii) "experience" implies experience on projects of a similar nature.
- iii) "accredited degree / diploma" implies a minimum 3-year qualification within the built environment, from a registered University or Institute of Technology.

5.3.1 The **documentation required** before commencement with Works execution are:

- Health and Safety Plan (refer to Clause 4.3)
- Initial Programme (refer to Clause 5.6)
- Project cashflow
- Security (refer to Clause 6.2)
- Insurance (refer to Clause 8.6)
- CV(s) of Key Site Staff (refer to Clause 4.11.1)
- Sub-Contracting (CPG) Implementation Plan (if applicable)
- If required to be registered, in terms of the Occupational Injuries and Diseases Act (130 of 1993 as amended), the Contractor is to supply proof of being registered and in good standing with the compensation fund by submitting a valid Letter of Good Standing from the Compensation Commissioner. Should the Contractor's Letter of Good Standing be expired, but an application for renewal has been made, the Contractor is to submit the expired Letter of Good Standing AND proof of an application for renewal.

5.3.2 The **time to submit the documentation** required before commencement with Works is **Days**.

5.3.3 Add the following paragraph:

"If a construction work permit, in terms of Clause 3(1) of the Construction Regulations (2014), is applicable, the instruction to commence carrying out of the works may only be issued once the construction work permit has been obtained by the Employer's Agent. If a construction work permit is applicable, the contractor shall allow for a minimum period of 37 days, after the submission (or re-submission) of the documentation referred to in Clause 5.3.1., for the issuing of the construction work permit."

5.4.2 The access and possession of Site shall not be exclusive to the Contractor but as set out in the Site Information.

5.8.1 The **non-working days** are **Saturdays and** Sundays.

(5.1.1) The **special non-working** days are:

- All statutory holidays as declared by National or Regional Government.
- The year-end break:
 - Commencing on the first working day after 15 December.
 - Work resumes on the first working day after 5 January of the next year.

5.8.1 Delete the words "sunset and sunrise" and replace with "17:00 and 07:00".

5.12.2.2 **Abnormal Climatic Conditions (Rain Delays)** - The numbers of days per month, on which work is expected not to be possible as a result of rainfall, for which the Contractor shall make provision, is given in the table below. During the execution of the Works, the Employer's Agent's

Representative will certify a day lost due to rainfall only if at least 75% of the work force and plant on site could not work during that specific working day.

Extension of time as a result of rainfall shall be calculated monthly being equal to the number days certified by the Employer's Agent's Representative as lost due to rainfall, less the number of days allowed for as in table below, which could result in a negative figure for certain months. The total extension of time for which the Contractor may apply, shall be the cumulative algebraic sum of the monthly extensions. Should the sum thus obtained be negative, the extension of time shall be taken as NIL.

<u>Month</u>	<u>Days Lost</u>	<u>Average Rainfall</u>	<u>Month</u>	<u>Days Lost</u>	<u>Average Rainfall</u>
January	4*	134	July	1	39
February	3	113	August	2	62
March	3	120	September	2	73
April	2	73	October	3	98
May	2	59	November	3	108
June	1	28	December	1*	102
TOTAL	27	1009mm	* = The number of working days lost allows for the annual statutory Construction holiday in December and January of each year.		

5.13.1 The **penalty for delay** in failing to complete the Works is **R 5 000.00** (per Day).

5.14.1 The **requirements for achieving Practical Completion** will be determined by the Employer's Agent (in consultation with the Contractor) and recorded in the minutes of the first Site Meeting / Handover Meeting. (Refer to 1.1.1.24 for a generic definition.) The requirements are to be regularly reviewed with respect to any variations to the Contract.

5.16.3 The **latent defect liability** period is **10 Years**.

6.2.1 **Security (Performance Guarantee)**: Delete the word "selected" and replace it with "stated".

The liability of the Performance Guarantee shall be as per the following table:

Value of Contract (incl. VAT)	Performance Guarantee Required
Less than or equal to R 1m	Nil
Greater than R 1m and less than or equal to R 10m	5% of the Contract Sum
Greater than R 10m	10% of the Contract Sum

6.5.1.2.3 The **percentage allowance** to cover overhead charges for daywork are as follows:

- **80%** of the gross remuneration of workmen and foremen actually engaged in the daywork;
- **20%** on the net cost of materials actually used in the completed work.

No allowance will be made for work done, or for materials and equipment for which daywork rates have been quoted at tender stage.

6.8.2 **Contract Price Adjustment Factor**: The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule (GCC 2015 - page 86) with the following Indices / Descriptions / Coefficients:

- The proportion not subject to adjustment: **x = 0.10**.
- The base month will be the month prior to the month in which tenders close.

- The Index for, **Plant, Materials, and Fuel** shall be based on **2023 = 100**.
- The Index for **Labour** shall be based on **2024 = 100**.

	STATS SA Statistical Release	Table	Description	Coefficient
• "L" is the "Labour Index"	P0141	Table A	Geographic Indices; CPI per Province; Kwa-Zulu Natal	a = 0.28
• "P" is the • "Contractor's Equipment Index"	P0151.1	Table 4	Plant and Equipment	b = 0.28
• "M" is the "Materials Index"	P0151.1	Table 6	Civil Engineering Material (excluding bitumen)	c = 0.38
• "F" is the "Fuel Index"	P0142.1	Table 1	Coke, petroleum, chemical, rubber and plastic products; Coal and petroleum products; Diesel	d = 0.06

6.8.3 Price adjustments for **variation in the cost of the special material(s)** listed below, will be allowed.

Bitumen - escalation will be calculated using the "Rise and Fall" method as determined by the Employer. The base price for bitumen on this contract shall be the ruling price of 50/70 grade bitumen based on the **RUBIS Asphalt South Africa List Selling Price** for Penetration Grade Bitumen, seven (7) days prior to the closing date of tenders.

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

The **percentage advance** on Plant not yet supplied to Site: **Not Required**

6.10.3 **Retention Money:** Delete the word "selected".

The percentage retention on the amounts due to the Contractor is 10%.

The limit of "retention money" is 5% of the Contract Sum.

Should the Contract Price exceed the Contract Sum then the limit of "retention money" is 5% of the Contract Price.

Interest will not be paid on retention withheld by the Employer.

8.6.1.1.2 The **value of Plant and materials** supplied by the Employer to be included in the insurance sum: **Not Required**.

8.6.1.1.3 The **amount to cover professional fees** for repairing damage and loss to be included in the insurance sum: **Not Required**.

8.6.1.2 **SASRIA Coupon Policy** for Special Risks to be issued in joint names of Council and Contractor for the full value of the works (including VAT).

8.6.1.3 The limit of indemnity for **liability insurance**: **R 10 000 000.00**.

8.6.1.4 **Ground Support Insurance:**

- Minimum amount for any one occurrence, unlimited as to the number of occurrences, against any claim for damages or loss caused by vibration and / or removal of lateral support: **R 2 000 000.00**.
- Maximum first excess: **R 10 000.00**.

- 8.6.1.5 Furthermore, the insurance cover effected by the Contractor shall meet the following requirements:

Third Party Insurance (Public Liability)

- Minimum amount for any one occurrence, unlimited as to the number of occurrences, for the period of the contract, inclusive of the maintenance period: **R 1 000 000.00.**
- Consequential loss to be covered by policy: **Yes**
- Liability section of policy to be extended to cover blasting: **R 5 000 000.00.**
- Maximum excess per claim or series of claims arising out of any one occurrence: **R 20 000.00.**

Principal's own surrounding Property Insurance

- Minimum amount for any one occurrence unlimited as to the number of occurrences against any claim for damage which may occur to the Council's own surrounding property: **R 1 000 000.00.**
- Maximum first excess: **R 10 000.00.**

Insurance of Works

- Minimum amount for additional removal of debris (no damage): **Nil.**
- Minimum amount for temporary storage of materials off site, excluding Contractor's own premises: **Nil.**
- Minimum amount for transit of materials to site: **Nil.**

- 8.6.5 **Approval by Employer:** At the end of the sub-clause, add the following paragraph:

"Except where otherwise provided in the Special Conditions of Contract, the insurance cover effected by the Contractor in terms of this clause shall not carry a first loss amount greater than those set out below:

Contract Price	First Loss
Less than R 100,000	R 5,000
R 100,000 to R 500,000	R 10,000
R 500,000 to R 1,000,000	R 20,000
R 1,000,000 to R 2,000,000	R 30,000
R 2,000,000 to R 4,000,000	R 40,000
Greater than R 4,000,000	R 50,000

The insurance policy shall contain a specific provision whereby cancellation of the policy prior to the end of the period referred to in Cause 8.2.1 cannot take place without the prior written approval of the Employer. "

- 10.7.1 **Failing ad-hoc adjudication, the determination of disputes shall be by arbitration.**

C1.2.2.2 DATA TO BE PROVIDED BY CONTRACTOR

1.1.1.9 The legal name of Contractor is:

.....

.....

.....

.....

1.2.1.2 The Physical address of the Contractor is:

.....

.....

.....

.....

The Postal address of the Contractor is:

.....

.....

.....

.....

The contact numbers of the Contractor are:

Telephone:

Fax:

The E-Mail address of the Contractor is:

.....

6.5.1.2.3 The **percentage allowance** to cover overhead charges for daywork are as follows:

- % of the gross remuneration of workmen and foremen actually engaged %
in the daywork;
- % on the net cost of materials actually used in the completed work. %

C1.2.3 ADDITIONAL CONDITIONS OF CONTRACT

C1.2.3.1 COMMUNITY LIAISON OFFICER

The Ward Councillor(s) in whose ward(s) work is to be done will, collectively, identify a community liaison officer (CLO) for the project and make the person known to the Contractor within two days of being requested to do so. The Contractor will be required to enter a written contract with the CLO that specifies:

- The hours of work and the wage rate of the CLO (200% of the Civil Engineering Industry minimum wage).
- The duration of the appointment.
- The duties to be undertaken by the CLO which could include:
 - Assisting in all respects relating to the recruitment of local labour.
 - Acting as a source of information for the community and councillors on issues related to the contract.
 - Keeping the Contractor advised on community issues and issues pertaining to local security.
 - Assisting in setting up any meetings or negotiations with affected parties.
 - Keeping a written record of any labour or community issue that may arise.
 - Any other duties that may be required by the Contractor.

Responsibility for the identification of a pool of suitable labour shall rest with the CLO, although the Contractor shall have the right to choose from that pool. The Contractor shall have the right to determine the total number labourers required at any one time and this may vary during the contract.

The Contractor shall have the right to replace labour that is not performing adequately. Should such occasion arise, it must be done in conjunction with the CLO.

Payment: The CLO will be reimbursed from the PC Sum item in the Preliminary & General Section of the Bill of Quantities.

C1.2.3.2 EMPLOYMENT OF LOCAL LABOUR

It is a condition of contract that the contractor will be required to employ local labour as specified in eThekweni Council Policy "The use of CLOs and Local Labour". The contractor will be required to ensure that a minimum of 50% of the labour force is made up of local labour. For the purposes of this contract, "Local labour" will be deemed to be any **persons who reside within Ward 98**. The contractor will be required to provide proof of authenticity of local labour. Signed confirmation by the appointed CLO will suffice for this.

No additional costs will be entertained due to this Particular Specification. The contractor will remain responsible for providing proper supervision of all labour and will be responsible for the quality of work produced.

C1.2.3.3 SUB-CONTRACTING CONTRACTOR PARTICIPATION GOAL

It is a condition of contract that the contractor must allow for a minimum of **30%** of the contract value (excluding PC Sum items and Fixed Cost allowances) to be subcontracted to contractors who are **>51%** owned by Black People. Proof of payment to the subcontractors will be required to verify that the minimum has been achieved. **Such subcontractors shall, in the first instance be sourced in consultation with the Ward Councillor from Ward 98 and, only if CPG subcontractors cannot be found from the ward, then the Contractor shall source the CPG subcontractors from the wider eThekweni Municipality.**

The penalty for not achieving the specified Sub-Contracting Goal will be 0.5% of the contract value (excluding PC Sum items and Fixed Cost allowances) for every 1% not achieved.

C1.2.3.4 FTE (Full Time Equivalent) EMPLOYMENT INFORMATION

It is a condition of contract that the Contractor supplies the Employer's Agent's Representative with information in respect of the employment of all foremen, artisans and Labour (skilled and unskilled) employed to work on this contract. The information required is:

- Initials (per ID doc)
- Last Name (per ID doc)
- ID Number
- Disability (y / n)
- Education Level

Level 1 Unknown	Level 2 No Schooling	Level 3 Grade 1-3	Level 4 Grade 4	Level 5 Grade 5-6
Level 6 Grade 7-8	Level 7 Grade 9	Level 8 Grade 10-11	Level 9 Grade 12	Level 10 Post Matric

- Category of Employment

Category A: Employed as Local Labour for this contract only Category B: Temporarily employed by the Contractor Category C: Permanently employed by the Contractor
--

In addition, the following information is required in respect of each person listed above, on a monthly basis:

- Number of days worked during the month;
- Daily wage rate;
- Number of training days during the month.

The information is to be forwarded in a format acceptable to the Employer's Agent's Representative, but preferably in the form of an emailed EXCEL file (an original file, to be used as a template, will be issued to the Contractor). Contractors without computer facilities will be required to submit a hard copy of the information in a format as agreed to between the Contractor and the Employer's Agent's Representative.

In addition to the tax invoice, to be submitted by the Contractor with his monthly statement, mentioned in Clause 6.10.4 of GCC 2015, the Employer reserves the right to withhold payment until the monthly FTE information has been forwarded to the Employer's Agent's Representative. No additional payment for complying with the above will be made and the Contractor is to make allowance for complying through the time related P & G items (sum) under Part AA: Preliminaries, of the Bill of Quantities.

C1.2.3.5 PERFORMANCE MONITORING OF SERVICE PROVIDERS

[For contract awards over R10m] The Contractor shall be subjected to "Performance Monitoring" assessments in terms of the applicable Section (S.53) of the Employer's Supply Chain Management Policy.

Key Performance Indicators (KPIs) are specified in the C3: Scope of Works, or will be discussed and agreed with the Contractor before commencement of the contract.

C1.2.3.6 EXCEPTED RISKS (Clause 8.3)

Pursuant to Clause 8.3 of the Conditions of Contract (GCC 2015), the Employer shall not be liable for the payment of standing time costs as a result of the occurrence of any of the "Excepted Risks" as defined under Clause 8.3.

However, the Employer shall reimburse the Contractor in respect of plant de-establishment and re-establishment costs as a result of "Excepted risks" when a written instruction to de-establish is issued to the Contractor.

C1.2.3.7 CIDB B.U.I.L.D. PROGRAMME**a) CIDB Skills Standard**

It will be a condition of contract that the Contractor shall, in the performance of the contract, achieve the **Contract Skills Development Goal** (CSDG) established in the below referenced standard:

- CIDB Standard for Developing Skills Through Infrastructure Contracts, published in Gazette Notice No. 48491 of 28 April 2023.

b) CIDB Indirect Targeting Standard

It will be a condition of contract that the Contractor shall, in the performance of the contract, achieve the **Contract Participation Goal** (CPG) relating to the engagement of targeted enterprises as established in the below referenced standard:

- CIDB Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, published in Gazette Notice No. 36190 of 25 February 2013.

C1.2.3.8 The Construction Quality Assurance Plan (CQA Plan) forms part of the contract document.

C2.1: PRICING ASSUMPTIONS / INSTRUCTIONS

C2.1.1 GENERAL

The Bill of Quantities forms part of the Contract Documents and must be read and priced in conjunction with all the other documents comprising the Contract Documents (refer to C.1.2 of the Tender Data).

C2.1.2 PRICING INSTRUCTIONS AND DESCRIPTION OF ITEMS IN THE SCHEDULE

Measurement and payment shall be in accordance with the relevant provisions of **Clause 8 of each of the Standard Engineering Specifications** referred to in the Scope of Work. The Preliminary and General items shall be measured in accordance with the provisions of **C2.1.8**.

The descriptions of the items in the Bill of Quantities are for identification purposes only and comply generally with those in the Standard Engineering Specification.

Clause 8 of each Standard Engineering Specification, read together with the relevant clauses of the Scope of the works, set out what ancillary or associated work and activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standard Engineering Specification, or the Scope of the works, conflict with the Bill of Quantities, the requirements of the Standard Engineering Specification or Scope of the work, as applicable, shall prevail.

C2.1.3 QUANTITIES REFLECTED IN THE SCHEDULE

The quantities given in the Bill of Quantities are estimates only, and subject to re-measuring during the execution of the work. The Contractor shall obtain the Employer's Agent's detailed instructions for all work before ordering any materials or executing work or making arrangements for it.

The Works as finally completed in accordance with the Contract shall be measured and paid for as specified in the Bill of Quantities and in accordance with the General and Special Conditions of Contract, the Specifications and Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance

has been made for waste.

The validity of the contract will in no way be affected by differences between the quantities in the Bill of Quantities and the quantities finally certified for payment.

C2.1.5 MONTHLY PAYMENTS

Unless otherwise specified in the Specifications and Project Specifications, progress payments in Interim Certificates, referred to in **Clause 6.10.1 of the General Conditions of Contract**, in respect of "sum" items in the Bill of Quantities shall be by means of interim progress instalments assessed by the Employer's Agent and based on the measure in which the work actually carried out relates to the extent of the work to be done by the Contractor.

C2.1.4 PROVISIONAL SUMS / PRIME COST SUMS

Where Provisional Sums or Prime Cost sums (PC Sum) are provided for items in the Bill of Quantities, payment for the work done under such items will be made in accordance with **Clause 6.6 of the General Conditions of Contract**. The Employer reserves the right, during the execution of the works, to adjust the stated amounts upwards or downwards according to the work actually done under the item, or the item may be omitted altogether, without affecting the validity of the Contract.

The Tenderer shall not under any circumstances whatsoever delete or amend any of the sums inserted in the "Amount" column of the Bill of Quantities and in the Summary of the Bill of Quantities unless ordered or authorized in writing by the Employer before closure of tenders. Any unauthorized changes made by the Tenderer to provisional items in the schedule, or to the provisional percentages and sums in the Summary of the Bill of Quantities, will be treated as arithmetical errors.

C2.1.6 PRICING OF THE BILL OF QUANTITIES

The prices and rates to be inserted by the Tenderer in the Bill of Quantities shall be the full inclusive prices to be paid by the Employer for the work described under

the several items, and shall include full compensation for all costs and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based.

Each item shall be priced and extended to the "Total" column by the Tenderer, with the exception of the items for which only rates are required (Rate Only), or items which already have Prime Cost or Provisional Sums affixed thereto. If the Contractor omits to price any items in the Bill of Quantities, then these items will be considered to have a nil rate or price.

All items for which terminology such as "inclusive" or "not applicable" have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

All rates and amounts quoted in the Bill of Quantities shall be in Rands and Cents and shall include all levies and taxes (other than VAT). VAT will be added in the Summary of the Bill of Quantities.

C2.1.7 "RATE ONLY" ITEMS

The Tenderer shall fill in rates for all items where the words "Rate Only" appear in the "Total" column. "Rate Only" items have been included where:

- (a) an alternative item or material is contemplated;
- (b) variations of specified components in the make-up of a pay item may be expected; and
- (c) no work under the item is foreseen at tender stage but the possibility that such work may be required is not excluded.

For "Rate Only" items no quantities are given in the "Quantity" column but the quoted rate shall apply in the event of work under this item being required. The Tenderer shall however note that in terms of the

Tender Data the Tenderer may be asked to reconsider any such rates which the Employer may regard as unbalanced.

C2.1.8 PRELIMINARY AND GENERAL

The Preliminary and General Section is provided to cover the Contractor's expenses incurred in complying with the requirements of the tender documents and consists of the following parts:

- Part AA: Preliminaries
- Part AB: General Specifications
- Part AH: Occupational Health and Safety

Fixed Charge Items: Each item should be priced separately and, subject to the Engineer certifying in terms of **Clause 6.7 of the General Conditions of Contract** that the work has been done, payment will be made as follows:

- (i) the total amount due when the certified value fixed charge items in this section is less than 5% of the net contract price;
- (ii) when the certified value of fixed charge items in this section is greater than 5% of the net contract price, payment will be limited to 5% of the net contract price. The remainder will be paid when the value of the work done under the contract, excluding the value of fixed charge items in this section, is greater than 50% of the net contract price, excluding the value of fixed charge items in this section.

Time Related Items: Any Time Related items not priced shall be deemed to be covered by the prices of other items in the section.

Payment of Time Related items in this section will be made throughout the contract period, the amount per month being the value of the item divided by the completion in months or, if specified in weeks, the equivalent number of months, in terms of **Clause 5.5 of the General Conditions of Contract**. The final monthly increment will only be paid upon the issue of a completion certificate.

C2.2: BILL OF QUANTITIES

The Bill of Quantities follows and comprises of 14 pages. The pages are numbered SECTION 1 to SECTION 11.

SECTION 1 : PRELIMINARY AND GENERAL						
Item	Payment Ref	Description	Unit	Total	Rate	Amount
SABS 1200A GENERAL						
<u>SCHEDULED FIXED CHARGE & VALUE RELATED ITEMS</u>						
1,1	A.8.3.1	Contractual requirements, sureties & insurance	sum	1,00		
	PSA.8.3.2	Establishment of facilities on site				
1,2	PSAB.3.2	Offices for Engineer & staff and notice board	sum	1,00		
	PSA.8.3.2.2	Facilities for the Contractor				
1,3		a) Offices & storage sheds	sum	1,00		
1,4		b) Workshops	sum	1,00		
1,5		e) Ablution & latrine facilities	sum	1,00		
1,6		f) Tools & equipment	sum	1,00		
1,7		g) Water supplies, electric power & communications	sum	1,00		
1,8		h) Dealing with leachate, water & dust. Including temporary leachate diversion from leachate ponds 1 & 2 to leachate pond 3 and Leachate Treatment Plant	sum	1,00		
1,9		i) Access	sum	1,00		
1,10		j) Plant	sum	1,00		
1,11	PSA.8.3.3 & PS 11	Other fixed-charge obligations: setting out, security, deviations and dealing with traffic.	sum	1,00		
1,12	PSA.8.3.5	As-built survey	sum	1,00		
1,13	PS-10.3	Contractor's obligations in respect of the Occupational Health and Safety Act and any other Health & Safety regulations as may be applicable i.e. Covid-19 compliance.	sum	1,00		
1,14	A.8.3.4	Removal of site establishment	sum	1,00		
TOTAL FIXED CHARGE ITEMS TO SUMMARY					R	

SECTION 1 : PRELIMINARY AND GENERAL continued						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
		<u>SCHEDULED TIME-RELATED ITEMS</u>				
1.15	A.8.4.1	Contractual requirements, sureties & insurance	month	18		
1.16	A.8.4.2	Operate & maintain facilities for the duration of the contract	month	18		
1.17	PSAB.3.2	Offices for Engineer & staff and notice board	month	18		
	PSA.8.4.2.2	Facilities for the Contractor for the duration of construction	month			
1.18		a) Offices & storage sheds	month	18		
1.19		b) Workshops	month	18		
1.20		e) Ablution & latrine facilities	month	18		
1.21		f) Tools & equipment	month	18		
1.22		g) Water supplies, electric power & communications	month	18		
1.23		h) Dealing with leachate, water & dust. Including temporary leachate diversion from leachate ponds 1 & 2 to leachate pond 3 and Leachate Treatment Plant	month	18		
1.24		i) Access	month	18		
1.25		j) Plant	month	18		
1.26	A.8.4.3	Supervision for duration of construction	month	18		
1.27	A.8.4.4	Company & head office overhead costs for the duration of the contract	month	18		
1.28	PSA.8.4.5 & PS 11	Other time-related obligations: setting out, survey for as-built drawings, security, deviations and dealing with traffic.	month	18		
TOTAL TIME RELATED ITEMS TO SUMMARY						R

SECTION 1 : PRELIMINARY AND GENERAL continued						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
<u>SUMS STATED PROVISIONALLY BY ENGINEER</u>						
1,29	PSA.8.5(b) 1)	Cost of acceptance testing		Prov sum		R100 000,00
1,30		Overheads, charges & profit on item above	%	R 100 000,00		
1,31	PSA.8.5(b) 1)	Additional survey as required		Prov sum		R20 000,00
1,32		Overheads, charges & profit on item above	%	R 20 000,00		
1,33	PSA.8.5(b) 1)	Indigenous vegetation & education facilities		Prov sum		R30 000,00
1,34		Overheads, charges & profit on item above	%	R 30 000,00		
1,35	PSA.8.5(b) 1)	Environmental Construction Management Plan audits		Prov sum		R60 000,00
1,36		Overheads, charges & profit on item above	%	R 60 000,00		
1,37	PSA.8.5(b) 1)	Community Liaison officer		Prov sum		R240 000,00
1,38		Overheads, charges & profit on item above	%	R 240 000,00		
1,39	PSA.8.5(b) 1)	Mentoring of CPG Contractor		Prov sum		R120 000,00
1,40		Overheads, charges & profit on item above	%	R 120 000,00		
1,41	PSA.8.5(b) 1)	Allowance for a Social Facilitator		Prov sum		R230 000,00
1,42		Overheads, charges & profit on item above	%	R 230 000,00		
1,41	PSA.8.5(b) 1)	Flowmeters for leachate measurement		Prov sum		R60 000,00
1,42		Overheads, charges & profit on item above	%	R 60 000,00		
1,41	PSA.8.5(b) 1)	Temperature monitoring		Prov sum		R115 000,00
1,42		Overheads, charges & profit on item above	%	R 115 000,00		
1,43	PSA.8.5(b) 1)	Provision of a CQA Plan as required by the regulatory authorities conditions of approval.		Prov sum		R330 000,00
1,44		Overheads, charges & profit on item above	%	R 330 000,00		
1,45	PSA.8.5(b) 1)	Tankering of leachate from the existing storage ponds on site to the Municipal Southern Wastewater Treatment Works at Merebank. Provisional.		Prov sum		R2 000 000,00
1,46		Overheads, charges & profit on item above	%	R2 000 000,00		
1,47	PSA.8.5(b) 1)	Leachate Treatment Plant upgrade		Prov sum		R300 000,00
1,48		Overheads, charges & profit on item above	%	R 300 000,00		
1,49	PSA.8.5(b) 1)	Weighbridge entrance awning repairs		Prov sum		R100 000,00
1,50		Overheads, charges & profit on item above	%	R 100 000,00		
TOTAL PROVISIONAL SUMS TO SUMMARY					R	

SECTION 2 : SITE CLEARANCE						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
SABS 1200C SITE CLEARANCE						
2.1	PSC.8.2.1	Clear and grub including the removal of all sugar cane, any trees (girth up to 2,0m), stumps, poles, trimming of above ground obstructions including refuse, rubble roads and fencing. Including reclearing as instructed. All inc transport within 2km.	m2	90 200		
2.2	PSC.8.2.8	Demolish and remove leachate collection pipe manhole structures	No.	3		
2.3	PSC.8.2.10	Remove approx. 150mm topsoil & stockpile	m3	10 000		
2.4	PSC.8.2.11	Transplanting trees.	No.	15		
2.5	PSC 8.2.12	Remove refuse from existing edge berms and in area where Cell 4 is to be repaired. For liner overlap, Cell 4 repair and leachate drainage.	m3	3 300		
2.6	PSC 8.2.13	Remove protection materials from existing liner in overlap areas.	m	430		
2.7	PSC 8.2.14	Break out ex concrete "V" and trapezoidal type drains approx. 0,15m3/m but varies.	m	160		
2.8	PSC 8.2.15	Remove leachate ponds 1 & 2 containment barriers which include; protection layer, HDPE liner, GCL, clay material.	m2	7 870		
SECTION 2 : TOTAL TO SUMMARY						R

SECTION 3 : EARTHWORKS						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
SABS 1200 D: EARTHWORKS						
3,1	PSD.8.3.2	a) Excavate in all materials, fill and stockpile and maintain as instructed. Inclusive of all benching volumes and haulage.	m3	135 000		
3,2	PSD.8.3.2	b) Excavate in all materials in natural ground or from existing stockpiles, fill and compact to 90% Mod AASHTO density or as instructed. Inclusive of all benching volumes and haulage.	m3	112 000		
3,3	D.8.3.3	c) Restricted excavation in all materials, compaction to 93% Mod AASHTO density. Inclusive of all benching volumes and haulage. (provisional).	m3	30 000		
3,4	DB.8.3.2	b) 2) Extra over all item above for hard rock excavation (provisional).	m3	5 000		
3,4	PSD.8.3.8	Existing services c) Excavate by hand to expose existing services	m3	20		
3,5	D.8.3.10	a) Spreading of topsoil from stockpile	m2	1 000		
3,6	PSD.8.3.11	b) i) Grassing - sods	m2	1 000		
3,7	PSD.8.3.11	b) ii) Grassing - stolons (runners)	m2	1 000		
SECTION 3 : TOTAL TO SUMMARY						R

SECTION 4 : EARTHWORKS (PIPE TRENCHES)						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
SABS 1200 DB : EARTHWORKS (PIPE TRENCHES)						
	PSDB.8.3.2	Excavation & backfill in all materials for				
	(a)					
4,1		1) Generally for 90 to 250mm inclusive outside diameter piping & drains. 0 - 1.2m depth.	m3	350		
4,2		2) Generally for 90 to 250mm inclusive outside diameter piping & drains. >1.2 - 2m depth.	m3	225		
4,3		3) 250 to 1050mm inclusive diameter piping & anchor trenches. 0 - 1.3m depth.	m3	100		
4,4		4) 250 to 1050mm inclusive diameter piping & anchor trenches. >1.3 - 2m depth.	m3	100		
4,5		5) gas drains in the leachate drainage stone layer.	m3	30		
4,6	DB.8.3.2	b) 2) Extra over item above for hard rock excavation (provisional).	m3	10		
4,7	DB.8.3	c) Excavation of unsuitable material from trench bottom (provisional)	m3	50		
	PSDB.8.3.3.1	b) Imported backfill materials from commercial source				
4,8		1) Selected fill material	m3	200		
4,9		2) Selected granular material (prov).	m3	100		
4,10		3) 19mm single sized crushed stone.	m3	100		
4,11		4) 53mm single sized crushed stone.	m3	300		
4,12	PSDB.8.3.8	Anchor trench backfill and bed & backfill pipes etc with cement stabilised material inclusive of 6% cement by mass, approved material for stabilisation, mixing, placing and compaction to 95% Mod AASHTO density. Generally in selected areas for pipe bedding and / or backfilling where specified.	m3	100		
SECTION 4 : TOTAL TO SUMMARY					R	

SECTION 5 : EARTHWORKS (Roads, Subgrade)						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
		SABS 1200 DM: EARTHWORKS (Roads, Subgrade)				
5,1	PSDM.8.3.3	Treatment of roadbed: road and liner formation a) 1) Treatment of in situ material by ripping and compacting to 93% Mod AASHTO density	m2	28 500		
5,2	PSDM.8.3.4	Cut to Fill, Borrow to Fill a) Compacted Clay Liner. Selected clay soil from site earthworks or stockpile, 600mm thick, compacted in 150mm layers to 95% Proctor density. Maximum slope 1v:2.5h. Provisional	m3	3 000		
5,3	PSDM.8.3.4	b) Base. Under drainage & monitoring system. Imported approved granular material, G7 quality generally 150mm thick. Compaction to 93% Mod AASHTO density. Slopes up to approximately 1v:2.5h.	m3	3 655		
5,4	PSDM.8.3.4	c) Liner protection layer - imported approved granular material, quality as detailed in PSDM-5.2.10 generally 125mm & 150mm thick. stabilised with 6% cement by mass inclusive of supply, mixing, placing, shaping and compact to 95% Mod AASHTO density. Slopes up to approximately 1v:2.5h.	m3	3 655		
5,5	PSDM.8.3.4	d) Leachate drainage layer - Imported 53mm single sized, hard, durable crushed stone to the Engineer's approval. 150mm and 300mm thick. Nominal compaction. Slopes up to approximately 1v:2.5h.	m3	3 655		
5,6	PSDM.8.3.4	e) G5 imported gravel generally 150mm thick gravel wearing course to roadways inc supply, placing & grader shaping where specified. Compaction to 98% Mod AASHTO density.	m3	485		
5,7	PSDM.8.3.4	f) G5 / G6 imported gravel generally 150mm thick to roadways and where specified, stabilised with 6% cement by mass inclusive of supply, mixing, placing, grader shaping and compact to 97% Mod AASHTO density.	m3	555		
5,8	PSDM.8.3.4	g) Dumprock. Imported quarried crushed rock to comply with DR in TRH 14, supply, place and spread, nominal compaction. Provisional.	m3	700		
5,9	PSDM.8.3.4	h) G7 selected fill material for road selected layer and where specified. Compaction to 95% Mod AASHTO density. Provisional.	m3	135		
5,10	PSDM.8.3.4	j) Waste cover. Material from site stockpiles, placed 150mm to 200mm thick on existing waste and compacted to 90% Mod AASHTO density or as approved.	m3	4 000		
5,11	PSDM.8.3.15	Excavation & filling for catchwater mounds and channels incl. working on 1v:3h landfill slopes, forming and compaction	m3	1 200		
5,12	PSDM.8.2.17	Cell edge & internal berms : Supply approved granular material, stabilised with 6% cement by mass inclusive of supply, mixing, placing, shaping and compact to 95% Mod AASHTO density.	m3	1 200		
SECTION 5 : TOTAL TO SUMMARY					R	

SECTION 6 : GABIONS & PITCHING						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
SABS 1200DK : GABIONS & PITCHING						
6,1	PSDK.8.2.2	Gabions a) to drains and headwalls : 1m ³ gabions with 2,5mm diameter wire galvanised & PVC coated 80 x 100mm mesh. Inclusive of all excavation & surface preparation. (Provisional).	m3	20		
6,2		b) to drains and headwalls: Reno mattress 6m x 2m x 0,3m thick with 2,5mm diameter wire galvanised & PVC coated 80x100mm mesh. Inclusive of all excavation & surface preparation. (Provisional).	m3	20		
6,3		c) to drains: Reno mattress 6m x 2m x 0,17m thick with 2,5mm diameter wire galvanised & PVC coated 80x100mm mesh. Inclusive of all excavation & surface preparation. (Provisional).	m3	20		
6,4	PSDK.8.2.4	a) Type 3 Geofabric (180g/m2) to subsoil drains etc. Inclusive of all overlaps and wastage.	m2	1 100		
6,4	PSDK.8.2.4	a) Type 3 Geofabric (180g/m2)n to cover leachate drainage layer. Supply onto site only and excluding any overlaps or wastage.	m2	24 350		
6,5	PSDK.8.2.4	b) Type 5 Geofabric (340g/m2) to gabions & drains etc. Inclusive of all overlaps and wastage.	m2	5 870		
SECTION 6 : TOTAL TO SUMMARY						R

SECTION 7 : CONCRETE WORK						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
SABS 1200G : CONCRETE WORK						
SCHEDULED REINFORCEMENT ITEMS						
7,1	PSG.8.3.1	Steel bars - mild, high tensile or welded mesh	t	5,0		
SCHEDULED CONCRETE ITEMS						
7,2	G.8.4.2	Blinding concrete. 10MPa strength	m3	185		
7,3	G.8.4.3	Concrete Grade 20/19 to pipe encasement	m3	5		
7,4	PSG.8.4.3.1	Concrete "V" and trapezoidal type drains 25/19 concrete. Approx. 0,15m3/m but varies.	m3	40		
7,5	PSG.8.4.3.2	Concrete. Grade 30/19 concrete inc formwork, finishes, curing and jointing to non standard sewer & stormwater structures, drain junctions and outlets.	m3	10		
7,6	PSG.8.4.3.2	Concrete. Grade 35/19 concrete inc formwork, finishes, curing and jointing. 150 to 350mm thick. Generally paving for roadways and storage areas.	m3	870		
7,7	PSG.8.4.3.2	Concrete. Grade 35/19 concrete inc formwork, finishes, curing and jointing. 150 to 350mm thick. Generally washbay, workshop floor and foundations.	m3	10		
7,8	PSG.8.4.3.2	Concrete. Grade 30/19 concrete inc all formwork , boxing out, finishes and curing. 150 to 350mm thick in bases and walls for transfer facility.	m3	10		
7,9	PSG.8.4.4	Protective screed. Multi Armour 120 or equal approved. Supply, lay in accordance with manufacture's recommendations and finish surface with power float. Workshop areas.	m2	3 700		
SECTION 7 : TOTAL TO SUMMARY						R

SECTION 8 : SEWERS						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
SABS 1200LD : SEWERS						
8,1	PSLD.8.2.1	Supply and lay Class 34 HD uPVC pipe b) 160mm diameter.	m	Rate Only		
8,2	PSLD.8.2.1	Supply and lay PE 100 SDR 17 PN 10 HDPE pipe in the following sizes inclusive of fusion welding, bends, joints and T pieces. Generally as gravity leachate collectors. 50mm OD solid wall Monitoring drains etc	m	35		
8,3		90mm OD solid wall	m	-		
8,4		160mm OD solid wall (<i>perforated 4% min. open area</i>)	m	320		
8,5		250mm OD solid wall	m	225		
PSLD.8.2.3 Manholes						
8,6		Circular precast concrete 1000mm nominal diameter inclusive of Type 2 circular heavy duty concrete covers and frames. All Bituseal painted. 0 to 2,0m deep maximum.	No.	3		
8,7	LD.8.2.9	Marker posts; 1,2m long precast concrete, painted	No.	100		
8,8	PSLD.8.2.13	Valves for up to 250mm OD HDPE piping	No.	3		
8,9	PSLD.8.2.14	Connecting into existing leachate sewer systems, excluding piping & manholes but all cutting, jointing and making good.	No.	3		
8,10	PSLD.8.2.16	Conservancy tank as per detail.	No.	2		
8,11	PSLD.8.2.17	Silt, oil & grease trap as per detail.	No.	1		
8,12	PSLD.8.2.18	Cleaning of existing sewer lines including all manholes & chambers 110mm to 305mm diameter using approved pressure jet equipment.	m	200		
8,13	PSLD.8.2.20	Pump from leachate storage pond 1 and 2 into leachate pond 3 using the mobile pump provided by the Employer.	m ³	15 000		
SECTION 8 : CARRIED FORWARD					R	

SECTION 9 : STORMWATER DRAINAGE						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
SABS 1200LE : STORMWATER DRAINAGE						
	PSLE.8.2.1	Supply & lay concrete pipe.				
9,1		a) 450 diameter 100D spigot and socket.	m	50		
9,2		b) 600 diameter 100D spigot and socket.	m	50		
9,3		b) 1050 diameter 100D spigot and socket.	m	50		
	PSLE.8.2.1	Subsoil pipes				
		a) Perforated "Drainex" pipe or equal approved to subsurface drains.				
9,4		i) 110mm diameter DN 110	m	450		
9,5	PSLE.8.2.8	a) Supply & install manholes , kerb inlets or catchpits for up 600mm diameter pipe. Heavy duty concrete covers, max. 2m deep (prov.). Including low flow detail in base.	No.	1		
9,6	PSLE.8.2.8	a) Supply & install manholes , kerb inlets or catchpits for up 1 200mm diameter pipe. Heavy duty concrete covers, max. 2m deep (prov.). Including low flow detail in base.	No.	1		
9,7	PSLE.8.2.8	b) Inlet or outlet headwalls for up to 1200mm diameter pipe or smaller, and from open drains. All inclusive of excavation, reinforced concrete base, brick walls and trimming and grouting of pipework.	No.	2		
9,8	PSLE.8.2.14	Brickwork 230mm thick.	m2	10		
9,9	PSLE.8.2.14	Brickwork 345mm thick.	m2	10		
9,10	PSLE.8.2.15	Cleaning of existing stormwater piping, manholes & chambers using approved pressure jetting equipment or other approved means, including emptying / de silting etc at the manholes. All removed material to be disposed of on the landfill as indicated, Size 450mm to 1100mm diameter.	m	400		
SECTION 9 : TOTAL TO SUMMARY						R

SECTION 10 : PARTICULAR SPECIFICATION : LINING SYSTEMS						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
PARTICULAR SPECIFICATION : LINING SYSTEMS						
10,1	LGM 8.1	Supply Geomembrane to GRI GM-13. 1.5mm thick HDPE as approved. Supply to the site and store safely, for slope areas measured net, excluding all wastage, overlaps and welding requirements but including anchorage length and overlap with existing liner. Including for embossed texturing on both faces of the geomembrane.	m2	25 700		
10,2	LGM 8.2	Installation of Geomembrane to GRI GM-13. 1.5mm thick HDPE as approved. Completely install geomembrane on slopes of up to 1v:2.5h (generally 1v:3h max.). Slope area measured net, excluding all wastage, overlaps and welding requirements but including anchorage length and overlap with existing liner. Including for embossed texturing on both faces of the geomembrane.	m2	25 700		
10,3	LGM 8.3	Pipe penetrations through lining system.	No.	3		
10,4	LGC.8.1	Geosynthetic Clay Liner (GCL). Supply to the site and store safely in accordance with the project and manufacturer's specifications. Slope area measured net, excluding all wastage, and overlaps but including anchorage length and overlap with existing liner.	m2	25 700		
10,5	LGC.8.2	Geosynthetic Clay Liner (GCL). Completely install on slopes of up to 1v:2.5h (generally flatter). Slope area measured net, excluding all wastage, and overlaps but including anchorage length and overlap with existing liner.	m2	25 700		
10,5	LGM 8.5	Establishment of leak detection equipment, once off for dipole testing.	sum	1		
10,6	LGM 8.6	Leak detection of geomembrane lining by dipole in accordance with ASTM D7007.	m2	24 000		
10,7	PSA.8.5 (b) 1)	Provisional sum for specialist testing on the liner components as directed by the Engineer.		Prov sum		R380 000,00
10,8		Overheads, charges & profit on item above	%	R 380 000,00		
SECTION 10 : TOTAL TO SUMMARY						R

SECTION 11 : PARTICULAR SPECIFICATIONS : DAYWORKS						
Item	Payment Ref	Description	Unit	Quantity	Rate	Amount
PARTICULAR SPECIFICATIONS : DAYWORKS						
LABOUR						
11,1	PAA-5.1	Unskilled workers	hr	45		
11,2	PAA-5.1	Skilled workers (artisans)	hr	45		
11,3	PAA-5.1	Operators & drivers	hr	36		
11,4	PAA-5.1	Foreman	hr	45		
11,5	PAA-5.1	Gang Supervisor	hr	45		
CONSTRUCTIONAL PLANT						
11,6	PAA-5.2	Lowbed (40t capacity)	km	500		
11,7	PAA-5.2	Bulldozer & ripper (Cat D5 to D6)	hr	36		
11,8	PAA-5.2	Grader (Cat 140G)	hr	9		
11,9	PAA-5.2	Front-end-loader 2.5m3 bucket	hr	27		
11,10	PAA-5.2	Front-end-loader 4m3 bucket	hr	27		
11,11	PAA-5.2	Tracked excavator (20t - 22t)	hr	45		
11,12	PAA-5.2	Tracked excavator (30t)	hr	18		
11,13	PAA-5.2	Tractor-loader backhoe (TLB)	hr	36		
11,14	PAA-5.2	Pedestrian Roller (Bomag 90)	hr	24		
11,15	PAA-5.2	Vibratory roller (8t - 10t)	hr	9		
11,16	PAA-5.2	Compressor & all tools (250cfm)	hr	9		
11,17	PAA-5.2	6m ³ tip truck	hr	27		
11,18	PAA-5.2	10m ³ tip truck	hr	45		
11,19	PAA-5.2	All terrain dumptruck (ADT) 30t capacity	hr	45		
11,20	PAA-5.2	Crane truck; 10t capacity	hr	24		
11,21	PAA-5.2	Light delivery vehicle	km	300		
11,22	PAA-5.2	Water Tanker 8 000 litres to 12 000 litres	hr	120		
11,23	PAA-5.2	Other : Contractor to specify				
		D4 Dozer	hr	R0,00		
SECTION 11 : TOTAL TO SUMMARY						R

ETHEKWINI MUNICIPALITY CLEANSING & SOLID WASTE

CONTRACT NO. 6W-34703**LOVU LANDFILL: CONSTRUCTION OF CELL 7 AND ANCILLARY WORKS****SUMMARY OF BILL OF QUANTITIES**

SECTION	DESCRIPTION	AMOUNT
1	SCHEDULED FIXED CHARGE & VALUE RELATED ITEMS	
1	SCHEDULED TIME-RELATED ITEMS	
1	SUMS STATED PROVISIONALLY BY ENGINEER	
2	SITE CLEARANCE	
3	EARTHWORKS	
4	EARTHWORKS : PIPE TRENCHES	
5	EARTHWORKS : ROADS, SUBGRADE	
6	GABIONS, PITCHING INCLUDING GEOFABRIC	
7	CONCRETE WORK	
8	MEDIUM PRESSURE PIPELINES & SEWERS	
9	STORMWATER DRAINAGE	
10	PARTICULAR SPECIFICATIONS: LINING SYSTEMS	
11	PARTICULAR SPECIFICATIONS: DAYWORKS	
SUB TOTAL		
ADD VALUE ADDED TAX 15%		
SUB TOTAL INCL VAT		

PART C3: SCOPE OF WORK

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C3.1: PROJECT DESCRIPTION AND SCOPE OF CONTRACT

C3.1.1 Description of Works

The Contract is for the construction of a seventh landfill cell, Cell 7, and ancillary works for the Lovu Landfill site. The main parts of the envisaged work include:

- a) careful relocation of identified indigenous plants from the area of the works.
- b) clearing of other vegetation and removal of trees.
- c) stripping of topsoil to stockpile for re-use and clearing of waste for the landfill liner overlaps with the existing Cell 4 and Cell 5.
- d) bulk earthworks in materials ranging from soft clayey soils to soft rock in order to prepare for the new cell, and other works including, but not limited to, gravel roads, drains and pipelines.
- e) base layers, GCL and geomembrane liner for Cell 7.
- f) construction of liner protection layers, generally stabilised sand then the crushed rock aggregate leachate drainage layers for Cell 7, geotextiles and appurtenant works together with the pipework for the leachate detection and under drainage layers for Cell 7.
- g) construction of sundry subsoil drains, blanket drains and pipework as may be needed.
- h) construction of concrete vee and trapezoidal drains as well as ancillary brickwork structures.
- i) construction of leachate, stormwater and monitoring manholes (including pipework and valves) and other structures.
- j) stormwater drainage (piping headwalls and manholes).
- k) Catchwater drains and berms, some on the landfill.
- l) Ancillary works including the reconstruction and extension of site gravel roads, access roads onto the landfill, repair work at Cell 4, leachate interception drainage on the landfill slopes, temporary clay capping of waste on the landfill, possible tankering of leachate off the site and pumping of leachate, extensions and new concrete paving and new effluent control facilities (leachate and contaminated stormwater pumping).

The site is an operational landfill and the Contractor is to take cognisance of the fact that landfill operations will be ongoing during the Works and must allow for this in all the work to be undertaken and without interfering with any landfilling operations.

The leachate pipelines leading to Leachate Storage Ponds 1 and 2 must be diverted to Leachate Storage Pond 3 before Leachate Ponds 1 and 2 are emptied. The Leachate Storage Ponds 1 and 2 must be emptied for the construction of Cell 7 to commence.

C3.1.2 Description of Site and Access

The site of the works is the DSW Lovu Landfill located some 3km west and inland of the N3 at Illovo Beach. Access is off the N3 onto the R603 then P197-3 south across the Lovu River or off the N2 onto the R578 then north on the P197-3 for around 2km before turning west onto an existing gravel road, the A876. The site infrastructure is some 500m along the gravel road and Cells 1, 2 and 3 are immediately north of this infrastructure.

Cell 7 is generally west of the existing lined landfill cells, situated north of Cell 4 and south of Cell 5. Cell 7 is also north of the entrance and weighbridges and east of the contaminated stormwater pond.

A locality plan is included in Section C4.1.

C3.1.3 Nature of Ground and Subsoil Conditions

A summary report covering the geotechnical conditions underlying the site is available from the Engineer and the profiles of investigation pits done in the area of Cell 7 are attached herewith. Generally, the area is underlain by Pietermaritzburg Shale bedrock with some minor dolerite intrusions. Some hard rock may be encountered in the valley lines, particularly in the base area of Leachate Pond 3. The bedrock is overlain by between 1m to 4m of transported and residual soil. This soil is expected to be primarily fine grained (silt or clay) of indifferent to poor quality following roadwork's specifications (TRH 14).

C3.1.4 CIDB B.U.I.L.D. Programme (Employer's objectives)

Standard for Indirect Targeting for Enterprise Development

It will be a Condition of Contract that the Contractor shall, in the performance of the contract, achieve the **Contract Participation Goal (CPG)** relating to the engagement of targeted enterprises as established in the below referenced standard:

- CIDB Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, published in Gazette Notice No. 36190 of 25 February 2013.
- a) The objective of the project is to provide for a minimum contract participation goal (CPG) of 5% of the total project value and to develop targeted enterprises by the main or lead partner contractors.
- b) The successful contractor shall:
 1. Subcontract a minimum of 30% of the total project value to targeted enterprises;
 2. Develop the targeted enterprise/s in two development areas as specified in the Standard, and agreed by both the main contractor and the targeted enterprise/s;
 3. Perform needs analysis on the targeted enterprise to identify developmental goals;
 4. Provide internal mentorship support to improve the targeted enterprise/s performance;
 5. Develop a project specific enterprise development plan to improve the targeted enterprise/s performance in the identified developmental areas;
 6. Monitor and report the progress of the agreed development areas with the targeted enterprise/s; and
 7. Submit a project completion report to the Employer's representative for each targeted enterprise.
- c) The development of the Targeted Enterprise shall be guided by the **CIDB Competence Standard for Contractors** (Gazette No. 41237, 10 November 2017). **Table 2. below** outlines the minimum recognised qualifications to which development of targeted enterprises must be undertaken by the main contractor.

CIDB Grade	Minimum NQF Level	Recognised Qualifications
Business Management		
5 & 6	5	• National Occupational Qualification in Business Management NQF 5
2 to 4	2	• National Certificate: Construction Contracting NQF 2
Building and Construction Works Management		
5 & 6	5	• National Certificate: Management of Building Construction Processes NQF 5

2 to 4	3	<ul style="list-style-type: none">• NCV 4: Civil Engineering and Building Construction, or• National Certificate: Supervision of Construction Processes
Civil Engineering Construction Works		
5 & 6	5	<ul style="list-style-type: none">• National Certificate: Management of Civil Engineering Processes NQF 5, or• National Diploma: Civil Engineering and Building Diploma
2 to 4	3	<ul style="list-style-type: none">• NCV 4: Civil Engineering and Building Construction or• National Certificate: Supervision of Construction Processes, or• Further Education and Training Certificate: Supervision of Construction Processes

Below is a guideline on how to prepare a Scope of Work

Title	Scope of work
Function and broad outline of contents	Specifies and describes the supplies, services, or engineering and construction works which are to be provided and any other requirements and constraints relating to the manner in which the contract work is to be performed.

- 1 The scope of work should, in line with international best practice, wherever possible, be:
 - a) described in terms of performance rather than the design of descriptive characteristics; and
 - b) based on national or international standards, where such exist.
- 2 SANS 10403 suggests that the following topics be addressed in a scope of works:

TOPIC	COMMENTARY
Client's / employer's objectives	Describe the client's / employer's objectives for the services.
Description of the services	Provide a short description of the services and outline what the consultant is to provide.
Extent of the services	Provide a brief outline of the extent of services and key deliverables, as appropriate.
Use of reasonable skill and care	Identify the work for which the consultant is required to exercise reasonable skill and care.
Co-operation with other services providers	Identify other service providers on the project and establish how interactions are to take place.
Brief	State, as necessary; <ol style="list-style-type: none"> a) terms of reference; b) time frames for deliverables / milestone dates; c) place(s) for the performance of specific tasks; and d) reporting requirements.
Reference data	State the reports, surveys, agreements, etc upon which the service provider is to base his brief, if any.
Applicable national and international standards	List all applicable national, regional and international standards and all values pertaining to specific attributes relating thereto.
Particular/Generic specifications	Attach or make reference to particular (purpose written) or generic (standard in-house) specifications (purpose written for the project or specifications of the procuring Division or professional associations) which are applicable to the services.
Approvals	Identify all those parties from whom the consultant has to obtain approvals and outline the procedures that are to be followed.
Procurement	State requirements appropriate to the methodology and procedures that are to be followed. (See Annex A of SANS 10396) Make reference to Preference Schedules, if any. State the number, title and edition of SANS 1914 series of resource specifications applicable to the contract and all data and definitions required e.g. definitions of target groups, weighting factors, etc. (Refer to SANS 10396 for specific guidance) State the variations, if any, to the SANS 1914 resource specification.

TOPIC	COMMENTARY
Access to land / buildings / sites	Describe arrangements for access to land / buildings / sites and any restrictions relating thereto.
Planning and programming	State requirements for format of programme, level of detail, critical path activities and their dependencies, frequency of updating, key dates, etc. Provide particulars of phased completion, programme constraints, milestone dates for completion etc., as necessary. List the activities to be carried out by the employer/client or by others which are to be included in the consultant's programme.
Software application for programming	State any requirements.
Quality management	Briefly describe <ul style="list-style-type: none"> - what quality management systems the consultant will be required to operate - the intention of the employer / client in terms of the monitoring of quality management, who will carry out such monitoring (employer / client or agent) and if the monitoring forms part of a quality management system or will require only an occasional verification.
Format of communications	State formats of different types of communications, and attach pro formas of such documents to the end of the Scope of Works. Also state requirements for the format of documents which are to be retained, eg microfilm, computer tapes / CDs or original form.
Key personnel	State requirements for a schedule of key personnel / schedule of contact particulars of key personnel, if required, and state when the schedule is to be submitted. Attach pro formas of such documents to the end of the Scope of Works.
Management meetings	Provide particulars of times, days, location, attendance requirements, etc., as required, and state requirements for representatives having the necessary delegated authority.
Forms for contract administration	State requirements, if any, for use of standard forms for contract administration purposes and attach pro formas of such documents at the end of the Scope of Works. Also state if forms are available in electronic format.
Electronic payments	State details required / procedures to obtain electronic payments, as relevant.
Daily records	State requirements for daily records of time spent.
Professional indemnity insurances	State number of copies and the place where policies are to be presented.
Payment certificates	State requirements for substantiation of claims in payment certificates to expedite verification and certification by employer's / client's representative.
Use of documents by the employer	State the purpose for which the employer / client will be using any documents provided by the consultant e.g., construction, maintenance, extension, rebuilding, etc.
Property provided for the Consultant's use	List all property to be provided by the employer / client and others for the consultants use.
Proof of compliance with the law	State specific documents / methods by which compliance with any legislation is to be verified, as necessary.
ANNEXES	
List by title	Provide data sheets, completed returnable schedules, pro forma documents, particular specifications, drawings, sketches etc. which are referred to in this document.

C3.2: PROJECT SPECIFICATION

PREAMBLE

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

C3.2.1 GENERAL

PS.1 PROGRAMME, METHOD OF WORK, AND ACCOMMODATION OF TRAFFIC

This Clause is to be read in conjunction with the provisions and obligations as contained in **SANS 1921-1 and SANS 1921-2**.

PS.1.1 Preliminary Programme

The Contractor shall include with his tender a preliminary programme on the prescribed form (**see T2.2: Preliminary Programme**) to be completed by all Tenderers. The programme shall be in the form of a simplified bar chart with sufficient details to show clearly how the works will be performed within the time for completion as stated in the Contract Data.

Tenderers may submit tenders for an alternative Time for Completion in addition to a tender based on the specified Time for Completion. Each such alternative tender shall include a preliminary programme similar to the programme above for the execution of the works, and shall motivate his proposal clearly by stating all the financial implications of the alternative completion time.

The Contractor shall be deemed to have allowed fully in his tendered rates and prices as well as in his programme for all possible delays due to normal adverse **weather conditions** (**refer to Clause 5.12.2.2**) and special non-working days (**refer to Clause 5.1.1.1**) as specified in the in the Contract Data.

PS.1.2 Programme in Terms of Clause 5.6 of the General Conditions of Contract

It is essential that the construction programme, which shall conform in all respects to **Clause 5.6 of the General Conditions of Contract**, be furnished within the time stated in the Contract Data (**refer to Clause 5.3.1/2**).

The preliminary programme to be submitted with the tender shall be used as basis for this programme.

The Tenderer's attention is drawn to the fact that a number of factors will affect the programming of and method of carrying out the works. The more important of these are:

- a) **The time required to comply with the requirements to subcontract 30% of the work to local CPG subcontractors.**

- b) Adherence to the safety aspects of working on a landfill site.
- c) Vehicular access within the landfill needs to be maintained and this may require traffic controls, deviations and the planning of the works, particularly the roadworks and concrete drain repairs.
- d) Traffic restrictions. There are no specific traffic restrictions other than noting that access for vehicles disposing of refuse and other tasks will be utilising the roads and other areas within the site
- e) Subsoil drainage will need to be installed in the valley lines prior to earthworks and liner layerworks being undertaken
- f) It may be expected that the earthworks will be in clay soil that may be of less than G10 quality following TRH 14 and require experience to achieve the compaction levels specified.
- g) Some of the work involves operations on slopes of up to 1v in 3h (although generally 1v : 5h) and with slope distances of up to some 150m.
- h) To protect the GCL the geomembrane and protective layer must be placed daily over the section of GCL laid that day.
- i) Work on the layers above the liner elements is to be undertaken using light equipment and must follow procedures which must satisfy the Engineer that they will not damage the liner.
- j) The Tenderer must make themselves familiar with the procedures and methods required to construct and/or lay the CCL, GCL and HDPE liners. Factors that must be considered are:
 - (1) rain
 - (2) wind
 - (3) temperature
- k) For stability it is necessary that the construction of the liner layers must extend upwards from the basal area.
- l) Stormwater drainage must be carefully controlled during the construction phase. Runoff must be directed away from the area of the works and the liner anchor trenches must be free draining at all times.
- m) Vehicular access to the disposal areas, infrastructure, leachate treatment plant and cover stockpile areas, as well as all other access required by DSW's operations is to be maintained.
- n) There will be other traffic close to the works, primarily waste disposal traffic and the Contractor's work will need to be programmed to interface with these operations.

Those known, existing services in the area of the works have been depicted on the contract drawings. It is evident, however, that the status of existing service records as far as can be ascertained might not reflect the actual situation in the field. As such, due allowance has been made in the Bill of Quantities for the proving of services where directed by the Engineer.

PS.1.3 Requirements for Accommodation of Traffic

PS.1.3.1 General

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

Clause 4.10.4 of **SANS 1921-2: 2004** shall be replaced with the following:

“Road signs and markings shall comply with the requirements of the **“SADC Road Traffic Signs Manual - Volume 2: Roadworks Signing”**.”

PS.1.3.2 Basic Requirements

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.

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

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

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

The Contractor shall construct and maintain all temporary drainage works necessary for temporary deviations. The Contractor shall ensure that the existing property accesses are maintained at all times. Where necessary the Contractor shall make allowance in the rates for completing the work required to the accesses out of normal hours.

PS.1.3.3 Traffic Safety Officer

Where warranted by traffic conditions on or near the site, the Contractor shall nominate a suitable member of his staff as traffic safety officer to be responsible for the arrangement and maintenance of all the measures for the accommodation of traffic for the duration of the project. Duties of the traffic safety officer shall be in compliance with the Occupational Health and Safety Act 1993 and the Construction Regulations 2014.

PS.1.3.4 Payment

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

PS.1.3.5 Pedestrian Movement

The Contractor shall make provision for accommodating all pedestrian movements in the area of the works. Allowance shall be made in the relevant rates for any barricades and signs required.

PS.1.3.6 Temporary Reinstatement

Provided always that if in the course or for the purpose of the execution of the works or any part thereof any road or way shall have been broken up, then notwithstanding anything herein contained:

- (a) if the permanent reinstatement of such road or way is to be carried out by the appropriate authority or by some person other than the contractor (or any subcontractor to him), the contractor shall at his own cost and independently of any requirement of or notice from the Engineer be responsible for the making good of any subsidence or shrinkage or other defect, imperfection or fault in the temporary reinstatement of such road or way, and for the execution of any necessary repair or amendment thereof from whatever cause the necessity arises, until the end of the period of maintenance in respect of works beneath such road or way until the authority or other person as aforesaid shall have taken possession of the site for the purpose of carrying out permanent reinstatement (whichever is the earlier), and shall indemnify and save harmless that Council against and from any damage or injury to the Council or to third parties arising out of or in consequence of any neglect or failure of the Contractor to comply with the foregoing obligations or any of them and against and from all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto.
- (b) where the authority or person as aforesaid shall take possession of the site as aforesaid in sections or lengths, the responsibility of the contractor under paragraph (a) of this sub-clause shall cease in regard to any such section or length at the time possession thereof is so taken, but shall during the continuance of the said period of maintenance continue in regard to any length of which possession has not been taken and the indemnity given by the contractor under the said paragraph shall be construed and have effect accordingly.

PS.2 SERVICES

This Clause is to be read in conjunction with the provisions and obligations as contained in **SANS 1921-1 and SANS 1921-2**.

PS.2.1 Existing Services

The Tenderer's attention is drawn to the numerous existing services in the area. Although every effort has been made to depict these services accurately the positions shown must be regarded as approximate.

The following services are known to exist:

- 132 kV and 275kV overhead electricity transmission lines and towers operated by Eskom and eThekweni Electricity;
- electrical, water and sewer services into and surrounding the administration offices, workshop and weighbridges;
- electrical cabling supplying the leachate treatment plant (LTP) inside the landfill along the southern boundary and extending north to the plant.
- electrical cable and water piping along the southern edge of the landfill.
- Water piping from BH 2 to the offices and washbay.
- leachate pipes between Cells 1 to 6 and the leachate storage ponds.

- Electronic temperature measurement systems near Cell 5.
- leachate and leakage monitoring manholes from Cells 1 to 6.

PS.2.2 Proving Underground Services

This clause must be read in conjunction with [Clause DB.5.1.2](#), the requirements of which shall be extended to cover all earthworks operations whether for trenching or bulk earthworks, in the vicinity of underground services.

It is stressed that all services in a particular area must be proven before commencing work in that area.

Insofar as bulk earthworks are concerned, where services are indicated on the drawings or where from site observations can reasonably be expected that such services are likely to exist where excavations are to take place, the Contractor shall without instructions from the Employer's Agent carefully excavate by hand to expose and prove their positions.

The cost of the proving trenches is to be included in the work covered by [Clause DA.8.3](#).

When a service is not located in its expected position the Contractor shall immediately report such circumstances to the Employer's Agent who will decide what further searching or other necessary action is to be carried out and shall instruct the Contractor accordingly. The cost of this additional searching shall be to the Council's cost and shall be paid for under [DB.8.19 - Proving Existing Services](#).

Should any service be damaged by the Contractor in carrying out the works and should it be found that the procedure as laid down in this clause has not been followed then all costs in connection with the repair of the service will be to the Contractor's account.

When electrical cables are not in the positions shown on drawings of eThekweni Electricity and cannot be found after proving trenches have been put down, assistance may be obtained by calling an official of the [Works Branch on Telephone No. 311-1111](#) during office hours, or by contacting [Control on Telephone No. 305-7171](#) after hours.

It should be noted that 33,000 Volt and 132,000 Volt cables may only be exposed by the eThekweni Electricity's personnel. The cables are usually protected by concrete covering slabs, and therefore if the slabs are inadvertently exposed, excavation work must stop, and the eThekweni Electricity shall be contacted immediately on the above telephone numbers.

Proving of services shall be completed at least two weeks in advance of the actual programmed date for commencing work in the area. The position of these services located must be co-ordinated and levelled by the Contractor, and the information given in writing to the Employer's Agent's Representative.

The requirements of this clause do not relieve the Contractor of any obligations as detailed in the Conditions of Contract or under [Clause 4.17 of SANS 1921-1](#).

PS.2.3 New Services and Relocation of Existing

This clause shall be read in conjunction with [Clause PS.1](#).

New services are either to be installed by the Contractor as part of the contract or by others during the contract period. In the latter case excavation and subsequent backfilling of the trench from the top of the bedding layer shall generally be carried out by the Contractor.

Relocation of services shall generally be carried out by the relevant services organisation. Generally their work shall include the excavating and bedding the service which will include backfilling to a depth of approximately 300 mm above the service. The remainder of the backfilling shall be carried out by the Contractor.

Generally work shall only commence on the installation of new services once the bulk earthworks have been completed and roughly trimmed to level along a substantial portion of the services route. In addition no sidewalk, verge, median or island shall be surfaced or topsoiled until all work on the services has been completed.

Services affected by the contract are described as follows:

- PS.3: Watermains;
- PS.4: Sewers;
- PS.5: Stormwater;
- PS.6: Electrical Cables / Lighting;
- PS.7: Telkom / Neotel;
- PS.8: CCTV;

Further to the above, Tenderers are referred to the services drawing and are to note that several minor cables / pipes may be encountered during excavation works which may require to be relocated to some extent. It is anticipated that the two week period required under PS.2.2 will allow sufficient time for these relocations.

PS.2.4 Accommodation of Services

Further to **Clauses PS.1 and PS.2** of this specification, Tenderers are to note that allowance must be made under this item and / or the appropriate rates, for all costs incurred as a result of complying with these clauses. It shall also cover liaison with the services organisations and accommodation of their work gangs / contractors on site.

PS.3 WATERMAINS

PS.3.1 General

No water mains are required to be installed as part of this contract.

PS.3.2 Water Main Valve Access

Due to the dangerous situation occurring when water main valves are covered over, the Contractor shall maintain access to all water main valves at all times. During asphalt layer work, after each pass by the paving machine, the valves shall be exposed and access maintained in a safe condition.

Whatever method the Contractor chooses to use for this work, the cost of raising the valves from existing level to ultimate level shall be paid only once, irrespective of the number of times the

valve is uncovered. Spacer rings required for the height adjustment of valve covers shall be supplied by the Ethekeeni Water Services Directorate. Tolerances on valve cover levels shall be as specified in clause PH.6.5. Before final setting in position of valve covers the Contractor shall liaise with the Employer's Agent regarding the direction in which covers shall be placed.

PS.3.3 Restriction on Compaction Equipment

The Contractor is to note that existing watermains traverse the site of the works and special care is to be taken in close proximity to these mains and connections. The existing mains and connections shall be proved on site by the Contractor prior to any construction work commencing in the vicinity of the watermains.

Under no circumstances will heavy road-making equipment, other heavy plant or vibratory compaction equipment be permitted to operate within 800 mm vertically or horizontally of the existing mains or connections. The permissible compaction plant within this restricted area shall be the equivalent of a "Bomag 90" under static compaction, or similar approved plant. When the roadworks are far enough advanced to provide a minimum of 800 mm cover to the existing mains, the above restriction will fall away.

The Contractor is to take cognisance of the above requirements when entering rates in the Bill of Quantities and in the programming of the works. No claim for additional payment based on the inability to use plant as a result of the requirements of this clause will be accepted. The Contractor will be held liable for any costs should the watermain or electrical cables be damaged during construction of the road.

PS.4 SEWERS

No domestic sewer reticulation is envisaged as part of this contract.

PS.4.1 Blockage of Foul Water Sewers

The Contractor shall be responsible for ensuring that cementitious sludge, sand and rubble from the works do not enter the foul water reticulation system. The Contractor shall be liable for any costs incurred by the Council or others as a result of blockages in the reticulation system attributed to failure to comply with the above requirement.

PS.5 STORMWATER

v Stormwater piping and drains are to be built as part of the works. Some areas may have limited access.

PS.5.1 Blockage Stormwater Sewers

The Contractor shall be responsible for ensuring that cementitious sludge, sand and rubble from the works do not enter the stormwater reticulation system. The Contractor shall be liable for any costs incurred by the Council or others as a result of blockages in the reticulation system attributed to failure to comply with the above requirement.

PS.6 ELECTRICAL PLANT

Limited electrical plant (leachate pumps) is required to be installed as part of this contract.

PS.6.1 General

Various types of electrical cables including high voltage, low voltage, street lighting and domestic connection cables are affected by the contract. The laying, relocation and jointing of all cables will be carried out by eThekwini Electricity's work gangs, or agents appointed by them, whilst the excavation and backfilling forms part of this contract. Close liaison will therefore be necessary with eThekwini Electricity throughout the contract.

PS.6.2 Street Lighting

The existing lighting will be removed in stages and replaced in the centre median / intersection corners. Relocation will take place during this contract and be executed by eThekwini Electricity or their agents. It is a requirement that the street lighting be operational at all times.

PS.6.3 MV / LV Cables

Certain MV / LV cables are to be replaced within the contract area (see drg xxxxxxxxA0). The actual cable work associated with this relocation and / or replacement of these cables will be carried out by eThekwini Electricity and it is stressed that the **two** week period referred to in Clause PS.2 is the minimum period required to enable eThekwini Electricity to be on site timeously.

PS.6.4 Relocation of Existing Services

Should it be necessary to adjust the line, level and / or position of any service not catered for in the contract to enable the construction to proceed the Contractor shall on no account effect such adjustment himself but shall notify the Engineer who will arrange for the work to be carried out at no cost to the Contractor.

PS.7 TELKOM S.A. LIMITED / NEOTEL PLANT

No work to Telkom / Neotel Plant is envisaged.

PS.8 CCTV PLANT

No work to CCTV Plant is envisaged.

PS.9 MANAGEMENT OF THE ENVIRONMENT

The Contractor shall pay special attention to the following:

PS.9.1 Natural Vegetation

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

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

PS.9.2 Fires

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

PS.9.3 Environmental Management Plan

In addition to the above, all requirements according to the Environmental Management Plan as detailed in **C3.4: Particular Specifications**, will be adhered to.

PS.10 OCCUPATIONAL HEALTH AND SAFETY

PS.10.1 General Statement

When considering the safety on site the Contractor's attention is drawn to the following:

GENERAL HEALTH AND SAFETY

In addition to the statutory requirements of the Occupational Health and Safety Act it should be noted that :

The Contractor's attention is drawn to the flammable, explosive and asphyxiative nature of landfill gas resulting from the de-composition of waste. Landfill gas can migrate through ground and the Contractor shall take all necessary precautions to ensure the safety of his/her personnel and all third parties from the dangers of landfill gas. Landfill gas is particularly dangerous in enclosed spaces (manholes etc.) The Contractor's personnel shall not enter the operational areas and contact with refuse and leachate should be kept to a minimum. No scavenging of refuse is allowed. Workmen are to be provided with the appropriate safety clothing and equipment.

In the vicinity of the landfill body, and in particular, within any excavations, flammable and poisonous "landfill gas" may be present. The flammable constituent of the gas is methane. Special care and precautions must be taken where men may work with their heads below the general surface and in excavation.

The lighting of fires is strictly prohibited, due to the possible presence of landfill gas, and smoking on site will also be prohibited. The use of naked flames must only take place under safe conditions. Smoking shall only be allowed in designated safe areas.

The Contractor's attention is also drawn to the possible hazards to health of waste and contaminated water, and adequate health and safety precautions shall be taken.

The Contractor shall make all Sub-Contractors, visitors, third parties and agents aware of the hazards of landfill gas on the site, and shall ensure that they take the necessary precautions.

The Contractor shall take adequate Health and Safety precautions when working in and adjacent to waste. The wastes placed in the in-filled areas are reported to have been predominantly municipal wastes (domestic, commercial, industrial and inert). However, the Contractor should also make provision for the fact that any landfill may contain small quantities of hazardous substances other than those permitted under a site licence. No guarantee can be given that small quantities of other substances, including hazardous industrial waste, have not been concealed within other wastes and disposed without knowledge of the site operator.

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the OHSA 1993 Construction Regulations 2014 issued on 7 February 2014 by the Department of Labour.

For the purpose of this contract the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of Section 37(2) of the Occupational Health and Safety Act.

PS.10.2 Health and Safety Specifications and Plans to be submitted at tender stage

PS.10.2.1 Employer's Health and Safety Specification

The Employer's Health and Safety Specification is included in **C3.4: Particular Specifications**.

PS.10.2.2 Tenderer's Health and Safety Plan

At tender stage only a brief overview of the Tenderer's perception on the safety requirements for this contract will be adequate. This will be attached to **T2.2: Contractor's Health and Safety Plan**.

Only the successful Tenderer shall submit a separate Health and Safety Plan as required in terms of Regulation 7 of the Occupational Health and Safety Act 1993 Construction Regulations 2014, and referred to in **T2.2: Contractor's Health and Safety Plan**.

The detailed safety plan will take into consideration the **site specific risks as mentioned under PS.10.1** and must cover at least the following:

- (i) A proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 9 to 29;
- (ii) Pro-active identification of potential hazards and unsafe working conditions;
- (iii) Provision of a safe working environment and equipment;
- (iv) Statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (*Regulation 7*);
- (v) Monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- (vi) Details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 8 and other applicable regulations; and
- (vii) Details of methods to ensure that his Health and Safety Plan is carried out effectively in accordance with the Construction Regulations 2014.

The Contractor's Health and Safety Plan will be subject to approval by the Employer, or amendment if necessary, before commencement of construction work. The Contractor will not be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's written approval of his Health and Safety Plan.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension

of time or standing time and related costs

A generic plan will not be acceptable.

PS.10.3 Cost of compliance with the OHSA Construction Regulations

The rates and prices tendered by the Contractor shall be deemed to include all costs for conforming to the requirements of the Act, the Construction Regulations and the Employer's Health and Safety Specification as applicable to this contract. Should the Contractor fail to comply with the provisions of the Construction Regulations, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

Items that may qualify for remuneration will be specified in the Employer's Health and Safety Specification.

PS.11 SITE SECURITY

The Contractor shall, for the duration of the contract, provide sufficient security and watchmen to adequately ensure the safety and protection of the works, the Contractor's staff, including local labour and subcontractors, and all site plant and construction equipment required for the works.

Site Security, in conjunction with the SAPS (where necessary), shall be responsible for removal of disruptive elements, that may interrupt the progress of the contract through acts such as, but not limited to, intimidation, threats of disruption, violent disruption, or criminal and illegal activity by the local community or independent organisations or entities that may result in slowing down or partial or total stoppage of the works.

The Contractor is to take note of the prevailing security rate in the rate area, together with the allowable PSIRA rates for security when pricing this item.

The process of negotiation will not be deemed as work stoppage.

Payment for this item shall be made under Section 1, Part AB of the Bill of Quantities.

PS.12 PERFORMANCE MONITORING OF SERVICE PROVIDERS

The performance of service providers that have been selected to provide assistance in the provision of a municipal service, otherwise than in circumstances where Chapter 8 of the Municipal Systems Act applies, is required, by Section 116 of the Municipal Finance Management Act, to be monitored and reported on (see Cl.53 of the SCM Policy).

Appropriate key performance indicators (KPIs) for the contract must be set by the Municipality as a yardstick for measuring performance.

The following KPIs will be applicable to this contract:

- (a) The requirements of Clause 1.2.3.2 as regards to the employment of Local Labour.
- (b) The requirements of Clause 1.2.3.3 as regards to the Contractor Participation Goals.

PS.13 CIDB BUILD PROGRAMME

a) CIDB Skills Standard

It will be a condition of contract that the Contractor shall, in the performance of the contract, achieve the **Contract Skills Development Goal (CSDG)** established in the below referenced standard:

- CIDB Standard for Developing Skills Through Infrastructure Contracts, published in Gazette Notice No. 48491 of 28 April 2023.

Specify requirements.

b) CIDB Indirect Targeting Standard

It will be a condition of contract that the Contractor shall, in the performance of the contract, achieve the Contract Participation Goal (CPG) relating to the engagement of targeted enterprises as established in the below referenced standard:

- CIDB Standard for Indirect Targeting for Enterprise Development through Construction Works Contracts, published in Gazette Notice No. 36190 of 25 February 2013.

Specify requirements.

C3.3: STANDARD SPECIFICATIONS**C3.3.1**

The Specifications on which this contract is based are the **SANS / SABS 1200 Series Standard Engineering Specifications** (hereafter referred to as the **Standard Engineering Specifications**). This document is obtainable separately, and Tenderers shall obtain their own copies of the applicable Sections.

SABS 1200 A	:	GENERAL
SABS 1200 AB	:	ENGINEER'S OFFICE
SABS 1200 C	:	SITE CLEARANCE
SABS 1200 D	:	EARTHWORKS
SABS 1200 DB	:	EARTHWORKS (PIPE TRENCHES)
SABS 1200 DM	:	EARTHWORKS (ROADS, SUBGRADE)
SABS 1200 DK	:	GABIONS AND PITCHING
SABS 1200 G	:	CONCRETE
SABS 1200 GE	:	PRECAST CONCRETE
SABS 1200 M	:	ROADS (GENERAL)
SABS 1200 MF	:	BASE
SABS 1200 MH	:	ASPHALT BASE & SURFACING
SABS 1200 MK	:	KERBING AND CHANNELLING
SABS 1200 L	:	MEDIUM-PRESSURE PIPELINES
SABS 1200 LB	:	BEDDING (PIPES)
SABS 1200 LC	:	CABLE DUCTS
SABS 1200 LD	:	SEWERS
SABS 1200 LE	:	STORMWATER DRAINAGE

C3.3.2 AMENDMENTS TO THE STANDARD SPECIFICATIONS

INTRODUCTION

In certain clauses the standard, standardized and particular specifications allow a choice to be specified in the project specifications between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract. Details of such alternative or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains additional specifications required for this particular contract.

The number of each clause and each payment item in this part of the project specifications consists of the **prefix PS** followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications. The number of a new clause or payment item, which does not form part of a clause or a payment item in the standard specifications and which is included here, is also prefixed by PS, but followed by a new number which follows on the last clause or item number used in the relevant section of the standard specifications.

The Specifications on which this contract is based are the **SANS / SABS 1200 Series Standard Engineering Specifications (hereafter referred to as the Standard Engineering Specifications)**. This document is obtainable separately, and Tenderers shall obtain their own copies of the applicable Sections.

SABS 1200 A	:	GENERAL
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SABS 1200 DK	:	GABIONS AND PITCHING
SABS 1200 G	:	CONCRETE
SABS 1200 GE	:	PRECAST CONCRETE
SABS 1200 M	:	ROADS (GENERAL)
SABS 1200 MF	:	BASE
SABS 1200 MH	:	ASPHALT BASE & SURFACING
SABS 1200 MK	:	KERBING AND CHANNELLING
SABS 1200 L	:	MEDIUM-PRESSURE PIPELINES
SABS 1200 LB	:	BEDDING (PIPES)
SABS 1200 LC	:	CABLE DUCTS
SABS 1200 LD	:	SEWERS
SABS 1200 LE	:	STORMWATER DRAINAGE

PSA GENERAL**PSA 3 MATERIALS****PSA 3.1 Quality**

All pipes, equipment and materials necessary for the Works should be provided with the SABS Mark of Approval where applicable. The Contractor shall furnish, at his own expense and without delay, such samples as are called for or may be called for by the Engineer, who may reject all materials or workmanship not corresponding with the approved sample.

Add the following new Subclause:

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 the 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, shall be entirely at the Contractor's risk and the Employer accepts no liability whatever in respect of materials ordered by the Contractor on the basis of Tender Documents.

PSA 5.1 Survey**PSA 5.1.1 Setting Out of the Works**

Although survey control pegs are available within the confines of the Site, and details of these will be provided to the successful Tenderer, the pegs are often disturbed or lost during normal daily operations.

The Contractor shall, thus, allow in the Tendered Sum for Setting out the Works in Section 1 of the Schedule of Quantities for supplying and placing the following:

- (1) 5 No. x 1m long 15mm dia reinforcing bars to be struck into the ground and supported with concrete (300mm x 300mm x 300mm) at locations directed by the Engineer;
- (2) accurately, by Class 1 traverse closure, co-ordinate the staked points which shall then be levelled;
- (3) cast stainless steel tags into the concrete as permanent markers.

The Contractor shall, subsequent to constructing any portion of the Works, check line and level to ensure that the appropriate pegs have not been disturbed.

Additional costs of survey control as outlined above are to be included in the tendered rates in Section 1 of the Schedule of Quantities and no additional payment will be made.

Add the following new Subclause:

PSA 5.1.3 As Built Data

The Tenderer shall note the Lump Sum in Section 1: General of the Schedule of Quantities covering the submission of as built data.

During and on completion of the Contract, the Contractor is required to undertake an As-built survey of the Works, providing the following details:

- a) invert levels of leachate drainage lines, stormwater manholes, etc;
- b) installed services;
- c) liner surface levels and anchor trenches;
- d) stormwater drainage details;
- e) subsoil drainage lines

The Completion Certificate shall not be issued unless the above information has been forwarded to the Engineer.

PSA 5.4 Protection of Overhead and Underground Services

The Contractor shall take all necessary steps to ascertain the location of existing services before commencing any section of the Works and shall exercise the greatest care when working in the vicinity of such services, as well as the existing liner under existing Cell 1 and, where applicable, informing the Engineer timeously of his intentions to do so.

The Contractor shall take all necessary steps to protect any existing services against damage which may arise as a result of his operations, including blasting, on site. The Contractor shall bear the cost of the repair of damage to any service and the possible existence of which could reasonably have been ascertained by him in good time. The costs associated with the proving and protecting of services shall be allowed for by the Tenderer under items already included in the Schedule of Quantities.

Where the Contractor is responsible for the cost of repairs carried out by the Employer or an outside authority, the costs will be recovered by means of a deduction from the Contractor's monthly Payment Certificates. The Employer will attend to the payment of monies due to outside authorities.

The following services are known to exist:

- 132 kV and 275kV overhead electricity transmission lines and towers operated by Eskom and eThekweni Electricity;
- electrical, water and sewer services into and surrounding the administration offices, workshop and weighbridges;
- electrical cabling supplying the leachate treatment plant (LTP) inside the landfill along the southern boundary and extending north to the plant.
- electrical cable and water piping along the southern edge of the landfill.
- Water piping from BH 2 to the offices and washbay.
- leachate pipes between Cells 1 to 6 and the leachate storage ponds.
- Electronic temperature measurement systems near Cell 5.
- leachate and leakage monitoring manholes from Cells 1 to 6.

The successful Tenderer shall take note that the statutory clearance requirements of the Operational Health and Safety Act must be adhered to at all times when crossing or working in the overhead transmission line servitude.

PSA 5.5 Dealing with Water and Leachate

The Contractor shall properly deal with and dispose of water to ensure that the Works are kept sufficiently dry for their proper execution. For this purpose he shall provide, operate and maintain in sufficient quantity such equipment as may be necessary and shall provide other temporary works as may be necessary to minimise damage, inconvenience or interference.

The Contractor shall be responsible for handling all surface and subsurface water in such a way that construction can proceed with a minimum of risk and at no time shall the normal drainage flows be blocked. To this end the Contractor shall divert flow around the working area(s) if necessary. The Contractor shall also take particular care to ensure the safety of the Works against damage by flooding.

In addition to the above, the Contractor is reminded that in areas adjacent to the current landfill, leachate and gas could be present.

The cost of supplying and operating the equipment for dewatering of all excavations and controlling of stormwater and subsurface water on the Works will be held to be included in the Tendered Sum for Initial Supply of the Plant, Material, Labour and Services in Section 1 of the Schedule of Quantities and no separate payment will be made for this work.

PSA-5.7 Safety

▪ **Add the following:**

"The Contractor will refer to section, C3.3, Particular Specifications, for the OHSA 1993 Safety Specification."

▪ **and:**

"The Contractor shall provide security watchmen and all measures necessary to secure the works for the contract as he deems fit. The cost thereof will be deemed to be included in the relevant rates tendered. 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.

The Lovu Landfill Site is an operational site, LANDFILL GAS (containing methane) may be generated within the site and leachate collection system.

NAKED FLAMES AND SMOKING IS NOT PERMITTED anywhere on the Landfill Site and due care should be taken, in compliance with all the laws, when working on the Site.

DUE CARE AND DILIGENCE should also be exercised when work is carried out in the vicinity and/or adjacent to the previous disposal areas.

ALL LIQUIDS emanating from the landfill and surroundings are deemed to be DANGEROUS. Thus no liquid may be collected or used for any purpose whatsoever.

For health and safety reasons, NO SCAVENGING of any materials deposited on the Landfill Site will be permitted. The Contractor is to ensure that all his workers as well as his Subcontractors comply with this requirement. **Failure to do so may be sufficient grounds to remove persons off site who are in contravention of any of the above.**

PSA-5.9 Site Diary

A site diary in triplicate format, which shall be supplied by the Contractor must be filled in on a daily basis and submitted to the Engineer on a weekly basis. No claims will be considered without the site diary's schedules properly completed (on a daily basis) and submitted.

PSA-5.10 Accommodation of Traffic

The new access may require relocation of the existing gravel road. The Contractor will be required to keep this road open and trafficable to the approval of the Engineer at all times. Any amendments to the current traffic routes must be discussed with and approved by the Engineer.

PSA 6 TOLERANCES**PSA 6.2 Degrees of Accuracy**

The Contractor shall construct each of the various parts of the Works to a degree II accuracy except where otherwise specified.

PSA 7 TESTING

Add the following new Subclause:

PSA 7.5 Acceptance Control Testing

A laboratory will not be required on site for the Engineer's use and all acceptance control testing shall be done through a commercial laboratory. The Contractor shall provide his own testing laboratory which shall be capable of carrying out all necessary testing for process control. The Contractor's laboratory shall be subject to the Engineer's approval. The Engineer shall be given free access to the results of testing carried out by the laboratory.

The cost of acceptance control testing carried out by the Engineer will not be for the Contractor's account and will be paid for under the Prime Cost Sum allowed for in the Bill of Quantities, unless the tests reveal that the material is not in accordance with the Specifications, in which case the costs of such test shall be borne by the Contractor. Acceptance control testing will only be carried out on the written instruction of the Engineer.

PSA-8. MEASUREMENT AND PAYMENT**PSA.8.3.2 Facilities for the Contractor**

In addition to the requirements of CI 8.3.2.2 the rates tendered shall be extended to cover the above as well as dealing with leachate, water and dust, all road deviations and traffic control as may be required for the Contractor for the duration of the Contract and the Contractor's obligations in respect of the Environmental Construction Management Plan.

PSA.8.3.5 As built survey

The rate tendered shall the requirement that, on completion of the works, the Contractor is to undertake an as-built survey of the works providing at least the following details:

1. The overall extent and detail of all the works undertaken.
2. Stormwater drainage : manholes/headwall covers and inverts levels and centre co-ordinates.
3. Ducts : end co-ordinates
4. Subsoils end co-ordinates and bend points

PSA.8.4 Scheduled Time-Related Items**PSA.8.4.2.2 Facilities for the Contractor**

In addition to the requirements of CI 8.4.2.2 the rates tendered shall be extended to cover the above as well as dealing with leachate, water and dust, all road deviations and traffic control as may be required for the Contractor for the duration of the Contract and the Contractor's obligations in respect of the Environmental Construction Management Plan.

PSA 8.5 Sums stated Provisionally by the Engineer

Amend the penultimate sentence of Subclause 8.5 to read:

"The percentage rate for (b)(2) above shall cover the Contractor's overheads, charges and profit on the work covered by the sums provisionally stated for (b)(1) above. Payment will be made on the basis of the sums actually paid for such work".

PSA 8.6 Prime Cost Items

Amend the penultimate sentence of Subclause 8.6 to read:

"The percentage rate for (b) above shall cover the Contractor's overheads, charges and profit on the work covered by the sums provisionally stated for (b) above. Payment will be made on the basis of the sums actually paid for such work".

PSA-8.5 Sums stated provisionally by Engineer**PSA-8.5(b) 1) Sums stated provisionally by Engineer**i) Cost of Acceptance Testing

The provisional sum covers the cost of acceptance testing specifically ordered by the Engineer.

ii) Additional Survey

The provisional sum covers the cost of additional survey detail as may be needed from time to time.

iii) Indigenous Vegetation & education facilities

The provisional sum covers the cost of the transplanting and planting of indigenous vegetation on the site by a specialist horticulturist during the Contract and the extension of the education facilities as needed.

iv) Environmental Construction Management Plan Audits

The sum covers the cost of Environmental Construction Management Plan audit by an independent Environmental Professional as ordered by the Engineer.

v) Community Liaison Officer

The provisional sum covers the cost of the Community Liaison Officer who will be employed by the Contractor for the duration of the contract.

vi) Mentoring of CPG Contractor

The provisional sum is for the Contractor to provide mentoring to CPG Contractors should this be required and this sum will be utilised at the discretion of the Engineer. The item shall cover direct pricing assistance, training and supervision of the CPG subcontractors.

vii) Allowance for a Social Facilitator

The provisional sum covers the cost of a Social Facilitator as instructed by the Engineer by the Contractor and for a period as instructed by the Engineer.

viii) Flowmeters for leachate measurement

The provisional sum covers the costs of providing leachate measurement and other leachate and leachate treatment plant instrumentation should this be required and this sum will be utilised at the discretion of the Engineer.

ix) Temperature monitoring

The provisional sum covers the costs of providing temperature monitoring for the proposed Cell 7 as well the existing Cells 1, 2 and 3 should this be required by the approval conditions of the works and this sum will be utilised at the discretion of the Engineer.

x) Provision of a CQA Plan

The provisional sum is to cover the costs of implementing a CQA Plan should this be required as required by the regulatory authorities conditions of approval. This sum will be utilised at the discretion of the Engineer.

xi) Provision for Tankering of leachate

The provisional sum is to cover the costs of tankering leachate that will transported by tankers of at least 16m³ in capacity on instruction from the Engineer. This includes, but not limited to, for all plant, labour and equipment to pump leachate into a road tanker from the existing storage ponds at the Lovu Landfill site, weigh over the site weighbridges and transport to the Municipal Southern Wastewater Treatment Works at Merebank. The leachate may be from Leachate Storage Ponds 1, 2 and 3. Provisional.

xii) Leachate Treatment Plant upgrade

This provisional sum is to cover the cost of upgrade works of the Leachate Treatment Plant including, but not limited to, electrical, mechanical, civil and structural works. It is anticipated that this work will be undertaken by a specialist subcontractor from quotes obtained by, or on instruction from the Engineer.

xiii) Weighbridge entrance awning repairs

This provisional sum is to cover the cost of repairs to the weighbridge awning including, but not limited to, removal and/or replacement of rafters, roof sheeting, purlins and structural steel tubes. Provisional.

PSAB ENGINEER'S OFFICES**PSAB.1 SCOPE**

This section of the specification covers the provision of an office and facilities for the Engineer.

PSAB.3.2 OFFICE BUILDING

Replace the contents of this clause with the following: -

The Contractor shall supply, maintain and service one office of 9m² minimum floor space and a ceiling height of 2.5m with lighting for the sole use of the Engineer.

The furniture stated SABS 1200 AB-1986 clause 3.2, (a.... j) shall be replaced by the following items to be provided in the site office:

- (a) One desk 1.5m long x 0.9m wide with four (4) drawers (one lockable).
- (b) One trestle table, 2.0m long x 1.0m wide x 0.9m high, with a smooth top.
- (c) One Office swivel chair, two visitors' chairs.
- (d) An acceptable blind to each window.
- (e) A pin board, 1.5m long x 1.2m high for displaying plans and diagrams.
- (f) A whiteboard of 2m² size with 3 coloured markers and duster
- (g) Acceptable lighting
- (h) Provision of two 15-amp volt plug points with power supply
- (i) An air conditioner in proper working order.
- (j) One A3 colour printer.
- (k) One small electric refrigerator.
- (l) An acceptable blind on each window.
- (m) A fire extinguisher which shall be properly maintained by the Contractor
- (n) An A0 Drawing rack with minimum of 10No. hangers.
- (o) One small electric microwave oven.

The Contractor shall also include for a basin with running water, a lockable toilet for the exclusive use by the Engineer and Employer and 2 No. covered parking bays that shall be erected for the sole use by the Engineer, Employer and his staff.

The Contractor shall also supply, maintain and service a boardroom for 24m² minimum floor area able to seat 10 people for joint use by him and the Engineer. This room shall be equipped with adequate lighting, two power points, chairs, tables, a 2m² whiteboard, a 2.5m² pin board with stationary and an air-conditioner in proper working order.

The Contractor will be required to provide for daily cleaning of the Engineer's office, boardroom and toilets. Payment for the cleaning of the offices will be deemed to be included in the Tenderer's General rates.

The provision of the site notice board shall be allowed for under this item.

PSC SITE CLEARANCE

PSC-3 MATERIALS

PSC-3.1 Disposal of Materials

- ***Add the following clause:***

Material obtained from clearing and grubbing is to be disposed of on site in a position agreed to by the Engineer within 2km of the site.

PSC-8 MEASUREMENT AND PAYMENT

PSC-8.1 Basic Principles

- ***Add the following:***

Site Clearance shall only be measured where the Engineer orders that clearing is to be removed prior to any construction. The site shall not be measured as a whole.

PSC-8.2 Scheduled Items

- ***Add the following:***

PSC-8.2.1 In addition to the requirements of Clause 8.2.1, the rate shall cover the removal of all sugar cane, any trees (girth up to 2,0m) and stumps (as per Clause 8.2.2), trimming of above ground obstructions including refuse, rubble, roads and fencing. Including re-clearing and the sealing of all pipes as instructed. To include for all transport and activities as per Clause 8.2.9 and disposal as directed by the Engineer. Any backfilling required shall be with material of a minimum quality of G7 following TRH 14.

PSC-8.2.8 Demolish and remove leachate collection pipe manhole structures Unit: No.

The rate tendered shall include for the demolishing, loading, and transporting of the leachate collection manhole structure to an area directed by the Engineer for offloading. Structure include concrete slab, brickwork, and steel reinforcing.

PSC-8.2.11 Transplanting trees Unit: No.

The rate tendered shall cover careful excavation under the supervision of the Engineer to excavate around and loosen the trees designated for transplanting, their removal, loading transport and offloading at prepared positions, all using wide strap slings and avoiding damage to the trees. Backfilling of the holes left by removing the trees shall be included in the rate tendered.

PSC-8.2.12 Removal of material from existing edge berm Unit: m³

The rate tendered shall include for the removal of all Municipal Solid Waste (MSW) or other materials having to be removed from the overlap area as part of the operations described in Clause PSC-8.2.13 will be measured under this item. The quantity shall be measured by survey in place of the material having to be removed in order to undertake the operations described in Clause PSC-8.2.13 and as directed by the Engineer.

The rate tendered shall include for the excavation, loading and transport as per Clause 8.2.9, of the MSW without damage to the existing liner and its removal to the DSW disposal area.

A significant proportion of the material required to be removed may be Municipal Solid Waste (MSW) with a varying age of placement and including recently placed MSW. MSW comprises

domestic refuse, rubble (concrete brick, stone, plaster etc), plastic, metal pieces and vegetation (garden refuse).

The MSW excavated shall be removed and placed within the landfill area, as directed by the Engineer, and on the same day as excavation takes place in order to limit odours. Open MSW shall not be allowed to stand open for more than **one** working day without covering with a minimum of 150mm of soil (**paid for elsewhere**), unless permission from the Engineer is obtained. The rate tendered shall include for the covering described above and for spraying odour control chemicals during excavation as required by the Engineer. The odour control chemicals shall be provided by DSW and applied using a knapsack sprayer provided by the Contractor.

PSC-8.2.13 Remove existing edge berm and liner layerworks to expose liner Unit: m

The quantity shall be the measured distance around the perimeter of the area where the existing liner is to be exposed. The rate tendered shall include for removing all existing liner layerworks materials in the overlap area which could include, but is not limited to :

any existing edge berm of cement stabilised soil at approximately 1m³/m length,

the ±150mm thickness of stone comprising a drainage layer and,

the ±150mm to 300mm thickness of sand or cement stabilised sand of the liner protection layer (totalling approximately 0,5m³/metre)

to expose and cut away any existing geotextiles where these are present and expose the liner, where these exist and as instructed.

All work is to be done by hand and damage to the existing liner avoided. The existing liner is to be exposed and cleaned by brooming, to the Engineer's approval, preparatory to over or under laying, as required, with the new liner. The work is to be programmed to avoid damage to the exposed liner.

Damage to the existing liner will be repaired at the Contractor's expense and by methods approved by the Engineer.

PSC-8.2.14 Break out ex concrete approx. 250mm thick in paving, foundations and walls Unit: m³

The quantity shall be the measured on site before demolition and removal and will include all works necessary for this and the disposal of the broken material as directed on site.

PSC-8.2.15 Remove leachate storage ponds 1 & 2 structures Unit: m²

The rate shall include for the breaking, loading, and offloading of the pond containment barrier structure which include; the 150mm thick cement stabilized protection layer, HDPE liner, GCL liner, clay material, and base layer material. The rate shall allow for the placement of the removed materials at areas on site as directed by the Engineer.

PSD EARTHWORKS

PSD-1 SCOPE

The work covered under this specification comprises the bulk earthworks required for the new access road and cell construction. It excludes road layerworks, trenching and the construction of liner layers.

PSD-3 MATERIALS

PSD.3.1 Classification for Excavation Purposes

For the purposes of this contract Intermediate excavation and all Boulder excavation as specified in Clause D.3.1, and all other material including large boulders but **excluding** Hard rock excavation as per Clause D.3.1.2(c), shall be included, measured and classified with Soft excavation as specified in Clause D.3.1.2(a).

PSD-3.3 Selection

PSD-3.3.2 Backfilling & Embankments

- ***Add the following:***

Excavated material shall be placed either into fill or stockpile. As the properties of the material are required for the various uses discussed (i.e. topsoil, selected layer/backfill) the Contractor will be required to select the material excavated for use for specific operations. The identification of the various types of material will be made by the Engineer and it will be the Contractor's responsibility to carefully select the material and ensure it is not mixed with other types.

PSD-5 CONSTRUCTION

PSD-5.1 Precautions

PSD-5.1.1 Safety

PSD-5.1.1.2 Safeguarding of excavations

- ***Add the following additional subitems:***

“(g) The Contractor or his agent or his representative shall **not** require or allow any person to work under unsupported overhanging material or in an excavation which is more than 1,5 m deep, and any excavation which has not been adequately supported or braced if there is a danger of the overhanging material or the sides of the excavation collapsing. The support, shoring or bracing to be designed and constructed by the Contractor, shall be strong and sturdy enough to support the sides of the excavation in question.”

PSD-5.2 Method and Procedures**PSD-5.2.3 Placing and Compaction****PSD-5.2.3.1 Embankments**

Clause D.5.2.3.1 shall be extended to include for benching and bonding as instructed in fill and existing refuse slopes.

Clause D.5.2.3.1 shall also be extended to include for stockpiling as detailed in SABS 1200DM generally and by Clause 5.2.2.4.

PSD-5.2.4 Finishing**PSD-5.2.4.1 Final Grading**

Clause D.5.2.4.1 is to be extended to cover **all** slopes (both in cut and fill) which are to be lined. In addition to the requirements of this clause, the slopes shall be trimmed to a plane surface free from loose material and stones larger than 50mm maximum dimension and having no local humps or depressions greater than 100mm and meeting with the Engineer's approval. The surface shall be finished or compacted to provide a stable slope.

The finished surfaces of all works that will be in contact with the liner shall be free of all protrusions, stones, vegetation, roots, rubble, refuse and particles that could damage either type of liner. The surface shall be approved by the Engineer prior to any liner placement.

PSD-5.2.4.2 Topsoiling

- **Delete the last sentence and replace with:**

The final thickness of the topsoil shall be 100mm."

PSD-5.2.4.3 Grass or Other Vegetation

The grass supplied for this contract shall be either Buffalo or Cynodon Dactylon.

PSD-5.2.5 Transport for Earthworks**PSD-5.2.5.1 Freehaul**

- **Add the following:**

"For this contract all haul will be regarded as free haul and the cost of transportation of all materials will be deemed to be included in the rates and prices tendered in the Schedule of Quantities."

PSD-5.2.5.2 Overhaul

Overhaul will not be payable on this contract.

PSD-8 MEASUREMENT AND PAYMENT**PSD.8.1 Basic Principles**

The requirements of Clause D.8 shall be extended as follows :

“The section shall be extended to include compaction of all materials as specified. This includes for fill to be compacted in restricted conditions with limited access and of variable volumes, including that in thin layers and on slopes of up to around 1v:3h. The rate is to include for the disposal of up to 5% by volume of unsuitable material.

The various types of fill will be identified separately.

The rate shall include for the cutting of benches in all materials. The fill placed on such benches shall be included in the measurement. **The volume of materials cut for such benches from the existing slope and placed in fill shall not be included in the measurement for this item.**

No stockpile handling will be measured in this contract. The Contractor is to plan the work, and allow in the rates tendered, for any stockpiling or stockpile handling that may be required.

PSD-8.2 Computation of Quantities

▪ **Add the following:**

PSD-8.2.1 Measurement of the bulk earthworks only for this contract shall be in cubic metres (m³) calculated by Average End Areas method or Digital Terrain Model (DTM.). The measurement shall be based on the total cut volume measured after site clearance and the topsoil has been stripped.

PSD-8.3 Scheduled Items**PSD-8.3.2 Bulk Excavation**

This clause shall be extended to allow for excavation to stockpile and all stockpile handling.

PSD-8.3.4 Importing of Materials

The rate for the importation of material shall cover the cost of procuring the materials, placing and spreading into position.

PSD-8.3.6 Overhaul

This item is deleted.

PSD-8.3.7 Lateral Support

This item is not measured and allowance for lateral support must be included in the relevant rates.

PSD-8.3.8 Existing Services c) Excavate by hand to expose existing services

The rate shall cover all hand work to carefully expose existing services as directed and without damaging such services.

PSD-8.3.11 Grassing or other Vegetation Cover

Grass planting on this contract shall distinguish between stolons (runners) and sodding. Supply of grass shall be from the Contractor's own source but the type of grass shall be subject to the Engineer's approval.

PSDB EARTHWORKS FOR PIPE TRENCHES**PSDB-1 SCOPE**

This Section of the specification shall be extended to include the liner anchor trenches, subsoil drains, biogas & leachate drainage and stormwater pipework shall also be included.

PSDB-3 MATERIALS**PSDB.3.1 Classification for Excavation Purposes****PSDB.3.1.2 Classification of Excavation**

For the purposes of this contract, Intermediate excavation as specified in SABS 1200D Clause 3.1.2 (b), shall be included, measured and classified with Soft excavation as specified in SABS 1200D Clause 3.1.2 (a). The excavation through any and all road or paving layerworks shall be included as Soft excavation.

PSDB.3.4.1 9mm, 13mm, 19mm and 53mm stone

▪ **Add the following:**

The 9mm, 13mm, 19mm and 53mm stone shall be clean, hard, durable crushed concrete aggregate complying with SABS 1083.

PSDB.3.5.1 Cement Stabilised Backfill Material

In addition, and as a clarification to the requirements of Clause DB.3.5, the material to which cement is added to make stabilised backfill shall be selected granular material as per Clause DB.3.3 but with a minimum Grading Modulus of 1,2 and a maximum Plasticity Index (PI) of 10. Maximum particle size to be 13mm. The material shall be mixed with 6% cement by mass before being compacted to 95% Mod AASHTO density at the appropriate Optimum Moisture Content (OMC), or as approved by the Engineer.

PSDB-5 CONSTRUCTION

▪ **Add:**

PSDB-5.6 Anchor Trench Position

The anchor trenches shall be placed a **minimum of 800mm**, or a distance as specified, back from the edge slopes to be covered. The front edge of the trench shall be rounded with a minimum radius of 300mm (or as approved by the Engineer) to eliminate sharp corners that could damage the liner. The liner shall extend into the anchor trench as shown on the drawings. The cement stabilised material used for backfill shall have a maximum particle size of 19mm and shall be placed in two lifts to allow for compaction, or to meet with the Engineer's approval.

PSDB-8 MEASUREMENT AND PAYMENT**PSDB.8.3.2 (a) Excavate in all Materials for Trenches, Backfill, Compact and Dispose of Surplus Material**▪ **Add:**

Pipes shall be buried to provide at **least 300mm** of cover over the crown of the pipe. Bedding shall be as specified for “**FLEXIBLE PIPES**” in SABS 1200LB. A minimum trench width of 450mm, and all over break, shall be allowed for. The rates tendered shall also include for all operations required for the disposal of unsuitable material or surplus material caused by the importation of suitable backfill or bedding materials.

The rate is to include for excavations of monitoring drains in the base layer and gas drains (if any) in the leachate drainage layer.

Allowance should be made for hand work as needed and in the vicinity of any existing services or structures and the protection of such existing services or structures. Any removal and trenching through roads or any other material not specifically measured shall be included in the rate tendered. Compaction road reserve areas as required by Clause DB.8.3.3.3 shall be included in the rate tendered. Allowance to control all liquid inflow as required by Clause DB.8.3.4 b) shall be included in the rate tendered. Accommodation of traffic as required by Clause DB 8.3.7 shall be included in the rate.

Allowance should be made for the Contractor or his agent or his representative **not** requiring or allowing any person to work under unsupported overhanging material or in an excavation which is more than **1,2m deep**, and any excavation which has not been adequately supported or braced if there is a danger of the overhanging material or the sides of the excavation collapsing. The support, shoring or bracing to be designed and constructed and allowed for in his rate by the Contractor and shall be strong and sturdy enough to support the sides of the excavation in question.

In addition to the requirements of Clause 8.3.2 allowance must be made in the rates for the trimming, smoothing and rounding of the excavation to accommodate the liners without damage and as directed by the Engineer. Anchor trenches are to be constructed so as always to be free draining.

PSDB-8.3.3 Excavation Ancillaries**PSDB-8.3.3.1 Imported Backfill Materials**

Make up deficiency in backfill material by importation from commercial source.

1. 53mm, 13mm, 9mm stone and Coarse Sand to Subsoil Drainage

PSDB-8.3.3.4 Overhaul

There will be no overhaul measured in this contract. All haulage including that from commercial sources will be considered as freehaul. The cost of all haulage is deemed to be covered by other rates in the Schedule of Quantities.

PSDB.8.3.8 Cement Stabilised Backfill Material - Anchor trench backfill

In addition to the requirements of Clause DB.8 the rate tendered for these items shall include for placing and bedding the materials around any pipes (if present) or lining materials without damaging them and for packing to form drainage layers as required. In addition to the requirements of Clause DB.8.3.3.1.c) allowance must be made in the rate tendered to place and compact the cement stabilised backfill to 95% Mod AASHTO density, or as approved by the Engineer. The rate shall allow for this having to be undertaken in stages.

Stabilised sand having to be packed on the anchor trench face to smooth the radius for the geomembrane anchorage (PSDB-5.6) shall be included in this item.

PSDM EARTHWORKS (Road Subgrade)

PSDM-1 SCOPE

The scope of this specification is extended to include the construction of liner (including any compacted clay lining (CCL), temporary capping, road layers and the excavation for any open drains.

PSDM-2 INTERPRETATION

PSDM-2.3 Definitions and Abbreviations

▪ ***Add the following:***

Leachate : Toxic effluent produced during the decomposition of waste.

Liner System : A layered barrier to prevent the escape of leachate into the environment.

Synthetic Materials : Either a geomembrane 1,5mm thick High Density Polyethylene (HDPE) sheeting and/or Geosynthetic Clay Liner (GCL).

PSDM-3 MATERIALS

Material quality is generally as designated by TRH 14, Guidelines for road construction materials published by the Department of Transport NITRR and CSIR.

PSDM.3.1 Classification for Excavation Purposes

For the purposes of this contract Intermediate excavation and all Boulder excavation as specified in Clause D.3.1, and all other material including large boulders, but **excluding** Hard rock excavation as per Clause D.3.1.2 ©, shall be included, measured and classified with Soft excavation as specified in Clause D.3.1.2(a).

PSDM-3.2 Classification for Placing Purposes

The materials classified shall be expanded to cover all the natural materials required for the liner system either obtained from site or imported.

PSDM-3.2.8 Leachate Drainage Layer

The material for this layer shall comprise clean, washed, single sized crushed stone of the specified size (53mm; or as approved by the Engineer), graded and meeting with the requirements of Table 7 (24) of SABS 1083 - 1976 (Aggregates from Natural Sources) except that a maximum of 15% may pass the 37,5mm sieve.

PSDM-3.2.9 Cement

The cement shall be general purpose or ordinary Portland cement complying with SABS ENV 197 -1.

PSDM-3.2.10 Selected Layer (Roadworks)

▪ ***Replace with the following:***

The material supplied for the selected layer is to be a G5 in terms of TRH 14 and comply with the following requirements:

Grading

Maximum size of 63mm and a minimum grading modulus of 1,5mm

Atterberg Limits

Liquid Limit (maximum) 30

Plasticity Index (maximum) 30

Linear Shrinkage (%) (maximum) 30

Linear Shrinkage % passing 0,425mm sieve (maximum) 30

Strength and Swell

CBR after soaking of greater than 30% at 95% Mod AASHTO and a maximum swell of 0,5% at 100% Mod AASHTO density.

PSDM-3.2.11 Gravel Surfacing

The material supplied for the surfacing is to comply with that specified for the selected layer in PSDM-3.2.10 above.

PSDM-3.2.12 Compacted Clay Liner (CCL)

The material for the CCL is to be clay soil, generally with a Plasticity Index (PI) of greater than 10 and a maximum particle size of 4mm or such that no damage to the overlying geomembrane will occur. The CCL shall be compacted to a minimum dry density of 95% of the Standard Proctor maximum dry density, at a water content of Proctor Optimum to Proctor Optimum +2%. Permeability shall be less than 1×10^{-6} cm/s.

PSDM-4 PLANT

Further to this clause the plant used on this site shall be selected after careful consideration as to the nature of the works and in particular the necessity to work on slopes and the special requirements needed when working in close proximity to sensitive, costly materials. Plant used above the geomembrane and GCL must be light enough to avoid damaging the line but be but capable of achieving the specified tolerances and compaction.

PSDM-5 CONSTRUCTION**PSDM-5.2 Methods & Procedures****PSDM-5.2.2.4 Selection and Stockpiling: Compacted Clay Liner (CCL)**

The approval or designation of a particular borrow area for a particular purpose does not imply that all the material is suitable for that purpose or should be used for that purpose. The Contractor shall select suitable material from that source, discard unsuitable material and reserve material for other purposes as necessary. When required and as ordered by the Engineer, material shall be stockpiled for later use when the excavation thereof is unavoidable in order to excavate the material required at the time.

PSDM-5.2.3 Treatment of Roadbed**PSDM-5.2.3.2 Removal of Unsuitable Material**

Where required by the Engineer, areas of in-situ material are to be excavated below formation to a depth of 150mm to remove 'hard/unsuitable' material that could damage the liner layers. This material shall be replaced by selected material excavated from site.

In areas which contain a significant proportion of rock where directed by the Engineer, the formation is to be ripped and scarified to a depth of 150mm and removed and replaced with suitable material. The formation shall then be worked to tolerance and compacted to a nominal density of 90% Mod AASHTO density, or as accepted by the Engineer, on slopes of up to around 1v:3h as specified under Clause DA 5.5.

The layer shall be finished to be free draining and to a tolerance of ± 35 mm in 3m (no gap greater than 70mm to be measured under a 3m straight edge), or as accepted by the Engineer."

PSDM-5.2.4 Fill**PSDM.5.2.4.1 Finishing**

Clause DM.5.2.4.3 is to be extended to cover **all** slopes (both in cut and fill) which are to be lined. In addition to the requirements of this clause, the slopes shall be trimmed to a plane surface free from loose material and stones larger than 50mm maximum dimension and having no local humps or depressions greater than 100mm and meeting with the Engineer's approval. The surface shall be finished or compacted to provide a stable slope.

The finished surfaces of all works that will be in contact with the liner shall be free of all protrusions, stones, vegetation, roots, rubble, refuse and particles that could damage either type of liner. The surface shall be approved by the Engineer prior to any liner placement.

PSDM-5.2.4.2 Placing and Compactionc) Breaking down of material

Further to this clause, material from site where reserved for use in the base and protection layers may require additional treatment by sieving and/or breaking down/rolling to reduce the particle size to that specified.

PSDM.5.2.5 Transport for EarthworksPSDM.5.2.5.1 Freehaul▪ ***Add the following:***

"For this contract all haul will be regarded as free haul and the cost of transportation of all materials will be deemed to be included in the rates and prices tendered in the Schedule of Quantities."

PSDM-5.2.9 Imported Base: Under drainage and Monitoring systemunit: m³

For this item, the requirements of SABS 1200 DM shall be extended as follows :

The material shall be the specified thickness of clayey or silty, sand (possibly Berea Red Sand) of a **G7/G8 quality** with a Plasticity Index of less than 15 and all particles passing the 4.75mm sieve, or no particles larger than 6mm and meeting with the approval of the Engineer.

The material as specified is to be placed and spread in a uniform layer with the correct moisture content to enable the specified compaction of 93% Mod AASHTO, or that as approved by the Engineer, to be achieved. Placement shall be undertaken in such a way as to ensure that the layer remains stable. This may require starting at the base of the slope to be lined and progress upwards.

The finish is to meet with the Engineer's approval and generally should have no protrusions which may damage the geomembrane, to be free draining and to a tolerance of $\pm 15\text{mm}$ in 3m (no gap greater than 30mm to be measured under a 3m straight edge). The base layer surface should be smooth and free of vegetation, standing water, and angular stones or other foreign matter that could damage the geomembrane. The final subgrade surface may have to be rolled with a smooth-drum compactor of sufficient weight to remove any wheel ruts, footprints, or other abrupt grade changes. All protrusions extending more than 13mm from the surface shall either be removed, crushed, or pushed into the surface with the smooth-drum compactor. The finished surface shall be subject to the approval of the Engineer and inspected to check that no protrusions, which may damage the geomembrane, are present.

The rate shall cover all the costs of acquiring suitable material, handling, transporting regardless of distance stockpiling and storing then placing as specified. Placement will be on slopes generally not steeper than 1v:3h. Compaction shall be to 93% Mod AASHTO density, or as approved by the Engineer”.

The rate is to include for excavation for the monitoring drains and removal of the spoil, but not for construction of the drains themselves.

PSDM-5.2.10 Imported Liner Protection Layer: Stabilised Sand

unit: m³

For this item, the requirements of SABS 1200 DM shall be extended as follows :

NOTE: This layer is critical to the stability of the liner system

Timing of the placement of the layer is critical as the GCL needs covering before hydration and the HDPE geomembrane requires protection

“Volume to be measured after placement and achieving the specified strength. The rate shall cover approved material that shall be the specified thickness of clean fine sand or silty sand (generally $PI < 10$; $GM > 0,75$; all particles passing the 4,75mm sieve and not more than 10% passing the 0,075mm sieve), mixed with cement and compacted to achieve a minimum strength of **1,2MPa or 2.0MPa as specified.**

Cement shall be added at a **minimum** of 6% by mass, or as approved by the Engineer to obtain the strength specified.

A minimum unconfined compression strength of 1,2MPa or 2MPa as specified is required to be obtained after 7 days, as determined in the TMH 1 Test Method A14. The rate shall include for the provision of the suitable sand, cement at 6% by mass and mixing, watering, shaping, compacting, site control testing and including all supervision, labour, plant. The material as specified is to be premixed, placed in a uniform layer with the correct moisture and cement content to achieve the specified strength of 1,2MPa after 7 days and trimmed to an even thickness and slope.

Placement shall generally be in approximately horizontal bands of a length that allows the placed material to set without slumping or **imparting tension into the underlying geomembrane.** Placement may also be undertaken in such a way as to ensure that the layer remains stable within the limitations of the geosynthetic materials used and as approved by the Engineer. This may require starting at the base of the slope to be lined and progress upwards and this is to be allowed for.

The cement treated layer shall be protected against rapid drying during the first 4 days after completion by keeping it continuously damp.

Placement will be on slopes generally not steeper than around 1v:3h (and generally around 1v:5h) and in such a way as to ensure that the layer remains stable. Restricted placement is to be allowed for. Compaction shall be to 93% Mod AASHTO density and completed within 10 hours of first mixing in the cement, or as approved by the Engineer”.

The layer shall be finished to have a minimum thickness of between 125mm and 300mm as specified, or as approved, and to be free draining to a tolerance of ± 20 mm in 3m (no gap greater than 40mm to be measured under a 3m straight edge)”.

PSDM-5.2.11 Leachate Drainage Layer

The stone for the leachate drainage layers is to be placed and compacted immediately after the liner protection layer and on the same day, or within such time as is allowed by the Engineer. Placement shall be in such a way as to ensure, to the satisfaction of the Engineer, that the Liner is not damaged. The stone may be placed by hand to the specified thickness using side forms. Alternative methods of placement are to be to the approval of the Engineer.

Placement will be on slopes generally not steeper than around 1v:2.5h. Levelling and nominal compaction are required to be allowed for.

PSDM-5.2.12 Compacted Clay Liner (CCL)

The CCL is to be placed in layers to achieve the specified compaction, have a surface that cannot damage the overlying geomembrane and finished to ensure that it is free draining. Construction shall include wetting to avoid shrinkage cracking and re-working immediately before geomembrane placement.

PSDM-6 TOLERANCES

The tolerances applied to the road bed and selected layers shall be as indicated in the relevant clauses. With regard to the selected layer the average level of a layer shall be such that the thickness of the following layer shall not be less than that specified.

The allowance tolerance for landfill areas shall be:

Layer thickness	:Base layer	- 5mm (max of 8% of tests)
	Protection layer	- 5mm (max. of 5%) of tests)
	Leachate Drainage layer	-10mm (max of 8% of tests)
Level	:	± 50mm

PSDM-7.2 PROCESS CONTROL Compacted Clay Liner (CCL)

Add for the CCL process control:

Test	Frequency
Indicator & hydrometer analysis	1No. per 5 000m ² per lift
Proctor maximum dry density	1No. per 5 000m ² per lift
Laboratory permeability test (constant head)	1No. per 5 000m ² ; 4No. minimum
Compaction testing (nuclear gauge)	4No. per 1 500m ² per lift

PSDM-8 MEASUREMENT AND PAYMENT**PDDM-8.1 Basic Principles**

It is noted that road bed preparation shall be measured over the entire cell area. It shall be measured along the actual ground surface and not in plan. Similarly, the selected layer for the liner system shall be measured along the actual surface not plan.

PSDM-8.3 Scheduled Items**PSDM-8.3.3 Treatment of Road Bed**

▪ ***Add the following:***

For this item, the rate is required to allow for the operations described in Clause DM 8.3.3. The rate for this item is to be extended to include for ripping and scarifying to a depth of 150mm and the removal of particles greater than 100mm in size and replacement with suitable material. The formation shall then be trimmed to tolerance and compacted to a nominal 90% Mod AASHTO density, or as approved by the Engineer. Work is required to be undertaken on **slopes of up to around 1v:2.5h**.

The rate is also to allow for all trimming operations. Generally all particles protruding more than **30mm** above soil or rock surface are to be trimmed and undulations filled in.

In areas which contain a significant proportion of rock or rubble greater than 150mm in size, the formation is to be ripped and scarified to a depth of 150mm and particles greater than 100mm in size removed and replaced with suitable material. The formation shall then be worked to tolerance and compacted to a nominal density of 93% Mod AASHTO density, or as accepted by the Engineer, on slopes of up to around 1v:3h.

The layer shall be finished to be free draining and to a tolerance of $\pm 35\text{mm}$ in 3m (no gap greater than 70mm to be measured under a 3m straight edge), or as accepted by the Engineer.

PSDM-8.3.4 Road and Liner Layersunit: m³

For this item, the requirements of Clause DM.8.3.4 shall be extended as follows :

The measured volume for the selected layers shall be the cubic metre (m³) measured in place after compaction. The rate shall where necessary, include the cover of the procurement of the material, from site or commercial sources, haulage, royalties, processing to break down or mix the material and selection prior to placing to remove oversize or unsuitable material, trimming and compaction to the specified density. It shall also cover any additional precaution/effort required to attain the specified tolerances and work in close proximity to sensitive layer/membranes without damaging them. The rate tendered shall include for the construction of trial sections as specified or instructed.

Material shall have no single Minimum CBR as stated in Clause DM 3.2.2 but be of the quality specified elsewhere.

Details of the materials and construction are covered in Sections 3 and 5 respectively.

PSDM-8.3.4 a) Compacted Clay Linerunit: m³

For this item, the requirements of Clause DM.8.3.4 shall be extended as follows :

The measured volume for the selected layers shall be the cubic metre (m³) measured in place after

Details of the materials and construction are covered in Sections 3 and 5 respectively.

PSDM-8.3.12 Overhaul

No overhaul shall be measured under this Contract. All rates will be considered to have made allowance for all haulage.

PSDM-8.3.15 Catchwater mounds and channels

In addition to the requirements of Clause DM-8.3.15 and other relevant clauses, the rate tendered for this item covers excavation, fill placement and backfilling for all lined and unlined drains and catchwater mounds.

PSDM-8.3.17 Cell Edge berms unit: m³

The volume measured will be that of the specified cross sectional area of the edge berm multiplied by the length constructed and approved.

The rate shall cover the cost of all plant, labour and materials associated with forming the berms as specified using approved material (selected clean fine sand or silty sand (*PI <5; GM >0,75; all particles passing the 4,75mm sieve and less than 10% remaining on the 0,075mm sieve*), mixed with **6% cement** by mass to achieve a minimum strength of 1MPa as determined by TMH1 Method A14.) inclusive of supply, mixing, placing, shaping and compaction to 95% Mod AASHTO density.

Tolerance to be Degree II unless otherwise indicated.

PSDK GABIONS AND PITCHING

PSDK.1 SCOPE

This section of the specification covers all gabion work and extended to cover all geosynthetic materials, including any geogrid but **excluding** the GCL and geomembrane. Stone pitching and the provision of a fence to intercept wind blown waste scatter is also included.

PSDK-3 MATERIALS

PSDK.3.1.3 Geotextiles : Geofabric

Add the following to Clause DK.3.1.3 :

“All geofabric, unless otherwise specified or approved by the Engineer, shall be a non-woven, continuous monofilament, needle punched polypropylene, polyethylene or polyester polymer or equal approved product and shall contain such additives as are necessary to render the filaments resistant to the effects of ultra-violet radiation in accordance with the following requirements.

The grade shall meet the minimum mass per m² as specified but shall be subject to the Engineer's approval.

The geofabric shall be laid with **minimum laps of 400mm** (unless otherwise specified) and sheets shall be joined together in accordance with the manufacturer's specifications. No metal staples or wire will be allowed for stitching or joining. All material used shall be at least as resistant to degradation as the geofabric itself.

Geofabrics required for this project shall comply with the following:-

Description	Tensile Strength		CBR kN	Throughflow 50mm head l/s/m ²	Puncture Resistance (mm)	Min Mass g/m ²
	Min kN/m	Elongation %				
Type 2	11	40-65	1.8	50 - 125	27	150
Type 3	14	40-65	2.2	30 - 120	26	180
Type 4	15	40-65	2.6	30 - 100	21	210
Type 5	26	40-65	4.5	30 - 90	16	340
Cushion	75	40-65	11.4	25	7	1 000
Test Method	SANS 10221			ASTM D4491	EN ISO 13433	SANS 10221

PSDK.3.1.3 Geotextiles : Geogrid

The geogrid is to be included in the anchor trench with the geomembrane and is required to provide tensile strength to the cement stabilised protection layer before it gains compressive strength

The geogrid tensile strength in the machine direction shall not be less than 60kN/m at 3% maximum strain. An acceptable product is the RockGrid PC 100/100 or equal approved material.

The minimum roll length for the geogrid shall be 100m.

PSDK.8 MEASUREMENT AND PAYMENT**PSDK.8.2.4 Geotextiles: Geofabric**unit: m²

Clause PSDK.8.2.4 shall cover **all** geosynthetic materials (excluding the GCL and geomembrane) and extended to read :

The area measured shall be the net slope area specified and as finally determined by survey and shall **exclude** the area taken up by wastage and the specified side and end laps.

The unit rate shall include for the plant, labour and materials associated with anchoring, supplying, cutting, placing, joining, overlapping and securing the specified material in position and allowing for waste, lapping requirements (including meeting all of the manufacturer's requirements) and the specified overlap for the particular geosynthetic material being placed. The rate shall allow for sheet placement to ensure tiled overlaps to the approval of the Engineer.

Overlap requirements are a minimum 400mm for the geofabric and 100mm for the geogrid,

The geosynthetic materials shall be continuous down a slope, unless a jointing system is approved.

The rate tendered shall include for incorporation of the geosynthetic into any excavations or anchor trenches as specified and embedding into the cement stabilised protection layer as instructed by the Engineer.

PSG CONCRETE WORKS

PSG-1 SCOPE

This section covers all concrete work including paving and concrete lined drains.

PSG-5 CONSTRUCTION

PSG-5.5 Concrete

PSG-5.5.7 Construction Joints

The concrete for the GCL / geomembrane / geogrid liner system anchor trenches shall have a maximum particle size of 13mm.

The rate tendered for concrete for the liner protection layer reinforcement shall include for all excavation and trimming without damaging the liner and placement of the concrete on slopes of up to 1v:4h.

PSG-6 TOLERANCES

All work shall be to Degree of Accuracy II unless indicated otherwise.

PSG-8 MEASUREMENT AND PAYMENT

PSG-8.3 Scheduled Concrete Items

▪ *Add the following items:*

PSG 8.3.1 Steel bars - mild, high tensile or welded mesh Unit: t.

The rate shall cover the supply, cutting, bending, supporting and fixing of reinforcement as detailed on the reinforcing schedules including all bar sizes and mild, high tensile or welded mesh, covered by and extending the relevant sections of CI 8.1.2 and 8.3.

PSG 8.4.3.1 Concrete "V" and trapezoidal type Drains Unit: m³.

The rate shall cover the supply, erection and stripping of the formwork, the supply, placing, compacting and curing the concrete, finishing the surface to CLASS 3 - Wood float finish and the formation of the contraction joints as specified.

PSG 8.4.3.2 Concrete to structures and paving Unit: m³.

The rate shall cover the setting out, edge formwork, supply, placing and compacting the concrete, finishing the surface with broomed or power float finish and applying an approved curing compound. The rate is to include for the paving to be generally cast with 8mm wide polysulphide sealed saw cut joints at ±4.5m spacing and construction joints as needed. Paving is expected to be between 150mm and 250mm thick and generally unreinforced.

For structures the rate shall include for all formwork needed, boxing out, finishes and joints as covered by CI 8.2 and 8.5 as relevant.

PSG 8.4.4 Protective screed Unit: m².

The rate shall cover the supply of all materials, plant and labour for the full installation of a Multi Armour 100 or 120 or equal approved protective screed to concrete paving as specified. To be applied or laid in accordance with the manufacture's recommendations and a finish surface with power floating or as otherwise approved.

PSLD SEWERS**PSLD-1 SCOPE**

This Specification shall be expanded to cover the installation of leachate pipes, valves and structures (silt, oil and grease trap, conservancy tank and manholes etc) as well as other effluent system works. The provision of standpipes, the cleaning by jetting of existing pipelines, tankering of leachate and the provision of a 60kl tank are also covered.

PSLD-3 MATERIALS**PSLD-3.1 Pipes, Filling & Pipe Joints**

PSLD-3.1.5 uPVC pipes shall be heavy duty class 34 pipes

▪ ***Add the following:***

PSLD-3.1.8 HDPE Pipes

High density Polyethylene pipes and fittings shall be of High Density Polyethylene (HDPE) and comply with the relevant requirements of SABS ISO 4427.

All piping shall be **HDPE PE 100** of the class specified unless otherwise approved by the Engineer. The connection system between pipe lengths shall butt fusion welds or electro fusion couplings meeting with the approval of the Engineer. Couplings and pipes shall be by the same manufacturer. The Contractor shall include the cost of these joints in the pipework item.

Storage and handling of the pipe shall be in accordance with the Manufacturer's recommendation. Care is to be taken that pipes are not dragged across the ground and damaged.

PE100 shall be black and shall contain the necessary density of pigmentation to provide protection against ultra violet radiation.

Unless stated otherwise on the drawings, all pipe flanges, including black finish hexagon bolted polyethylene flanges shall be protected by Denso paste, Denso mastic or Denso tape, or equivalent, or shall be stainless steel.

No metal whatsoever shall be used below ground without the Engineer's specific approval.

PSLD-8 MEASUREMENT AND PAYMENT**PSLD 8.2.1 Supply, Lay and Bed Pipes Complete with Couplings**

Unit: m.

In addition to the requirements of Clause LD.8.2.1 the rate tendered for each type, size and specification of pipe and shall include for any joints, welding, bends and special fittings (excluding valves) required and their jointing and bedding.

An allowance is to be included in the rate tendered for the pipework to supply and install up to ten (10) tees, ten (10) bends and ten (10) junctions within the pipework system, as required by the Engineer. Fittings in excess of those specified would be paid for separately.

Connection into any existing pipework is to be included in the rate.

For leachate and gas drainage piping within the leachate drainage layer, no separate payment will be made for excavation, bedding and backfilling. The rate tendered for such piping shall be inclusive of all jointing, excavation & bedding operations.

For the perforated HDPE piping the perforations shall provide a minimum of 4% open area and the type, spacing, size and cleaning of the perforations shall be to the approval of the Engineer. The pipe is to be laid on the liner and bedded in the leachate drainage layer. The rate is to be inclusive of all jointing, excavation & bedding operations.

PSLD 8.2.3 Manholes

Unit: No.

In addition to the requirements of Clause PSLD.8.2.3 the rate shall include for :

The manholes required to be allowed for under this item are standard precast ring manholes as shown on Durban Council Standard Drawing Numbers 38570 and 38571. The tendered sum for each manhole under this item is to be extended from the requirements of Clause PSLD 5.6 to include for:

- a) The manholes to be painted internally and externally, before installation, with ABE Super Laycold or similar approved bitumen emulsion as a protection against corrosion by landfill gas. The joints between units are to be sealed with an approved bituminous product "Bitujoint" or similar approved product.
- b) The **excavation and backfilling** for the manholes in all materials.
- c) Breaking out of the side walls and making good around pipework or drainage outlets as required to the satisfaction of the Engineer.

The rate shall differentiate between manholes of different diameters and in different depth categories.

PSLD 8.2.13 Valves for HDPE pipe up to and including 250mm OD

Unit: No.

The rate shall cover the supply of all materials and installation of valves for up to 250mm OD HDPE piping. The valves shall be suitable for use with landfill leachate with a minimum of a 25 year service life and subject to the approval of the Engineer.

PSLD 8.2.14 Connecting into existing leachate sewer systems

Unit: No.

The rate shall cover the supply of all materials and work to connect into existing leachate piping and/or manholes excluding piping & manholes but all cutting, jointing and making good.

PSLD 8.2.16 Conservancy tank as per detail.

Unit: No.

The rate shall cover the supply of all materials, plant and labour to fully construct and connect into pipework the additional conservancy tank as details on the drawings.

PSLD 8.2.17 Silt, oil & grease trap as per detail.

Unit: No.

The rate shall cover the supply of all materials, plant and labour to fully construct and connect into pipework the additional septic tank as details on the drawings.

PSLD.8.2.18 Cleaning of existing sewers by pressure jetting Unit: m²

The rate tendered shall include for all plant, labour and materials to clean existing sewer (leachate and sewage) piping of between 110mm to 250mm nominal diameter inclusive, primarily using approved pressure jetting equipment or other approved means, including emptying / de silting etc at the manholes. The rate shall include for all removed material to be disposed of on the landfill as indicated,

PSLD.8.2.20 Pumping Leachate from Storage Ponds 1 & 2 Unit: m³

The rate tendered shall include for the labour, security and diesel supply for the mobile pump provided by the Employer to be used to pump leachate from leachate storage ponds 1 and 2 into leachate pond 3 at the Lovu Landfill site. Provisional.

PSLE STORMWATER

PSLE-1 Scope

This Specification shall be expanded to cover all subsurface drainage installations as well as stormwater systems.

PSLE-3 MATERIALS

PSLE-3.1 CULVERT UNITS AND PIPES

- ***Add the following:***

PSLE-3.1 f) Subsoil drain pipes

Subsoil drain pipes shall be "Drainex" type (or equal approved) HDPE slotted drainage pipe with smooth bore complying with DIN 4262 Part 1. Inclusive of all fittings such as junctions, bends and end caps.

PSLE-8 MEASUREMENT AND PAYMENT

PSLE.8.2.1 a) Supply & Lay Concrete Pipe Culverts Unit: m

In addition to the requirements of Clause LE 8.2.1, the rate tendered shall allow for all end units and cutting on site.

PSLE.8.2.1 b) Supply & Lay Drainex Subsurface Drainage Piping Unit: m

In addition to the requirements of Clause LE 8.2.1, the rate tendered shall allow for the complete supply, jointing and laying of the Drainex (or equal approved) subsoil drain piping, inclusive of all fittings such as junctions, bends and end caps.

PSLE.8.2.8 a) Supply & Install Brick Manholes Unit: No.

In addition to the requirements of Clause LE 8.2.8, the rate tendered shall allow for the complete construction of a brick manhole (bricks to be non-facing extra (NFX-E28 or equal approved, thoroughly burnt throughout, free from flaws, stones, cracks and unground lumps) including all cutting, waste, corbelling, over sailing and caulking of pipes into walls and mortar. Mortar shall be one part cement to 3 parts of sand. The manhole shall have a minimum internal dimension of 900mm, a heavy duty precast concrete cover and lid and be a minimum of 2,0m deep, or as specified. All excavation and backfilling shall be included in the rate tendered.

PSLE.8.2.8 b) Supply & Install Headwalls to Culverts Unit: No.

In addition to the requirements of Clause LE 8.2.8, the rate tendered shall allow for the complete construction of a brick headwall (bricks to be non-facing extra (NFX-E28 or equal approved, thoroughly burnt throughout, free from flaws, stones, cracks and unground lumps) including all cutting, waste, corbelling, over sailing and caulking of pipes into walls and mortar. Mortar shall be one part cement to 3 parts of sand. The headwall shall be for a minimum of a 750mm diameter pipe, or as specified. The minimum area of brickwork comprising the manhole shall be 6m². All excavation and backfilling shall be included in the rate tendered.

The reinforced concrete base slab to the headwall shall be measured elsewhere.

PSLE.8.2.14 Brickwork of the specified thicknessUnit: m²

The rate shall include for all costs associated with the supply and laying of the nominal thickness of brickwork specified (bricks to be non-facing extra (NFX-E28 or equal approved, thoroughly burnt throughout, free from flaws, stones, cracks and unground lumps) all cutting, waste, corbelling, over sailing and caulking of pipes into walls and mortar. Mortar shall be one part cement to 3 parts of sand.

PSLE.8.2.15 Cleaning of existing stormwater piping by pressure jettingUnit: m²

The rate tendered shall include for all plant, labour and materials to clean existing stormwater piping of between 300mm to 1100mm diameter inclusive, primarily using approved pressure jetting equipment or other approved means, including emptying / de silting etc at the manholes. The rate shall include for all removed material to be disposed of on the landfill as indicated,

C3.4: PARTICULAR SPECIFICATIONS

In addition to the Standardized and Project Specifications the following Particular Specifications / Policies shall apply to this contract:

C3.4.1	Part AH - OSHA 1993 Safety Specification (26 Pages)	144
C3.4.2	Standard Environmental Management Plan for Civil Engineering Construction Work (24 Pages)	155
C3.4.3	Particular Specification PAA: Daywork Schedule	165
C3.4.4	Part LGC: Geosynthetic Clay Liner	169
C3.4.5	Part LGM: Geomembrane Liner	183

C3.4.1 OHSA 1993 - SAFETY SPECIFICATION**PARTICULAR SPECIFICATION PAM: OHSA 1993 HEALTH AND SAFETY SPECIFICATION****CONTENTS**

PAM-1:	SCOPE
PAM-2:	DEFINITIONS
PAM-3:	TENDERS
PAM-4:	NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK
PAM-5:	RISK ASSESSMENT
PAM-6:	APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS
PAM-7:	APPOINTMENT OF SAFETY PERSONNEL
PAM-8:	RECORDS AND REGISTERS
PAM-9:	CONTRACTOR'S RESPONSIBILITIES
PAM-10:	MEASUREMENT AND PAYMENT

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

PAM-1: SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2003, and all other safety codes and specifications referred to in the said Construction Regulations.

In terms of the OHSA Agreement in Section C1.2.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations 2003.

This safety specification and the Contractor's own Safety Plan as well as the Construction Regulations 2003, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

The following are possible risks associated with this project:

- Working in the vicinity of potentially inflammable gas (methane).
- Potentially dangerous existing services, i.e. gas lines, water and sewerage mains, electrical high voltage cables, on the bridge, buried and overhead,
- Deep excavations in soils requiring shoring or reducing of slopes,
- Movement of construction vehicles on site, taking into consideration steep slopes, other traffic and existing services,
- Exposure to possible injuries due to mishandling or failure of power and hand tools,
- Risks related to general safety and security on site.

Additional risks may arise from specific methods of construction selected by the Contractor which are not necessary covered in the above.

PAM-2: DEFINITIONS

For the purpose of this contract the following shall apply:

- (a) **"Employer"** where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as **"client"** as defined in the Construction Regulations 2003. **"Employer"** and **"client"** is therefore interchangeable and shall be read in the context of the relevant document.
- (b) **"Contractor"**, wherever used in the contract documents and in this specification, shall have the same meaning as **"Contractor"** as defined in the General Conditions of Contract.

In this specification the terms **"principal contractor"** and **"contractor"** are replaced with **"Contractor"** and **"subcontractor"** respectively.

For the purpose of this contract the **Contractor** will, in terms of OHSA 1993, be the mandatory, without derogating from his status as an employer in his own right.

- (c) **“Engineer” where used in this specification, means the Engineer as defined in the General Conditions of Contract. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).**

PAM-3: TENDERS

The Contractor shall submit the following with his tender:

- (a) a documented Health and Safety Plan as stipulated in Regulation 5 of the Construction Regulations. The Safety Plan must be based on the Construction Regulations 2003 and will be subject to approval by the Employer;
- (b) a declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Construction Regulations 2003;
- (c) a declaration to the effect that he made provision in his tender for the cost of the health and safety measures envisaged in the Construction Regulations.
- (d) Failure to submit the foregoing with his tender, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely in accordance with the Construction Regulations.

PAM-4: NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor shall, in terms of Regulation 3, notify the Provincial Director of the Department of Labour in writing if the following work is involved:

- (a) the demolition of structures and dismantling of fixed plant of height of 3,0 m or more;
- (b) the use of explosives;
- (c) construction work that will exceed 30 days or 300 person-days;
- (d) excavation work deeper than 1,0 m; or
- (e) working at a height greater than 3,0 m above ground or landings.

The notification must be done in the form of the pro forma included under Section 9 (Forms to be Completed by Successful Tenderer) of the tender document.

A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

PAM-5: RISK ASSESSMENT

Before commencement of any construction work during the construction period, the Contractor shall have a risk assessment performed and recorded in writing by a competent person. (Refer Regulation 7 of the Construction Regulations 2003).

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The risk assessment shall be available on site for inspection by inspectors, Employer, Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

PAM-6: APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

PAM-6.1 Health and Safety plan

The Contractor shall appoint his employees and any subcontractors to be employed on the contract, in writing, and he shall provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

PAM-6.2 Health and safety induction training

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site.

The Contractor shall ensure that every employee on site shall at all times be in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

PAM-7: APPOINTMENT OF SAFETY PERSONNEL

PAM-7.1: Construction Supervisor

The Contractor shall appoint a full-time **Construction Supervisor** with the duty of supervising the performance of the construction work.

He may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

PAM-7.2: Construction safety officer

Taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor shall appoint in writing a full-time or part-time **Construction Safety Officer** if so decided by the Inspector of the Department of Labour. The Safety Officer shall have the necessary competence and resources to perform his duties diligently.

Provision shall be made by the Contractor in his rates, to cover the cost of this dedicated construction safety officer appointed after award of the contract.

PAM-7.3: Health and safety representatives

In terms of **Sections 17 and 18 of the Act (OHSA 1993)** the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a **health and safety representative** whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 100 employees.

The function of the health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery etc. on a regular base, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

PAM-7.4: Health and safety committee

In terms of **Sections 17 and 18 of the Act (OHSA 1993)** the Contractor (as employer), shall establish one or more **health and safety committee(s)** where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals, but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, and to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

PAM-7.5: Competent persons

In accordance with the Construction Regulations the Contractor has to appoint in writing **competent persons** responsible for supervising construction work on each of the following work situations that may be expected on the site of the works.

- (a) Risk assessment and induction training as described in Regulation 7 of the Construction Regulations;
- (b) Fall protection as described in Regulation 8;
- (c) Formwork and support work as described in Regulation 10;
- (d) Excavation work as described in Regulation 11;
- (e) Demolition work as described in Regulation 12;
- (f) Scaffolding work as described in Regulation 14;
- (g) Suspended platform operations as described in Regulation 15;
- (h) Material hoists as described in Regulation 17;
- (i) Batch plant operations as described in Regulation 18;
- (j) Explosive powered tools as described in Regulation 19;
- (k) Cranes as described in Regulation 20;
- (l) Construction vehicle and mobile plant inspections on a daily basis by a competent person as described in Regulation 21(1);
- (m) Control of all temporary electrical installations on the construction site as described in Regulation 22.

- (n) Stacking and storage on construction sites as described in Regulation 26; and
- (o) Inspections of fire equipment as described in Regulation 27.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with **all** requirements of the Construction Regulations.

PAM-8: RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials and subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

- (a) A copy of the OHSA 1993 Construction Regulations 2003;
- (b) A copy of this Health and Safety Specification;
- (c) A copy of the Contractor's Health and Safety Plan (Regulation 4);
- (d) A copy of the Notification of Construction Work (Regulation 3);
- (e) A health and safety file in terms of Regulation 5(7) with inputs by the Construction Safety Officer [Regulation 6(7)];
- (f) A copy of the risk assessment described in Regulation 7;
- (g) A full protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 8;
- (h) Drawings pertaining to the design of structures [Regulation 9(3)] and formwork and support work structures [Regulation 10(d)] must be kept on site;
- (i) Pronouncement of the safety of excavations must be recorded in a register to be kept on site [Regulation 11(3)(h)];
- (j) A copy of the certificate of the system design for suspended platforms [Regulation 15(3)];
- (k) A notice must be affixed around the base towers of material hoists to indicate the maximum mass load, which may be carried at any one time by material hoists [Regulation 7(5)].
- (l) Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site [Regulation 17(8)];
- (m) A record of any repairs to or maintenance of a batch plant must be kept on site [Regulation 18(9)];
- (n) A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used [Regulation 19(2)];
- (o) A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant [Regulation 21(1)(j)].

PAM-9: CONTRACTOR'S RESPONSIBILITIES

For this contract the Contractor will be the mandatory of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations 2003.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status as mandatory (employer) for the contract under consideration.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations 2003, and are not repeated in detail but some important aspects are highlighted hereafter, without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations.

(a) Contractor's position in relation to the Employer (Client) (Regulation 4)

In accordance with Section 4 of the Regulations, the Contractor shall liaise closely with the Employer or the Engineer on behalf of the Employer, to ensure that all requirements of the Act and the Regulations are met and complied with.

(b) The Principal Contractor and Contractor (Regulation 5)

The Contractor is in terms of the definition in Regulation 2(b) the equivalent of Principal Contractor as defined in the Construction Regulations, and he shall comply with all the provisions of Regulation 5.

Any subcontractors employed by the Contractor must be appointed in writing, setting out the terms of the appointment in respect of health and safety. An independent subcontractor shall however provide and demonstrate to the Contractor a suitable, acceptable and sufficiently documented health and safety plan before commencement of the subcontract. In the absence of such a health and safety plan the subcontractor shall undertake in writing that he will comply with the Contractor's safety plan, the health and safety specifications of the Employer and the Construction Regulations 2003.

(c) Supervision of construction work (Regulation 6)

The Contractor shall appoint the safety and other personnel and employees as required in terms of Regulation 6 and as set out in paragraph 7 above. Appointment of those personnel and employees does not relieve the Contractor from any of the obligations under Regulation 6.

(d) Risk assessment (Regulation 7)

The Contractor shall have the risk assessment made as set out in paragraph 7 above before commencement of the work, and it must be available on site for inspection at all times. The Contractor shall consult with the health and safety committee or health and safety representative(s) etc. on a regular basis to ensure that all employees, including subcontractors under his control, are informed and trained by a competent person regarding health hazards and related work procedures.

No subcontractor, employee or visitor shall be allowed to enter the site of works without prior health and safety induction training, all as specified in Regulation 7.

(e) Fall protection (Regulation 8)

Fall protection, if applicable to this contract shall comply in all respects with Regulation 8 of the Construction Regulations.

(f) Structures (Regulation 9)

The Contractor will be liable for all claims arising from collapse or failure of structures if he failed to comply with all the specifications, project specifications and drawings related to the structures, unless it can be proved that such collapse or failure can be attributed to faulty design or insufficient design standards on which the specifications and the drawings are based.

In addition the Contractor shall comply with all aspects of Regulation 9 of the Construction Regulations.

(g) Formwork and support work (Regulation 10)

The Contractor will be responsible for the adequate design of all formwork and support structures by a competent person.

All drawings pertaining to formwork shall be kept on site and all equipment and materials used in formwork, shall be carefully examined and checked for suitability by a competent person.

The provisions of Regulation 10 of the Construction Regulations shall be followed in every detail.

(h) Excavation work (Regulation 11)

It is essential that the Contractor shall follow the instructions and precautions in the Standard Specifications and Project Specifications as well as the provisions of the Construction Regulations to the letter as unsafe excavations can be a major hazard on any construction site. The Contractor shall therefore ensure that all excavation work is carried out under the supervision of a competent person, that inspections are carried out by a Professional Engineer or Technologist, and that all work is done in such a manner that no hazards are created by unsafe excavations and working conditions.

Supervision by a competent person will not relieve the Contractor from any of his duties and responsibilities under Regulation 11 of the Construction Regulations.

(i) Demolition work (Regulation 12)

Whenever demolition work is included in a contract, the Contractor shall comply with all the requirements of Regulation 12 of the Construction Regulations. The fact that a competent person has to be appointed by the Contractor, does not relieve the Contractor from any of his responsibilities in respect of safety of demolition work.

(j) Tunnelling (Regulation 13)

The Contractor shall comply with Regulation 13 wherever tunnelling of any kind is involved.

(k) Scaffolding (Regulation 14)

The Contractor shall ensure that all the provisions of Regulation 14 of the Construction Regulations are complied with. [Note : Reference in the Regulations to "Section 44 of the Act" should read "Section 43 of the Act"]

(l) Suspended platforms (Regulation 15)

Wherever suspended platforms will be necessary on any contract, the Contractor shall ensure that copies of the system design issued by a Professional Engineer are submitted to the Engineer for inspection and approval. The Contractor shall appoint competent persons as supervisors and competent scaffold erectors, operators and inspectors and ensure that all work related to suspended platforms are done in accordance with Regulation 15 of the Construction Regulations.

(m) Boatswain's chairs (Regulation 16)

Where boatswain's chairs are required on the construction site, the Contractor shall comply with Regulation 16.

(n) Material Hoists (Regulation 17)

Wherever applicable, the Contractor shall comply with the provisions of Regulation 17 to the letter.

(o) Batch plants (Regulation 18)

Wherever applicable, the Contractor shall ensure that all lifting machines, lifting tackle, conveyors, etc. used in the operation of a batch plant shall comply with, and that all operators, supervisors and employees are strictly held to the provisions of Regulation 18. The Contractor shall ensure that the General Safety Regulations (Government Notice R1031 of 30 May 1986), the Driven Machinery Regulations (Government Notice R295 of 26/2/1988) and the Electrical Installation Regulations (Government Notice R2271 of 11/10/1995) are adhered to by all involved.

In terms of the Regulations, records of repairs and maintenance shall be kept on site.

(p) Explosive powered tools (Regulation 19)

The Contractor shall ensure that, wherever explosive-powered tools are required to be used, all safety provisions of Regulation 19 are complied with.

It is especially important that warning notices are displayed and that the issue and return of cartridges and spent cartridges be recorded in a register to be kept on site.

(q) Cranes (Regulation 20)

Wherever the use of tower cranes becomes necessary, the provisions of Regulation 20 shall be complied with.

(r) Construction vehicles and mobile plant (Regulation 21)

The Contractor shall ensure that all construction vehicles and plant are in good working condition and safe for use, and that they are used in accordance with their design and intended use. The vehicles and plant shall only be operated by workers or operators who have received appropriate training, all in accordance with all the requirements of Regulation 21.

All vehicles and plant must be inspected on a daily basis, prior to use, by a competent person and the findings must be recorded in a register to be kept on site.

(s) Electrical installation and machinery on construction sites (Regulation 22)

The Contractor shall comply with the Electrical Installation Regulations (Government Notice R2920 of 23 October 1992) and the Electrical Machinery Regulations (Government Notice R1953 of 12 August 1993). Before commencement of construction, the Contractor shall take adequate steps to ascertain the presence of, and guard against dangers and hazards due to electrical cables and apparatus under, over or on the site.

All temporary electrical installations on the site shall be under the control of a competent person, without relieving the Contractor of his responsibility for the health and safety of all workers and persons on site in terms of Regulation 22.

(t) Use of temporary storage of flammable liquids on construction sites (Regulation 23)

The Contractor shall comply with the provisions of the General Safety Regulations (Government Notice R1031 of 30 May 1986) and all the provisions of Regulation 23 of the Construction Regulations to ensure a safe and hazard-free environment to all workers and other persons on site.

(u) Water environments (Regulation 24)

Where construction work is done over or in close proximity to water, the provisions of Regulation 24 shall apply.

(v) Housekeeping on Construction sites (Regulation 25)

Housekeeping on all construction sites shall be in accordance with the provisions of the environmental Regulations for workplaces (Government Notice R2281 of 16 October 1987) and all the provisions of Regulation 25 of the Construction Regulations.

(w) Stacking and storage on construction sites (Regulation 26)

The provisions for the stacking of articles contained in the General Safety Regulations (Government Notice R1031 of 30 May 1986) as well as all the provisions of Regulation 26 of the Construction Regulations shall apply.

(x) Fire precautions on construction sites (Regulation 27)

The provisions of the Environmental Regulations for Workplaces (Government Notice R2281 of 16 October 1987) shall apply.

In addition the necessary precautions shall be taken to prevent the incidence of fires, to provide adequate and sufficient fire protection equipment, sirens, escape routes etc. all in accordance with Regulation 27 of the Construction Regulations.

(y) Construction welfare facilities (Regulation 28)

The Contractor shall comply with the construction site provisions as in the Facilities Regulations (Government Notice R1593 of 12 August 1988) and the provisions of Regulation 28 of the Construction Regulations.

(z) Non-compliance with the Construction Regulations 2003

The foregoing is a summary of parts of the Construction Regulations applicable to all construction projects.

The Contractor, as employer for the execution of the contract, shall ensure that all provisions of the Construction Regulations applicable to the contract under consideration are complied with to the letter.

Should the Contractor fail to comply with the provisions of the Regulations 3 to 28 as listed in Regulation 30, he will be guilty of an offence and will be liable, upon conviction, to the fines or imprisonment as set out in Regulation 30.

The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations as ignorance of the Act and the Regulations will not be accepted in any proceedings related to non-conformance to the Act and the Regulations.

PAM-10: MEASUREMENT AND PAYMENT**PAM-10.1: Scheduled Item****Unit****Contractor's obligations in respect of the Occupational Health and Safety Act****Lump Sum**

Payment of the lump sum tendered in the Preliminary & General item shall include full compensation for all costs resulting from the Contractor's specified obligations in respect of fulfilling his obligations in respect of the Occupational Health and Safety Act.

Payment of the sum tendered will be made in two instalments, as follows:

The first instalment, 50% of lump sum, will be paid after the Contractor has submitted a Health and Safety plan in accordance with the specifications.

The second instalment, 50% of the lump sum, will be paid after the issuing of the Completion Certificate and the submission of the Health and Safety file.

(a) Safety personnel

The Construction Supervisor, the Construction Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons referred to in clauses PAM-7.1 to 7.5 shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

(b) Records and Registers,

The keeping of health and safety-related records and registers as described in PAM-8 is regarded as a normal duty of the Contractor for which no additional payment will be considered, and which is deemed to be included in the Contractor's tendered rates and prices.

C3.4.2 ENVIRONMENTAL MANAGEMENT SPECIFICATION

CONTENTS

- 1: PURPOSE**
- 2: RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT**
- 3: TRAINING AND INDUCTION OF EMPLOYEES**
- 4: COMPLAINTS REGISTER AND ENVIRONMENTAL INCIDENT BOOK**
- 5: ENVIRONMENTAL SAFETY**
- 6: MEASUREMENT AND PAYMENT**

ENVIRONMENTAL MANAGEMENT SPECIFICATION

1. PURPOSE

The purpose of the EMP is to encourage good management practices through planning and commitment with respect to environmental issues, and to provide rational and practical environmental guidelines to minimise disturbance of the natural environment.

2. RESPONSIBILITIES FOR ENVIRONMENTAL MANAGEMENT

The contractor will be responsible for environmental control on site during construction and the maintenance period. The construction activities will be monitored by an independent environmental specialist and audited against the EMP.

3. TRAINING AND INDUCTION OF EMPLOYEES

The contractor has a responsibility to ensure that all those people involved in the project are aware of and familiar with the environmental requirements for the project (this includes sub-contractors, casual labour, etc.).

4. COMPLAINTS REGISTER AND ENVIRONMENTAL INCIDENT BOOK

Any complaints received by the project team from the community will be recorded. The complaint will be brought to the attention of the site manager.

All complaints received will be investigated and a response given to the complainant within 28 days.

All environmental incidents occurring on the site will also be recorded.

5. ENVIRONMENTAL SAFETY

The management of impacts associated with various categories of concern is discussed as separate topics, indicated below.

5.1 Soil

- (a) Topsoil should be temporarily stockpiled, separately from (clay) subsoil and rocky material, when areas are cleared. If mixed with clay sub-soil the usefulness of the topsoil for rehabilitation of the site will be lost.
- (b) Stockpiled topsoil should not be compacted and should be replaced as the final soil layer. No vehicles are allowed access onto the stockpiles after they have been placed.
- (c) Stockpiled soil should be protected by erosion-control berms if exposed for a period of greater than 14 days during the wet season. The need for such measures will be indicated in the site-specific report.
- (d) Topsoil stripped from different sites must be stockpiled separately and clearly identified as such. Topsoil obtained from sites with different soil types must not be mixed.
- (e) Topsoil stockpiles must not be contaminated with oil, diesel, petrol, waste or any other foreign matter, which may inhibit the later growth of vegetation and micro-organisms in the soil.

- (f) Soil must not be stockpiled on drainage lines or near watercourses without prior consent from the Project Manager.
- (g) Soil should be exposed for the minimum time possible once cleared of invasive vegetation, that is the timing of clearing and grubbing should be co-ordinated as much as possible to avoid prolonged exposure of soils to wind and water erosion. Stockpiled topsoil must be either vegetated with indigenous grasses or covered with a suitable fabric to prevent erosion and invasion by weeds.
- (h) Limited vehicular access is allowed across rocky outcrops and ridges.
- (i) All cut and fill surfaces need to be stabilized with appropriate material or measures when major civil works are complete.
- (j) Erosion and donga crossings must be dealt with as river crossings. Appropriate soil erosion and control procedures must be applied to all embankments that are disturbed and destabilized.
- (k) All equipment must be inspected regularly for oil or fuel leaks before it is operated. Leakages must be repaired on mobile equipment or containment trays placed underneath immobile equipment until such leakage has been repaired.
- (l) Soil contaminated with oil must be appropriately treated and disposed of at a permitted landfill site or the soil can be regenerated using bio-remediation methods.
- (m) Runoff must be reduced by channelling water into existing surface drainage system.

5.2 Water

- (a) Adequate sedimentation control measures must be instituted at any river crossings when excavations or disturbance of a riverbanks or riverbeds takes place.
- (b) Adequate sedimentation control measures must be implemented where excavations or disturbance of drainage lines of a wetland may take place.
- (c) All fuel, chemical, oil, etc spills must be confined to areas where the drainage of water can be controlled. Use appropriate structures and methods to confine spillages such as the construction of berms and pans, or through the application of surface treatments that neutralise the toxic effects prior to the entry into a water course.
- (d) Oil absorbent fibres must be used to contain oil spilt in water.
- (e) During construction through a wetland, the majority of the flow of the wetland should be allowed to pass downstream.
- (f) Vehicular traffic across wetland areas must be avoided.
- (g) No dumping of foreign material in streams, rivers and/or wetland areas is allowed.
- (h) The wetland area and/or river must not be drained, filled or altered in any way including alteration of a bed and/or, banks, without prior consent from the DWAF. The necessary licenses must be obtained in terms of Section 21 and 22 of the National Water Act, 36 of 1998 from DWAF.
- (i) No fires or open flames are allowed in the vicinity of the wetland, especially during the dry season.

- (j) No swimming, washing (including vehicles and equipment), fishing or related activity is permitted in a wetland or river without written permission from the Project Manager.
- (k) Disturbances to nesting, breeding and roaming sites of animals in or adjacent to wetland areas must be minimized.

5.3 Air

Speed limits must be implemented in all areas, including public roads and private property to limit the levels of dust pollution.

Dust must be suppressed on access roads and construction sites during dry periods by the regular application of water or a biodegradable soil stabilisation agent. Water used for this purpose must be used in quantities that must not result in the generation of run-off.

The site-specific investigation will quantify the impact of dust on nearby wetlands, rivers and dams in terms of sedimentation. Mitigation measures identified during the site specific study must be implemented.

The Contractor must notify the Principal of all schools within 50m of the site of proposed activities. The Principal must in turn ensure that children with allergies and respiratory ailments take the necessary precautionary measures during the construction period. The Contractor must ensure that construction activities do not disturb school activities e.g. dust clouds may reduce visibility affecting sports activities.

Waste must be disposed of, as soon as possible at a municipal transfer station, skip or on a permitted landfill site. Waste must not be allowed to stand on site to decay, resulting in malodours.

Noise control measures must be implemented. All noise levels must be controlled at the source. All employees must be given the necessary ear protection gear. IAP's must be informed of the excessive noise factors.

The Contractor must inform all adjacent landowners of any after-hour construction activities and any other activity that could cause a nuisance e.g. the application of chemicals to the work surface. Normal working hours must be clearly indicated to adjacent land owners.

No loud music is allowed on site and in construction camps.

No fires are allowed if smoke from such fires will cause a nuisance to IAP's.

5.4 Social and Cultural

- (a) Access by non-construction people onto any construction sites must be restricted. The Contractors activities and movement of staff must be restricted to designated construction areas only.
- (b) The Contractors crew must be easily identifiable due to clothing, identification cards or other methods.
- (c) Rapid migration of job seekers could lead to squatting and social conflict with resident communities and increase in social pathologies if not properly addressed. The Contractor must ensure that signs indicating the availability of jobs are installed.

- (d) Criteria for selection and appointment (by the Contractor) of construction labour must be established to allow for preferential employment of local communities. The Local Authority must be actively involved in the process of appointing temporary labourers.
- (e) Sub-Contractors and their employees must comply with all the requirements of this document and supporting documents e.g. the Contract document that applies to the Contractor. Absence of specific reference to the sub-contractor in any specification does not imply that the sub-contractor is not bound by this document.
- (f) No member of the construction workforce is allowed to wander around private property, except within the immediate surroundings of the site.
- (g) The Contractor must provide suitable sanitation facilities for site staff. Sanitation provided during the construction phase should be managed so that it does not cause environmental health problems. The use of the surrounding veld for toilet purposes is not permitted under any circumstance.
- (h) The Contractor must arrange for all his employees and those of his sub-contractors to be informed of the findings of the environmental report before the commencement of construction to ensure:
 - A basic understanding of the key environmental features of the work site and environments, and
 - Familiarity with the requirements of this document and the site specific report.
- (i) Supervisory staff of the Contractor or his sub-contractors must not direct any person to undertake any activities which would place such person in contravention of the specifications of this document, endanger his/her life or cause him/her to damage the environment.
- (j) The demand for construction materials and supplies will have an effect on the local economy. This impact can be optimised by sourcing and purchasing materials locally and regionally wherever possible, insofar as the material complies with the design specification.
- (k) The Contractor must maintain a detailed complaints register. This must be forwarded, together with solutions, to the authorities when requested.

5.5 Aesthetics

(a) Scenic Quality

Damage to the natural environment must be minimized.

Trees and tall woody shrubs must be protected from damage to provide a natural visual shield. Excavated material must not be placed on such plants and movement across them must not be allowed, as far as practical.

The clearing of all sites must be kept to a minimum and surrounding vegetation must, as far as possible, be left intact as a natural shield.

No painting or marking of natural features must be allowed.

(b) All above ground structures could be treated or painted to blend in with the natural environment.

- (c) Cut and fill areas, river and stream crossings and other soil stabilisation works must be constructed to blend in with the natural environment.
- (d) Natural outcrops, rocky ridges and other natural linear features, must not be bisected. Vegetation on such features must, as far as possible, not be cut unless absolutely necessary for construction.
- (e) Excavated material must be flattened (not compacted) or removed from site. No heaps of spoil material must be left on site once the Contractor has moved to a new construction site.
- (f) Any complaints from interest groups regarding the appearance of the construction site must be recorded and addressed promptly by the Contractor.

5.6 Archaeology and Cultural Sites

- (a) All finds of human remains must be reported to the nearest police station.
- (b) Human remains from the graves of victims of conflict, or any burial ground or part thereof which contains such graves and any other graves that are deemed to be of cultural significance may not be destroyed, damaged, altered, exhumed or removed from their original positions without a permit from the South African Heritage and Resource Agency (SAHRA).
- (c) Work in areas where artefacts are found must cease immediately.
- (d) Under no circumstances must the Contractor, his/her employees, his/her sub-contractors or his/her sub-contractors' employees remove, destroy or interfere with archaeological artefacts. Any person who causes intentional damage to archaeological or historical sites and/or artefacts could be penalised or legally prosecuted in terms of the National Heritage Resources Act, 25 of 1999.
- (e) A fence at least 2 m outside the extremities of the site must be erected to protect archaeological sites.
- (f) All known and identified archaeological and historical sites must be left untouched.
- (g) Work in the area can only be resumed once the site has been completely investigated. The Project Manager will inform the Contractor when work can resume.

5.7 Flora

- (a) All suitable and rare flora and seeds must be rescued and removed from the site. They must be suitably stored, for future use in rehabilitation.
- (b) The felling and/or cutting of trees and clearing of bush must be minimised.
- (c) Bush must only be cleared to provide essential access for construction purposes.
- (d) The spread of alien vegetation must be minimized.
- (e) Any incident of unauthorised removal of plant material, as well as accidental damage to priority plants, must be documented by the Contractor.

- (f) Woody vegetative matter stripped during construction must either be spread randomly throughout the surrounding veld so as to provide biomass for other micro-organisms and habitats for small mammals and birds, or it may be stockpiled for later redistribution over the reinstated topsoiled surface. No vegetative matter must be burnt or removed for firewood other than those removed during the grubbing and clearing phase. Such vegetation can be made available to the local inhabitants to be used as firewood.
- (g) No tree outside the footprint of the Works area must be damaged.

5.8 Fauna

- (a) No species of animal may be poached, snared, hunted, captured or wilfully damaged or destroyed.
- (b) Snakes and other reptiles that may be encountered on the construction site must not be killed unless the animal endangers the life of an employee.
- (c) Anthills and/or termite nests that occur must not be disturbed unless it is unavoidable for construction purposes.
- (d) Disturbances to nesting sites of birds must be minimized.
- (e) The Contractor must ensure that the work site is kept clean and free from rubbish, which could attract pests.

5.9 Infrastructure

- (a) The relevant authorities must be notified of any interruptions of services, especially the Local Municipality, National Road Agency, Spoornet, TELKOM and ESKOM. In addition, care must be taken to avoid damaging major and minor pipelines and other services.
- (b) The integrity of property fences must be maintained.
- (c) No telephone lines must be dropped during the construction operations, except where prior agreement by relevant parties is obtained. All crossings must be protected, raised or relocated as necessary.
- (d) All complaints and/or problems related to impacts on man-made facilities and activities must be promptly addressed by the Contractor and documented.
- (e) Storage Facilities
 - Proper storage facilities should be provided for the storage of oils, grease, fuels, chemicals and hazardous materials.
 - The Contractor must ensure that accidental spillage does not pollute soil and water resources.
 - Fuel stock reconciliation must be done on all underground tanks to ensure no loss of oil, which could pollute groundwater resources.
 - Cement must be stored and mixed on an impermeable substratum.

(f) Traffic Control

All reasonable precautions must be taken during construction to avoid severely interrupting the traffic flow on existing roads, especially during peak periods.

Before any work can start the Local Traffic Department must be consulted about measures to be taken regarding pedestrian and vehicular traffic control.

(g) Access Roads

The Contractor and the affected landowner must collaborate on the planning and construction of new access routes and the repair or upgrading of existing routes.

Access to the site must be controlled such that only vehicles and persons directly associated with the work gains access to the site.

Temporary access roads must not be opened until required and must be restored to its former state as soon as the road is no longer needed.

(h) Batching Plants

Concrete must be mixed only in an area demarcated for this purpose. All concrete spilled outside this area, must be promptly removed by the Contractor and taken to a permitted waste disposal site. After all concrete mixing is complete, all waste concrete must be removed from the batching area and disposed of at an approved dumpsite. Stormwater must not be allowed to flow through the batching area. Water laden with cement must be collected in a retention area for evaporation and not allowed to escape the batching area. Operators must wear suitable safety clothing.

(i) Chemical toilet facilities should be managed and serviced by a qualified company. No disposal or leakage of sewerage should occur on or near the site.

(j) Blasting

Blasting must not endanger public or private property.

Noise mufflers and/or soft explosives must be used to minimize the impact on animals.

All the provisions of the Explosives Act, 26 of 1956 and the Minerals Act, 50 of 1991 must be complied with.

The Contractor must take measures to limit flyrock.

5.10 Safety

- (a) Measures must be taken to prevent any interference that could result in flashover of power lines due to breaching of clearances or the collapse of power lines due to collisions by vehicles and equipment.
- (b) Measures must be taken during thunderstorms to protect workers and equipment from lightning strikes.
- (c) All tall structures must be properly earthed and protected against lightning strikes.

- (d) The process of excavation and back filling must be carried out as a sequential process following one another as quickly as possible. Excavations must only remain open for a minimum period of time and during this time they must be clearly demarcated. If excavations place the public at risk these sites must be fenced.
- (e) The residents directly affected by open trenches must be notified of the dangers. This will be done during the site-specific phase.

5.11 Waste

Solid Waste

- (a) Littering on site and the surrounding areas is prohibited.
- (b) Clearly marked litterbins must be provided on site. The Contractor must monitor the presence of litter on the work sites as well as the construction campsite.
- (c) All bins must be cleaned of litter regularly.
- (d) All waste removed from site must be disposed at a municipal/permitted waste disposal site.
- (e) Excess concrete, building rubble or other material must be disposed of in areas designated specifically for this purpose and not indiscriminately over the construction site.
- (f) The entire works area and all construction sites must be swept of all pieces of wire, metal, wood or other material foreign to the natural environment.
- (g) Contaminated soil must be treated and disposed of at a permitted waste disposal site, or be removed and the area rehabilitated immediately.
- (h) Waste must be recycled wherever possible.

Liquid Waste

- (a) The Contractor must maintain mobile toilets on site.
- (b) The Contractor must provide adequate and approved facilities for the storage and recycling of used oil and contaminated hydrocarbons. Such facilities must be designed and sited with the intention of preventing pollution of the surrounding area and environment.
- (c) All vehicles must be regularly serviced in designated area within the Contractors camp such that they do not drip oil.
- (d) All chemical spills must be contained and cleaned up by the supplier or professional pollution control personnel. Run-off from wash bays must be intercepted.

Hazardous Waste

- (a) No hazardous materials must be disposed of in the veld or anyplace other than a registered landfill for hazardous material. Hazardous waste must be stored in containers with tight lids that must be sealed and must be disposed at an appropriately permitted hazardous waste disposal site. Such containers must not be used for purposes other than those originally designed for.
- (b) The Contractor must maintain a hazardous material register.

5.12 Rehabilitation and Site clearance

- (a) When all major construction activities are completed, the site must be inspected to determine site-specific rehabilitation measures. This may be considered as unplanned work e.g. soil rehabilitation due to oil spills.
- (b) All temporary buildings and foundations, equipment, lumber, refuse, surplus materials, waste, construction rubble fencing and other materials foreign to the area must be removed.
- (c) If waste products cannot be recycled they must be disposed of at a permitted landfill site.
- (d) All drainage deficiencies including abandoned pit latrines and waste pits must be corrected.
- (e) Cut and fill areas must be restored and re-shaped.
- (f) The area must be restored to its natural vegetation condition using indigenous trees, shrubs and grasses as directed by a grassland and/or rehabilitation expert.
- (g) Borrow pits must be re-shaped into even slopes and surfaces to blend with the natural terrain and topsoil must be replaced.
- (h) The grass mix, shrubs and trees used for rehabilitation must be compatible with the species identified in the site-specific investigation.
- (i) Areas compacted by vehicles during construction must be scarified to allow penetration of plant roots and the regrowth of natural vegetation.

6. MEASUREMENT AND PAYMENT

No additional payment will be made to the Contractor to comply with the above actions as it will be deemed to be included in the rates tendered.

C3.4.3 PARTICULAR SPECIFICATION PAA: DAYWORK SCHEDULE

CONTENTS

PAA-1	GENERAL
PAA-2	SALARIES AND WAGES OF WORKMEN
PAA-3	CONSTRUCTIONAL PLANT
PAA-4	MATERIALS
PAA-5	MEASUREMENT

PARTICULAR SPECIFICATION PAA: DAYWORK SCHEDULE**PAA-1 GENERAL**

In cases where the Engineer orders any variation in the form, quality or quantity of the work or any extra work to such an extent that the tendered rates for specific items are no longer applicable, or where a combination of tendered rates cannot be applied to compensate for such work, the Engineer may, in terms of the General Conditions of Contract, order that the amended or extra work be carried out as daywork at the cost of labour, plant and materials. For that purpose provision is made for the Contractor to tender his rates for labour and plant in the Daywork Schedule which forms part of this contract.

No work will be measured as daywork unless:

- (a) the Engineer agrees that the varied work is not in accordance with the specification or scope of a measured item in the contract;
- (b) the Engineer has issued an order in writing for the execution of such varied work; and
- (c) statements of plant and labour are submitted daily to the Engineer for his consideration and approval.

All work valued at the tendered rates in the Daywork Schedule will be subject to contract price adjustment as applicable to the Contract.

PAA-2 SALARIES AND WAGES OF WORKMEN

The amount to be paid for labour will be based on the rates tendered in the Daywork Schedule for the workers executing the work. The tendered rates shall be all-inclusive and shall be held to cover all charges for the Contractor's profits, timekeeping, clerical work, insurance, establishment, superintendence, the use of hand tools, etc, and no additional surcharge over and above the tendered rates will be applicable.

PAA-3 CONSTRUCTIONAL PLANT

The rates for constructional plant as tendered in the Daywork Schedule shall cover all costs, overheads and profit for the contractor and no further surcharge will be payable on the tendered rates. The cost of operators shall be included in the tendered rates except where otherwise specified in Clause PAA-5 (Measurement and Payment) hereafter.

Where plant or equipment for which no rates exist in the Daywork schedule are employed, the cost thereof shall be determined as agreed with the Engineer in terms of the General Conditions of Contract. In such case contract price adjustment will only be applicable if the agreed cost is based on rental rates at the time of the base month before closing of tenders, or if the ruling rates current at the time of the execution of the work are de-escalated to the base month.

The Contractor will be paid for the transport to and from the site of constructional plant not on site and specially ordered by the Engineer to be brought on site. No payment will be made for transport of equipment listed in the Contractor's Schedule of Constructional Plant in the tender document, or for equipment which has been removed from the site on request of the Contractor, or for equipment already on site, regardless of whether it appears on the Schedule of Constructional plant or not.

PAA-4 MATERIALS

Materials required for daywork items which cannot be compensated under existing rates and have to be purchased, will be paid for at cost, excluding VAT, plus a surcharge of 15%. The cost of materials provided for daywork at current rates at the time when the work is executed, will not be subject to contract price adjustment unless the prices of the materials are de-escalated to the base month for escalation.

PAA-5 MEASUREMENT AND PAYMENTItem Unit**PAA-5.1 Labour**

(a)	Unskilled workers	hour (h)
(b)	Skilled workers (Artisans)	hour (h)
(c)	Operators and drivers (where measured separately)	hour (h)
(d)	Foremen	hour (h)
(e)	Others (specify)	hour (h)

The unit of measurement is the hour or part thereof during which workers were engaged in daywork.

The tendered rate shall include full compensation for all salaries, wages, bonuses, pension, insurance, medical aid and other benefits as well as overheads arising from administrative personnel, site agents, supervisors, tools and profit. No surcharge will be paid on the tendered rates

The cost of operators included in the rates for constructional plant, will not be measured again under Labour.

Item Unit**PAA-5.2 Constructional Plant**

(a)	Lowbed transport of plant to and from the site	ton-kilometre (t.km)
(b)	Bulldozer and ripper	
(i)	..... (Specify power and mass)	hour (h)
(ii)	..... etc (for other bulldozers)	hour (h)
(c)	Grader	
(i)	..... (Specify power and mass)	hour (h)
(ii)	..... etc (for other graders)	hour (h)
(d)	Front-end loaders	
(i)	..... (Specify type, power and mass)	hour (h)
(ii)	..... etc (for other front-end loaders)	hour (h)

(e) Back-acting excavators

- (i) (Specify type, power and mass) hour (h)
 (ii) etc (for other back-acting excavators) hour (h)

(g) Compactors

- (i) (Specify type and mass) hour (h)
 (ii) etc (for other types and masses) hour (h)

(h) Compressors

- (i) (Specify capacity and number of tools) hour (h)
 (ii) etc (for other compressors and tools) hour (h)

(i) Trucks

- (i) (Specify type, and capacity) hour (h)
 (ii) etc (for other trucks) hour (h)

(j) Light delivery vehicles

- (i) (Specify load capacity) kilometre (km)
 (ii) etc (for other) kilometre (km)

Item Unit

PAA-5.3 Cost of materials delivered to
 site (specify) Provisional sum or as scheduled

The unit of measurement for subitem 5.2(a) is the ton constructional equipment multiplied by the kilometre distance over which the plant has been transported with a lowbed transporter as ordered by the Engineer.

The unit of measurement for subitems 5.2(b) to (i) is the hour or part thereof during which the item of plant had been in active use for the daywork operation, including stopping time of less than five minutes.

Where applicable travel time to and from the normal parking position on site, or the position of the most recent non-daywork activity, as well as stopping time exceeding five minutes shall be multiplied by a factor of 0,6. Time shall be measured by means of a vibrating clock card.

The unit of measurement for subitem 5.2(j) is the kilometre travelled to collect or transport small quantities of materials. Kilometres travelled in light delivery vehicles by supervisors in the execution of normal supervisory duties, shall not be measured for payment.

The tendered rates shall include full compensation for the supply, maintenance, service, repairs, depreciation as well as fuel, lubricants, licensing, insurance, overheads and profit. It shall also include the cost of drivers and operators except in the case of subitem PAA-5.2(h) where the operators of tools are paid for under labour.

C3.4.4 PART LGC : GEOSYNTHETIC CLAY LINER (GCL)

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LGC.1 SCOPE

This specification covers the supply and installation of a Geosynthetic Clay Liner for the lining of an extension to the Transfer Area lining at the municipal waste landfill at Bisasar Road. It does not include earthworks or protection layer or drainage systems which are covered separately.

Supporting specifications are GRI GCL3 REV 5 Table 1 (a).

LGC.2 INTERPRETATIONS**LGC.2.1 Definitions**

For the purposes of this Specification, the following definitions shall apply :

Any reference to the “liner”, “lining” or “geosynthetic clay liner” shall be deemed to refer to the **Geosynthetic Clay Liner** to the base and side slopes of the Landfill.

LGC.3 MATERIAL & MANUFACTURING**LGC.3.1 Manufacture**

The GCL shall be manufactured by mechanically bonding the cover and carrier geotextiles using a needle-punching process to enhance frictional and internal shear strength characteristics. In order to maintain these characteristics, no glues, adhesives or other non-mechanical bonding processes shall be used instead of the needle-punching process.

No manufacturing techniques will be approved unless it can be suitably demonstrated that the GCL exhibits uniform shear strength characteristics across the entire width of the panel. Isolated sewn, stitched or stapled rows do not constitute uniform reinforcement for the purposes of this specification.

To ensure correct jointing between adjacent GCL panels, the GCL shall be factory bentonite impregnated along both top long edges to enable self-sealing along these edges. This impregnation shall extend some 500mm (minimum 300mm) from the edges of the roll, in the long direction.

A minimum overlap guideline shall be imprinted with non-toxic ink on both long edges of the GCL roll to ensure the accuracy of overlap seams. These lines shall be used during Construction Quality Assurance procedures, to ensure the minimum overlap is achieved. The minimum overlap guideline shall indicate where the edge of the panel must be placed in order to achieve a full 300mm of bentonite overlap for each panel.

The minimum acceptable dimensions for the GCL panels shall be 4,5m wide and 30m long. Short rolls (rolls less than 30m long) may be supplied, but at a rate not to exceed 5% of the total product area produced for this project.

To demonstrate the uniformity of the manufacturing process, no delamination of the geotextile components from the bentonite core shall occur when the GCL is immersed in tap water at ambient temperature for one hour.

The manufacturer shall submit certified test results and statements of quality for the proposed GCL to the Engineer, indicating without exception that the proposed GCL meets the requirements of this specification.

LGC.3.2 Packaging and Identification

All GCL rolls shall be packaged in opaque moisture resistant plastic sleeves. The roll cores shall be sufficiently strong to resist collapse during transit and handling.

Before shipment, the manufacturer shall label each roll, both on the GCL roll and on the surface of the plastic protective sleeve. Labels shall be resistant to fading and moisture degradation to ensure legibility at the time of the installation. At a minimum the roll labels shall identify the following:

Product Name and Grade

Length and width of roll

Total weight of roll

Production Lot number and individual roll number

LGC.3.3 GCL Specification

The GCL shall comply with GRI GCL 3 Rev 5, specifically Table 1 (a) and the table below.

TABLE LGC 3.1 : GCL NOMINAL SPECIFICATIONS

Material Property		Unit	Required Value	Test Method
GEOTEXTILE PROTECTION LAYER	PP non-woven	g/m ²	200	ASTM 5261
GEOTEXTILE CARRIER LAYER	PP slit film woven	g/m ²	110	
	PP non-woven	g/m ²	200	
	Composite	g/m ²	310	
BENTONITE LAYER (Bentonite mass at 15% moisture content max.)	Sodium Bentonite	g/m ²	3700	ASTM D5993
	Fluid Loss	ml	≤ 15	ASTM D5891
	Swell Index (2g/100ml/24h)	ml/2g	≥ 24	ASTM D5890
MASS PER UNIT AREA	GCL	g/m ²	4210	ASTM D5993
BONDING PROCESS		Fully Needle-punched		
GRAB STRENGTH	MACHINE	N	1500	ASTM D4632
	ACROSS	N	1500	
PEEL STRENGTH		N/m	450	ASTM D6496
CBR BURST	STRENGTH	N	≥ 2500	AS 3706.4
	ELONGATION	%	≥ 40	ISO 12236
HYDRAULIC CONDUCTIVITY		m/s	≤ 3 x 10 ⁻¹¹	ASTM D5887
HYDRATED INTERNAL SHEAR STRENGTH (Peak value measured at 30 kPa normal stress)		kPa	≥ 45	ASTM D6243
ROLL SIZE (MIN)		Length (m)	30	

Auxiliary Products

Any accessory bentonite used for sealing seams, penetrations, or repairs, shall be high-quality powdered sodium bentonite from a recognised producer and must comply with the specifications set in Table LGC.3.1. Equal alternatives will be considered.

LGC.3.4 Handling of materials

The Contractor shall contact the supplier before shipment to determine if the unloading methods and equipment differs from that specified below. Significant deviations from these procedures shall be pre-approved by the Engineer.

GCL's must be supported during handling to ensure worker safety and to prevent damage to the product. Under no circumstances may the rolls be dragged, lifted from one end, lifted with only the forks of a lift truck or dropped on to the ground from the delivery vehicle.

The CQA personnel shall verify that proper handling equipment exists which does not pose any danger to installation personnel or risk of damage or deformation to the liner material itself. Suitable handling equipment is described below:

Spreader Bar Assembly - A spreader bar assembly shall include a core pipe or bar and a spreader bar beam. The core pipe shall be used to uniformly support the roll when inserted through the GCL core while the spreader bar beam will prevent chains or straps from chafing the roll edges.

Carpet Spike - A carpet spike is a rigid pipe or rod with one end directly connected to a forklift or other handling equipment and the other end rounded off to allow easy insertion into roll material cores. If a carpet spike is used, it must be at least 3,0m long and inserted to its full length into the roll core to prevent excessive bending of the roll when lifted 75mm apart, which both support the GCL roll and allow it to unroll freely. The use of roller cradles will be permitted if the rollers support the entire width of the GCL roll.

Straps - Straps may be used to support the ends of spreader bars but are not recommended as the primary support mechanism. As straps may damage the GCL where wrapped around the roll and generally do not provide sufficient uniform support to prevent roll bending or deformation, great care must be exercised when this option is used.

LGC.3.5 Inspection upon delivery

Each roll shall be visually inspected when unloaded to determine if any packaging or material has been damaged during transit. Possible product conditions and actions are listed below.

Rolls exhibiting damage shall be marked and set aside for closer examination during deployment.

- Minor rips or tears in the plastic packaging shall be repaired with moisture resistant tape before being placed in storage to prevent moisture damage.

The presence of free-flowing water within any roll packaging shall require that roll to be set aside for further examination to ascertain the extent of any damage.

GCL rolls delivered to the project site shall be only those indicated on GCL manufacturing quality control certificates.

Repairs to damaged GCL rolls shall be performed in accordance with LGC.5.5 of this specification.

LGC.3.6 Storage on Site

Storage of the GCL rolls shall be the responsibility of the Contractor or other designated party. All GCL rolls shall be stockpiled and maintained dry in a well-drained flat location area away from high-traffic areas but sufficiently close to the active work area to minimise handling.

Rolls shall not be stacked on uneven or discontinuous surfaces, in order to prevent bending, deformation, and damage to the GCL or cause difficulty inserting the carpet spike or core pipe.

GCL shall not be stored more than four rolls high, or limited to the height at which installation personnel may safely manoeuvre the handling apparatus. Stacks or tiers of rolls must be situated in a manner that prevents sliding or rolling by choking the bottom layer of the rolls.

An additional tarpaulin or plastic sheet shall be used over the stacked rolls to provide extra protection for GCL material stored outdoors.

Bagged bentonite material shall be stored under cover. Bags shall be stored on pallets or other suitably dry surfaces that will prevent prehydration.

LGC.4 PLANT

The appropriate specialist plant shall be provided to enable the installation of the Geosynthetic layer in accordance with this specification.

LGC.5. CONSTRUCTION & INSTALLATION

LGC.5.1 Subsurface preparation

The surfaces upon which the GCL is to be laid shall be suitable for the placement of GCL material, subject to the applicable section of this specification.

LGC.5.1.1 Subgrade

The surface upon which the GCL material has to be installed shall be inspected by the Engineer and CQA officer and the Contractor shall certify in writing that:

- a surveyor has established all lines and levels;
- the supporting soil meets the necessary specification;
- the surface to be lined has been finished so as to be free of irregularities, protrusions, loose soil, desiccation cracks and abrupt changes in level;
- the surface of the supporting soil does not contain stones or other objects which may be damaging to the GCL; and
- there are no areas excessively softened by high water content

The Contractor shall certify in writing that the surface on which the GCL has to be installed within the next 24 hours, is acceptable. The certificate of acceptance shall be given by the Contractor to the Engineer prior to commencement of GCL installation in the area under consideration.

LGC.5.1.2 Geosynthetic subgrade

Prior to GCL deployment the geosynthetic surface as well as other underlying geosynthetic membranes upon which the GCL material may be installed shall be inspected and approved by the Engineer or third party CQA officer in accordance with the requirements of the project specifications.

The earth of geosynthetic subgrade shall be continuously inspected, approved and certified by the Engineer or CQA officer prior to GCL placement. Subsequent to approval, it shall be the Contractor's responsibility to indicate to the Engineer any change in the subgrade condition that could cause it to be out of compliance with any of the requirements of this section or the project specification.

LGC.5.2 Anchor trench

An anchor trench shall be excavated by the Contractor to the lines and grades shown on the project drawings at the top of slopes.

The anchor trench shall be constructed free of sharp edges or corners and maintained in a dry condition. No loose soil shall be permitted beneath the GCL within the trench.

The anchor trench shall be inspected as well as approved by the Engineer or CQA officer before placement, backfilling and compaction of the anchor key material.

LGC.5.3 Placement

The GCL material shall be placed in accordance with the procedures specified below.

In the absence of specific guidelines, GCL panels shall be placed with the non-woven side up on slopes to maximise the shear strength characteristics.

In the base or flat areas, the GCL does not require any particular orientation, however, in composite liner applications, intimate contact may be facilitated by placing the woven face of the GCL against the overlying protection geomembrane.

Where possible, all slope panels shall be installed running down the slope, while panels installed in flat areas require no particular orientation.

Reinforced GCL shall be used on both slopes as well as the flat areas to ensure the GCL withstands the rigours of the installation and subsequent low load hydration.

Deployment shall proceed from the highest elevation to the lowest to facilitate drainage in case of precipitation.

The GCL may be deployed on slopes by pulling the material from a suspended roll, or securing a roll end into an anchor trench and unrolling each panel as the handling equipment slowly moves backwards. The roll must not be allowed to roll down the slope freely without any form of restraint.

Deployment on flat areas shall be conducted in the same manner as that for the slopes; however, care should be taken to minimise “dragging” the GCL. A slip-sheet (such as 0,5mm smooth plastic) may be used to facilitate positioning of the liner while ensuring the GCL is not damaged by underlying sources.

Overlaps shall be a 300mm (10% tolerance allowed) and shall be free of wrinkles, folds or “fish-mouths”.

Bentonite paste manufactured in accordance with the GCL supplier’s specification shall be placed between panels at a rate of 800 g/m of seam. Where a product is claimed to be self-sealing along the edges, the manufacturer shall provide proof of this claim.

The GCL shall be placed into and across the base of the excavated anchor trench, stopping at the back wall of the excavation. On gentle slopes or locations where it is difficult to create an anchor trench, the GCL may alternatively be anchored by a material run-out past the crest of the slope. The length of the run-out shall be pre-approved by the Engineer before the use of this method.

The Contractor shall only install as much GCL as can be covered at the end of the day. Only those GCL panels, which can be anchored and covered in the same day, shall be unpacked and installed. If exposed GCL cannot be permanently covered before the end of a working day, it shall be temporarily covered with plastic or other waterproof material to prevent hydration. No GCL shall be left exposed overnight. Exposed edges of the GCL shall be covered by a temporary water-resistant sheeting until work commences again.

Overlapping of sheets shall be reported by the Contractor to the Engineer by providing photographs with scale ruler every 10m of placement. The Engineer must be informed 2h in advance before a new sheet is being laid.

LGC.5.4 Detail work

Detail work, defined as the sealing of the liner to pipe penetrations, foundation walls, drainage structures, spillways, and other appurtenances, shall be performed as recommended by the GCL Manufacturer and approved by the Engineer

LGC.5.5 Damage repair

LGC.5.5.1 General

Before cover material placement, damage to the GCL shall be identified and repaired by the Contractor. Damage is defined as any rips or tears in the geotextiles, delamination of geotextiles, a displaced panel or too little overlapping.

LGC.5.5.2 Rip and Tear Repair (Flat Surfaces)

Rips or tear shall be repaired by completely exposing the affected area, removing all foreign objects or soil, and by then placing a patch cut from unusual GCL over the damage (damaged material may be left in place), with a minimum overlap of 300mm on all edges.

LGC.5.5.3 Rip and Tear Repair (Slopes)

Damaged GCL material on slopes shall be repaired by the same procedures as for flat surfaces, however, the edges of the patch shall also be adhered to the repaired liner with an adhesive to keep the patch in position during backfill or cover operations.

LGC.5.5.4 Displaced Panels

Displaced panels shall be adjusted to the correct position and orientation. The adjusted panel shall then be inspected for any geotextile damage or bentonite loss. Damage shall be repaired by the procedures described in LGC.5.5.2 and LGC 5.5.3.

LGC.5.5.5 Premature Hydration

If the GCL is prematurely hydrated, the Contractor shall notify the QA/QC technician and Engineer for a site-specific determination as to whether the material is acceptable or if alternative measures must be taken to ensure the quality of the design, dependant upon the degree of damage.

LGC.5.6 Cover Material**LGC.5.6.1 General**

The cover materials shall be compatible as well as suitable for use over the GCL, and placed in a manner appropriate for the particular subgrade. Regardless of the cover material, the uncovered edge of GCL panels shall be protected at the end of the working day with a waterproof sheet, which is adequately secured with ballast.

LGC.5.6.2 Earth Cover Soil

If the cover material is soil, sand or gravel, a minimum thickness of 300mm shall be placed over the GCL. The soil cover shall be free of sharp-edged stones greater than 50mm in size. Laboratory analysis of especially calcareous cover material shall be required to ensure compatibility with the GCL.

Soil cover shall be placed with low ground pressure equipment. Care shall be taken to avoid damaging the GCL by making sharp turns or pivots with equipment as well as sudden starts or stops.

Soils may be placed over the GCL by pushing with a track dozer or by carefully placing it with a loader or a backhoe. The use of construction machinery directly over the GCL is strictly prohibited. A minimum thickness of 300mm of cover shall be kept between heavy equipment over the GCL until the proper thickness of cover has been placed.

To prevent damage to the GCL, the initial lift(s) of soil cover shall not be compacted more than 85 percent of modified AASHTO density or as specified by the Engineer.

LGC.5.6.3 Geosynthetic Cover

Precautions shall be taken to prevent damage to the GCL by restricting the use of heavy equipment over the liner system. Installation of the overlying geosynthetic component can be accomplished using lightweight, rubber-tyred equipment such as a 4-wheel all-terrain vehicle (ATV). This vehicle can be driven directly on the GCL, provided the ATV makes no sudden stops, starts or turns. Sand must be placed on the GCL using end tip procedures.

Smooth HDPE may be dragged across the GCL surface with equipment or by hand labour during positioning. Similarly, the HDPE may be unrolled with the use of low ground pressure equipment.

Textured HDPE shall be placed so as not to damage the GCL and subject to the approval of the Engineer.

LGC.6 TOLERANCES

Tolerances are covered under Section 7 Testing.

LGC.7 TESTING AND QUALITY CONTROL**LGC.7.1 Pre Delivery****LGC.7.1.1 Testing**

The GCL material shall be tested for compliance with the specifications listed above (nominally as in Table LGC 3.1) by the test methods and frequencies indicated. During production, needle-punched GCL's shall be continuously inspected for broken needles using an in-line metal detector and broken needles shall be removed.

Conformance testing is not an opportunity to reproduce the QC testing program. It is a check to provide confirmation that satisfactory material is delivered to the site.

As with the HDPE testing, Conformance Testing shall be carried out by an independent laboratory (QCA laboratory). The testing frequency shall be at the discretion of the Engineer but the frequency shown in Table LGC.3.1 can be used as a guideline. The name and address of the laboratory will be supplied by the Engineer.

LGC.7.1.2 Submissions

The GCL manufacturer shall issue Quality Control submissions to the Engineer and CQA personnel for each delivery of material. The submissions shall include the following information:

Bentonite Manufacturer Certificate - Bentonite manufacturer quality documentation for the particular lot of clay used in the production of the rolls delivered.

Geotextile Manufacturer Certification - Geotextile manufacturer quality control documentation for the particular lots of geotextiles used in the production of the rolls delivered.

GLC Manufacturer Tracking List - Cross-referencing list delineating of the corresponding geotextile and Bentonite lots for the materials used in the production of the rolls delivered.

Manufacturing Quality Control Data - The manufacturing quality control test data indicating the actual test values.

Physical Properties Sheet - The material specification for the GCL supplied in accordance with this specification.

Letter of Certification - The letter indicating that the material is in conformance with the physical properties specified.

LGC.7.2 Pre-Installation**LGC.7.2.1 Manufacturing Quality Assurance Documentation**

GCL Manufacturing Quality Assurance (MQA) sampling and testing for compliance with this specification shall be co-ordinated by the Engineer or third party Construction Quality Assurance (CQA) officer as necessary to support the Manufacturer's manufacturing Quality Control (MQC) data.

LGC.7.2.2 Information required before Installation

The following information shall be supplied to the Engineer by the Contractor for review within 10 business days of the Contract Award to ensure that the materials and parties selected for use on the project meet the requirements of this specification:

- Samples of GCL proposed for use on the project.
- Reference list supplied by GCL Manufacturer and Installer indicating the approximate experience level as required by the specification.

The following information shall be submitted by the Contractor to the Engineer before the deployment of any GCL material to ensure that the materials and subgrade preparation meet the requirements of this specification:

- GCL Manufacturer's Quality Control Certificates.
- Certifications of subgrade acceptance for each area covered by GCL, signed by the Contractor and the Engineer or his representative.

LGC.7.3 CQA Plan**LGC.7.3.1 General**

An effective CQA plan depends largely on recognition of all construction activities that must be monitored, and on assigning responsibilities for the monitoring of each activity. This is most effectively accomplished and verified by the documentation of quality assurance activities.

If an overall contract CQA Plan exists, this shall apply.

LGC.7.3.2 Daily Record keeping

Standard reporting procedures shall include preparation of daily reports which, at a minimum, will consist of:

- a)field notes, including memoranda of meetings and/or discussions with the Contractor;
- b)observation logs, and testing data sheets; and
- c)construction problem and solution data sheets. This information must be regularly submitted to, and reviewed by the Engineer.

LGC.7.3.3 Observation Logs and Testing Data Sheets

Observation logs and testing data sheets shall be prepared daily. At a minimum, these logs and data sheets shall include the following information:

- an identifying log/sheet number for cross-referencing and document control;
- date, client name, project name, location, and other identification;
- data on weather conditions;
- a site plan showing all active work areas and test locations;
- descriptions and locations of on-going construction;
- equipment and personnel in each work area, including those of all GCL and geomembrane related subcontractors;
- descriptions and specific locations of areas, or units, of work being tested and/or observed and documented;
- locations where tests were done and samples were taken;
- a summary of test results;
- calibration of test equipment, and actions taken as a result of any non-conformance;
- off-site materials received, including quality verification documentation;
- decisions made regarding acceptance of units of work and/or corrective actions to be taken;
- signatures of the Contractor and Engineer, or their representatives.

These logs must show all non-complying test results (trial seams, field destructive tests, air pressure tests, etc).

A comprehensive set of CQA Logs shall be as follows:

- Manufacturer/ Compliance Agreement
- Daily personnel attendance list
- Material inventory
- Conformance testing
- Subgrade acceptance
- Material deployment
- Repairs
- Laboratory test results
- Problems and solutions
- Soil cover placement
- Daily report

These documents shall provide full traceability of men, seaming machines, machine settings, materials, weather, and test results, in the event of in-service operational problems.

The Engineer or CQA Officer can incorporate all of these logs in the CQA Final Report.

LGC.7.4 CQA Final Report**LGC.7.4.1 Submission of Report**

The CQA Final Report, should be submitted by the Engineer to the Employer within 40 days of completion of installation of the lining system, or some agreed time.

LGC.7.4.2 CQA Final Report Contents

At a minimum the CQA Final Report shall contain the following information:

An outline of the project

- A description of the lining/system
- Reference to the CQA Plan and other documents used
- GCL, geomembrane and other geosynthetic materials specifications
- A summary of on-site CQA activities and quantities (samples, failing results)
- A photographic record of construction
- Manufacturer/Contractor Compliance Agreement
- GCL QC certificates
- Subgrade acceptance certificates
- Copies of all logs
- All test results
- Discussion of problems and solutions
- Record drawings
- Certification statement

LGC.7.4.3 Record Drawings

The record drawings must show:

- The locations of all GCL seams and the types of seams
- GCL panel and roll numbers and GCL type
- The locations of all GCL repairs and the types of repairs
- Toes of slopes
- Crests of slopes
- Locations and numbers of GCL destructive test sample sites.
- Construction details that differ from as-designed details

LGC.8 MEASUREMENT AND PAYMENT**LGM.8.1 Geosynthetic Clay Liner supply** Unit: m².

Supply Geosynthetic Clay Liner (GCL) to GRI GCL 3 Rev 5, specifically Table 1 (a) as approved. Supply to the site, store the material on and off site in compliance with the specifications and the manufacturer's stipulations, test or comply with all Quality Assurance and Control requirements, in full accordance with the relevant specifications, irrespective of the source or point of manufacture.

Measurement is from the slope areas measured net, excluding all wastage and overlap requirements but including anchorage length and overlap with existing liner.

The costs of Freight, Duty, Landing charges and Rates of exchange shall be included in the Tendered Rate as well as all allowances for waste and overlap.

LGC.8.2 Install Geosynthetic Clay Liner unit m².

The Tendered Rate shall include for all materials, plant, labour and other incidentals required to fully install the GCL in accordance with the relevant specifications. No additional payment will be made for any site transport, handling, cutting, waste, placing, joining, overlapping, temporary anchoring/securing, testing or compliance with all Quality Assurance and Control requirements, and Construction Quality Assurance Plans.

The area of GCL paid for shall be the **surveyed slope area** as **agreed (with the Engineer)** and shall include the length in the designed areas in the anchor trench and overlaps with existing lining systems but exclude the area taken up by wastage (cutting, general wastage, placing, joining, overlapping, temporary anchoring/securing of material in position, testing or control or assurance of quality). The exclusions are to be allowed for in the rate tendered.

The Tendered Rate shall also include for all materials, plant labour and other incidentals

10% of the rate tendered shall be withheld until all the documentation required in the contract for the GCL placement to the satisfaction of the Engineer has been delivered to him.

C3.4.5 LINING SYSTEMS - GEOMEMBRANE LINER

LGM : **PARTICULAR SPECIFICATION: LINING SYSTEMS – GEOMEMBRANE LINER**

LGM.1.1 **Scope**

This particular specification covers the supply and full installation of geomembrane lining. General specifications applicable shall be SANS 1526:2015 and the latest editions (**currently Rev 16**) of the GRI GM 13 and GM 19 specifications and that installation is in accordance with SANS 10409: 2020.

LGM 2 **DEFINITIONS**

Definitions in addition to those in the supporting specifications are:

Normal temperature: A temperature between 15°C and 32°C

Wrinkle, wave or fold: Undulation in the liner that is caused by installation methods, temperature fluctuations or activities such as cover placement on the liner.

Lining Contractor: The Contractor/Sub-Contractor (as applicable) who may be appointed by the Contractor to supply and install the geomembrane liner/s required for the project.

LGM 3 **MATERIALS**

The specific material requirements are:

The geomembrane liner shall be:

- a) **Thickness: minimum average shall be ≥ 1.5 mm, and the lowest individual value for any of the 10 values is to be -10% as per ASTM D5994.**

LGM 3.1 **Composition and requirements of geomembrane over and above SANS 1526 and GRI-GM13 Rev 14 Table 2(b).**

The material shall:

- a) be manufactured from a hexene or octene based resin for the HDPE
- c) contain not more than 10% by mass of in-line reworked resin of the same type as the parent material.
- d) be of only one type of resin and that shall be used in the manufacture of the geomembrane for this project and this shall be approved by the Engineer.
- e) have texturing as specified shall be embossed on both faces and have a minimum asperity height of >0.65 mm.
- f) not be accepted if spray on texturing is used.
- g) be welded with welding rods that shall be of the same base polymer and additives as the lining material.

In addition to the SANS 1526 specification, the material shall additionally be tested and comply with the following table:

Break elongation for textured liner – ASTM D6693 Type IV	minimum 250%
Puncture resistance - ASTM D4833	minimum 500N
Rapid tensile strain test to be undertaken at a strain rate of 300 mm/minute to determine if the material exhibits any separation in plane behaviour	
Melt Index (ASTM D1238 (190/2.16)); less than	1,0g/10min

Any testing required by the Engineer shall be undertaken timeously.

LGM 3.2 If a Tenderer wishes to submit any other product with different texturing surface and asperity heights, full material specifications and shear box test results using site appropriate materials must be submitted with the tender.

LGM 3.3 **Testing: Alternative materials offered must be shown to meet or exceed the requirements of the project specifications as well as the latest revisions of SANS 1526 and GRI-GM13. The cost and time of this approval and review process to be borne by the contractor.**

Tenderers should also note that the geomembrane liners selected should be resistant to degradation by sunlight, ultra-violet rays, ozone, airborne pollution, weathering and municipal leachate.

It is expected that the leachate will contain a range of contaminants, including simple organic acids and alcohols, ammonia, humic and fulvic acids as well as inorganic salts high in sodium, calcium, chloride, sulphate and iron.

LGM 3.3 **Installation**

Installation shall be in accordance with SANS 10409:2020.

LGM.8 MEASUREMENT AND PAYMENT**LGM.8.1 Geomembrane Liner supply**Unit: m².

Supply Geomembrane to GRI GM-13, 1.5mm thick HDPE as approved. Supply to the site, all handling and store safely, for slope areas measured net, excluding all wastage, overlaps and welding requirements but including anchorage length and overlap with existing liner.

Including for embossed texturing as approved on both faces of the geomembrane.

LGM.8.2 Geomembrane Liner installationUnit: m².

The different types of geomembrane liner specified will be identified separately.

The area of geomembrane measured for payment shall be the **agreed (with the Engineer) surveyed slope area** and shall include the length in the designed areas in the anchor trench and overlaps with existing lining systems but exclude the area taken up by wastage (cutting, general wastage, placing, joining, overlapping, temporary anchoring/securing of material in position, testing or control or assurance of quality). The exclusions are to be allowed for in the rate tendered.

The rate tendered shall include for placement so as to minimise folds or wrinkles. Any fold of greater than **75mm in height over more than 250mm**, measured at the coolest time of day, shall be removed by a means allowed by the Engineer without additional payment being made. No folds or waves will be allowed along or across extrusion or wedge welds.

The unit rate shall include for all plant, labour and materials associated with the supplying and transporting to site, installation on site, and as specified, of the specified and approved material in position and allowing for waste, seaming requirements and meeting all of the manufacturer's requirements as appropriate.

Testing and compliance with all Quality Assurance and Control requirements, in full accordance with all relevant specifications irrespective of the source or point of manufacture is to be included in the unit rate... No additional payment will be made for any cutting, waste, placing, joining, overlapping, anchoring/securing of material in position, testing or control or assurance of quality.

The tendered rate for supply shall include for offloading of the geomembrane liner at the site. The contractor is to ensure that the geomembrane liner is stored at the site under protection and to the engineer's satisfaction.

Testing and test frequency as per GRI GM 13 Rev 11 shall be allowed for in the rate tendered.

10% of the rate tendered shall be withheld until all the quality control documentation required in the contract specifications and SANS 10409 for the geomembrane installation, is to the satisfaction of the Engineer, has been delivered to him.

LGM.8.3 Pipe penetrations through the lining systemUnit: m².

The rate shall include for all aspects (materials, installation, wastage, trimming etc) of providing a seal to any pipe penetration of the geomembrane or GCL liner, that is leakage proof and resistant to corrosion by

LGM.8.5 Establishment of non-destructive electrical leak detection equipment Unit: sum

The rate tendered shall include for all operations associated with establishing and maintaining all leak detection / location systems on site for the duration of the testing, which shall be determined by the Contractor. Payment will be a single sum for all establishment of any and all testing equipment.

LGM.8.6 Non-destructive electrical leak detection by dipoleUnit: m².

The rate tendered shall include for all operations associated with leak detection of the installed and geomembrane lining by dipole in accordance with ASTM D7007. The testing is to be done once the geomembrane is covered by the protection layer and this shall be moistened as needed and the cost included in the rate tendered.

The lined area to be tested will need to be electrically isolated from the surrounding ground, generally by a perimeter trench with the geomembrane exposed. The trench and any geomembrane needed for the operation will be paid under the relevant items. The rate tendered for the testing shall include for an adequate number of sensitivity tests using either a real or an artificial leak to be set up and performed before beginning the survey and to the approval of the Engineer.

C3.5: CONTRACT AND STANDARD DRAWINGS**C3.5.1 CONTRACT DRAWINGS / DETAILS**

6W-34703 - 01 OVERALL PLAN SHOWING CELL 7 & ANCILLARY WORKS

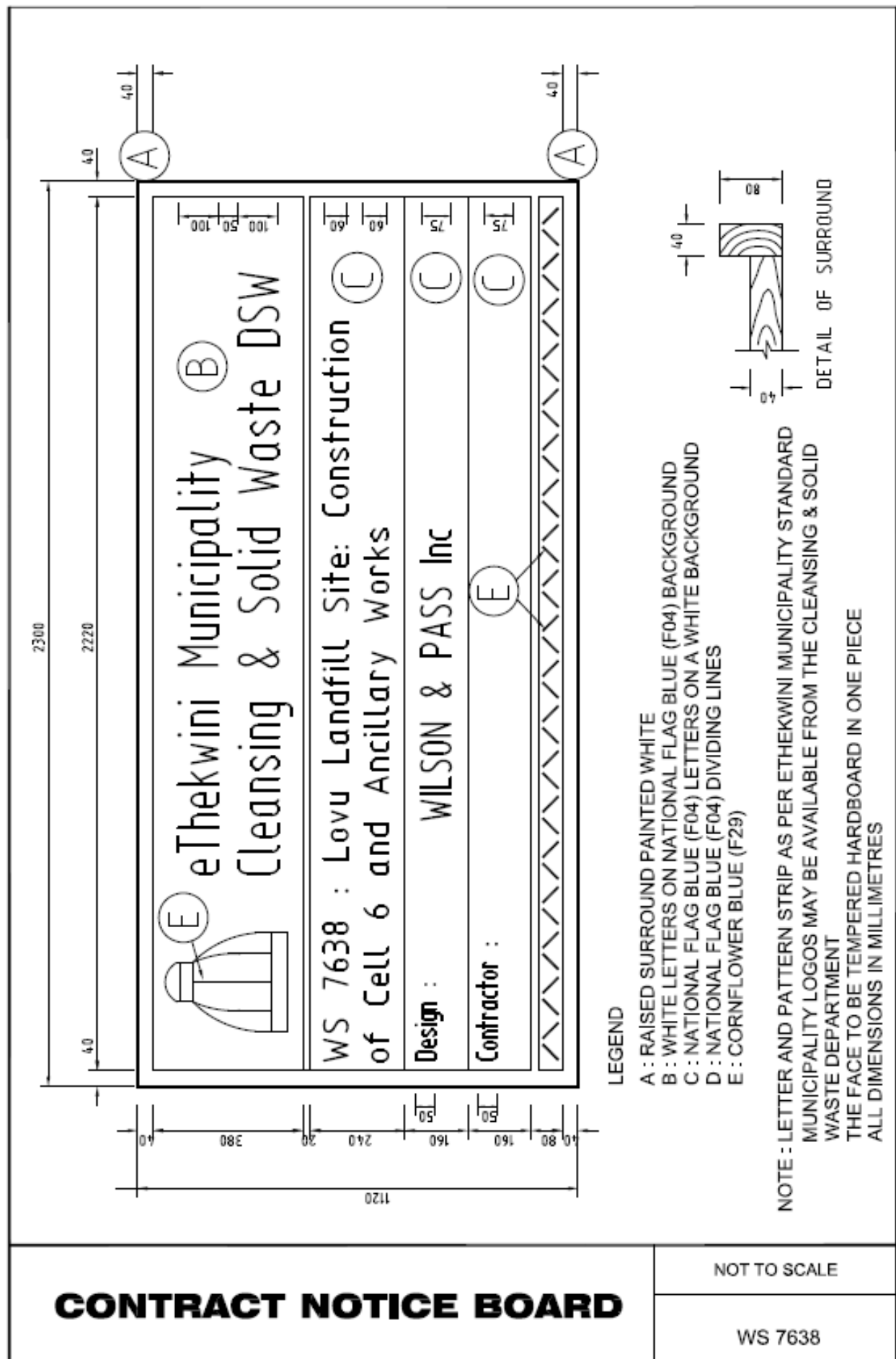
6W-34703 - 02 PLAN & DETAILS CELL 7 EARTHWORKS & DRAINAGE

6W-34703 - 03 CELL 7 - LINING PLAN & DETAILS

6W-34703 - 04 CELL 7 : CONSTRUCTION DETAILS

6W-34703 - 05 CELL 7 : CONCRETE DETAILS & ACCESS ROADS DETAILS

6W-34703 - 06 CELL 7 : SEWER SOAK AWAY DETAILS



C3.5.2 STANDARD DRAWINGS

The Standard Drawings to which these Standard Engineering Specifications refer are listed below.

Dwg No	Description	Date of Issue	
38570	Ring Manholes	February	1990
38571	Brick Manhole Details	February	1990
38572	Stormwater Inlet Details	February	1990
38573	Stormwater Inlet Special Details	February	1990
38574	Sewer Manholes: Ramp, Backdrop and Channelling Details	February	1990
38575	Sub-Soil Drain, Pipe Bedding and Pipe Protection Details	February	1990
38576	Headwall Details	February	1990
38577	Kerbing Details	February	1990
38578	Concrete Median Barriers	February	1990
38579	Vehicular and Pedestrian Scoops	February	1990
38580	Concrete Bollard and Steel Guard Rail	February	1990
38581	Retaining Wall, PC Steps, Staircase, Cable Ducts and Headwalls	February	1990
38582	Precast Concrete Fencing and Aluminium Gates	February	1990
38583	Wire Mesh Fence and Gate Details	February	1990
38584	Standard Hydrant Thrust Blocks and Trenches	February	1990
38585	Water Connections, Pipework and Fittings	February	1990
38586	DP & TC Manholes - Rectangular	February	1990
38587	DP & TC Manholes - "L" Shaped	February	1990
38588	DP & TC Manholes - "T" Shaped	February	1990
38589	DP & TC Cable Ducts and Junction Box Details	February	1990
43120	Typical Details of Grid Inlets	February	1990

C3.6: ANNEXURES

C3.6.1 There are no Annexures

PART C4: SITE INFORMATION

C4.1 LOCALITY PLAN



LOVU LANDFILL – LOCALITY PLAN

Co ordinates are approximately: S 30 ° 6' 54" or 30,115° and E 30 ° 48' 44" or 30,812°

The site does appear on Google Maps as "Illovo DSW" (<https://www.google.co.za/maps/@-30.1206679,30.8233712,15z?hl=en>).

LOCALITY PLAN

Contract WS 7638

LOVU LANDFILL: CELL 6 & ANCILLARY WORKS

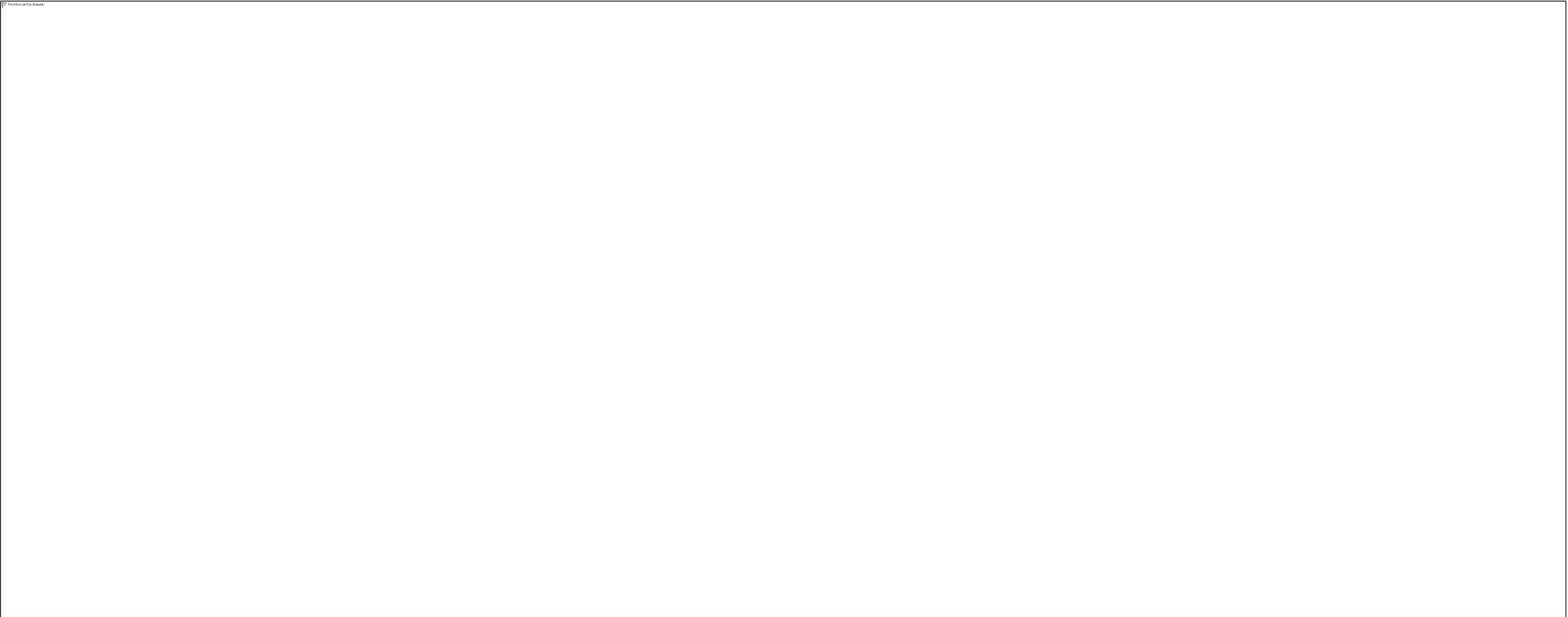
C4.2 CONDITIONS ON SITE

Test pit profiles. Test pits 3, 4, 5, 7, 9 and 10 are relevant

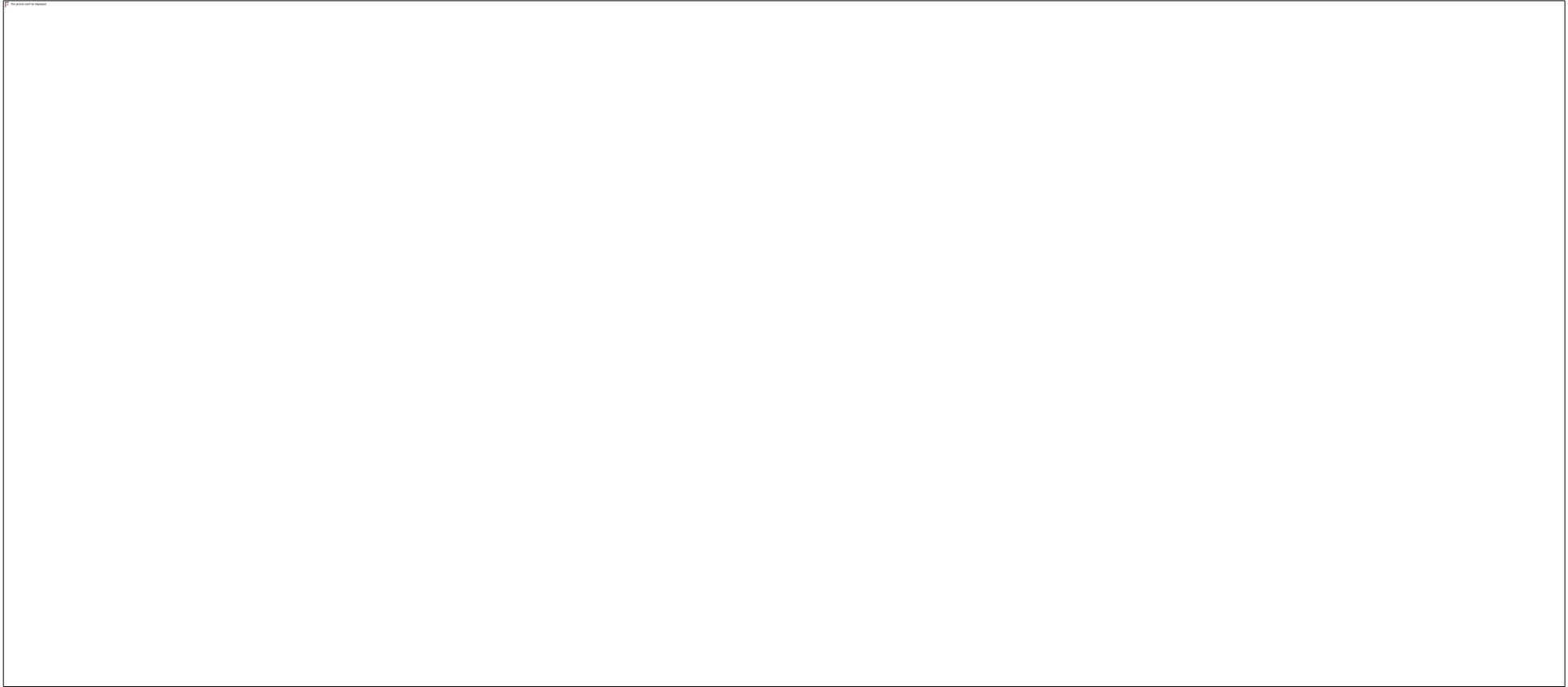
LOVU LANDFILL PROPOSED CELL 6 - TEST PITS FROM NOVEMBER 2022

Machine: Caterpillar 3230 2 L Date: 16 Nov 22

TH No.	Depth	Thk	Origin	Description	Water	Collapse	Refusal	Test Depth	Sand & Gravel (%)	Silt (%)	Clay (%)	GM	PI
3	0.0												
	0.2	0.2	Transported	Very slightly moist, dark grey brown, gravelly, loose, clayey silt. Transported soil. With sugar cane roots.									
	1.2	1.0	Residual soil	Slightly moist, yellow & olive brown, firm, shattered and gravelly clayey silt with some shale fragments.									
		1.0	Residual bedrock	Slightly moist, grey, joints streaked yellow brown, closely bedded, medium jointed, extremely soft rock Pietermaritzburg Formation Shale. Approximate dip 10° SE				2.2m+	63	22	15	0.78	3.6
	2.2			PRACTICAL REFUSAL	N	N	Y						











C4.3

TEST RESULTS

There are no specific test results.