RFP Annexure List **- The following Document contains:**

Annexure A – ***General Quality Requirements For Contractors And Suppliers.***

Annexure B – ***Contractor's Environmental And Sustainability Specification Guidelines***

Annexure C – ***Transnet Integrated Management System Policy Statement***

Annexure D – ***Standard Operating Procedure - Constrcution Environmental Management***

Annexure E – ***Baseline Risk Assessment***

Annexure F – ***Question & Answer Sheet***

Annexure A - General Quality Requirements For Contractors And Suppliers

_____ hereby acknowledge receipt and full understanding of Transnet SOC Ltd.'s ***General Quality Requirements For Contractors And Suppliers.***

Signed on _____

_____

Signature Of Tenderer

TRANSNET

GENERAL QUALITY REQUIREMENTS FOR CONTRACTORS AND SUPPLIERS

Document Number	TNPA-QUAL-REQ-014.1
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SUMMARY VERSION CONTROL

VERSION NO.	NATURE OF AMENDMENT	PAGE NO.	DATE REVISED
1	Replacing Transnet Group Capital with Transnet		11/08/2020
2	Updated with ISO 9001:2015 referencing and adding clause numbering against requirements,		01/09/2023
2	Document number changed from TNPA-QUAL-REQ-014.1 to TNPA-QAL-REQ-014.1		01/09/2023

Note: Only the latest amendments and/or additions are reflected in italics in the body of the document.

DOCUMENTATION SIGN-OFF SHEET

I, the undersigned hereby approve this procedure.

ROLE	CAPACITY/ FUNCTION	SIGNATURE	DATE
Process Owner	**Quality Manager**		01/09/2023
Accepts document for adequacy and practicability. Comments:			

Table of Contents

1. Purpose

This Specification outlines the minimum requirements to ensure that products and services supplied to TRANSNET are manufactured, provided, constructed or installed in accordance with all specified requirements as defined in the Contract, all associated specifications, drawings, codes and standards.

2. Definitions / Abbreviations

Term, Abbreviation	Meaning
Contract:	Formal document evidencing agreement between *Employer* and *Contractor* for supply of on site or off-site services (generic term used for Purchase Orders, Contracts and Service Orders in this Standard).
Contractor:	The party to a *contract* that provides services to the *Employer* (Generic term used for Vendors, Suppliers, Contractors, Consultants, etc.).
Contractor Documentation Schedule (CDS)	A schedule specifying the *Employer's* requirements for the document types to be submitted by the *Contractor* at various stages of the *Contract* and the timing of the submissions.
Data:	All drawings/documents/data/information/DPs and IOMs required to be supplied under the *Contract*.
Data Pack (DP):	A compilation of manufacturing data, certification, inspection and testing records prepared by the *Contractor* to verify compliance with the Contractual requirements.
Employer:	The party to a *Contract* or Purchase Order to whom the goods are supplied or for whom the work or services are performed. In the context of this document, Transnet Capital Projects is the *Employer*.
Field Inspection Checklist (FIC):	A document that details the checks, requirements and test parameters for each type of equipment to permit field installation and pre-commissioning of the equipment
Inspection Release Report (IRR):	A document issued to the *Contractor* by TRANSNET advising release of materials for shipment. This does not relieve the *Contractor* of its obligations in accordance with the Terms and Conditions of the *Contract*.
Inspection Waiver Report (IWR):	A document issued to the *Contractor* by TRANSNET advising that TRANSNET has waived final inspection for the materials listed in this document. The issue of this report does not preclude further inspections by TRANSNET. It is issued without prejudice and does not relieve the *Contractor* from the guarantees and obligations included in the *Contract*.
Installation and Operating Manual (IOM):	A document prepared by the *Contractor* providing relevant information applicable to the installation and maintenance of the specific equipment, including data relating to consumables (e.g., Oils, etc.)
ISO 9001:2015 terms	"shall" indicates a requirement
Non-Conformance (NC)	Material, product or workmanship which is not in accordance with the requirements of the *Contract.*
Non-Conformance Report (NCR):	A document initiated by either TRANSNET or the *Contractor* advising that certain materials/products/workmanship provided by the *Contractor* do not conform to the required standards and specifications.
Project Quality Plan (PQP):	A document that outlines the *Contractor's* strategy, methodology, resources allocation, Quality Assurance and Quality Control coordination activities to ensure that Goods and Services supplied meet or exceed the requirements defined in the *Contract* drawings, codes and standards.

Term, Abbreviation	Meaning
Quality Assurance (QA):	A formal methodology designed to assess the quality of products or services provided.
Quality Control (QC):	A set of activities intended to ensure that quality requirements are being met.
Quality Control Plan (QCP):	A document outlining specific manufacturing/construction inspection and testing requirements, including responsibilities, test acceptance criteria, nomination of witness and hold points.
Technical Query Note (TQN):	A document used by the *Contractor* to formally clarify a Technical Query related to the scope of supply. This should not be used where a Non-Conformance Report has already been initiated.
TRANSNET:	Transnet SOE Limited
Works Information:	Refers to the *Works Information* as defined in the *Contract*

3. Applicable Documents

3.1 General

All work performed shall comply with the requirements of this Specification, the documentation referenced in the *Contract* and the latest revision/edition of the relevant Codes and Standards referenced herein.

3.2 Statutory Regulations

Occupational Health & Safety Act, Act No 85, of 1993 and Regulations as amended.

3.3 Codes; Standards and Procedures

Document No.	Title
ISO 9001: 2015	Quality management systems – Requirements
ISO 10005:2018	Quality Management systems- Guidelines for Quality plans
PROCEDURE 014	Contractor Management

4. Quality System

4.1 General

4.1.1 The Contractor will be responsible for all quality activities necessary to ensure the Work meets the requirements specified in the Contract and shall manage and coordinate all Quality aspects of the Work in accordance with the requirements of this Specification, together with the Contractor's PQP and QCPs once reviewed and accepted by TRANSNET.

4.2 Contractor Quality System Requirements

4.2.1 The *Contractor* shall have and maintain a documented Quality Management System. The *Contractor* may be required to demonstrate its use to TRANSNET. The *Contractor's* Quality Management System should be in accordance with the requirements of *International Standard ISO 9001:2015 Clause 4.4.1 Quality Management System and its process.*

4.3 Kick Off Meeting

4.3.1 After the *Contract* start date, and prior to manufacture or construction activities, TRANSNET will require a Kick-Off Meeting with the *Contractor* to discuss fully the importance of meeting TRANSNET's quality requirements. This meeting may be held as part of the *Contract* kick-off meeting for each package or may be a separate meeting, subject to the critical or complex nature of the work. This requirement for a pre-inspection meeting may be repeated when Sub-Contractors of key equipment are engaged.

Note: The above requirement must be applied in conjunction with ISO 9001:2015 Clause 8.4.3

4.4 Contractor / *Supplier* Documentation Submittal Requirements

4.4.1 The *Contractor shall* make a formal submission of his Quality Documentation on award of the *Contract* and at the times defined in the *Contractor's* Documentation Schedule, included in the *Works Information* for the *Contract*.

4.4.2 The Contractor's responsibilities are defined in terms of *DOC-STD-0001* which outlines the standard requirements for preparation, submission, receipt, review, and collection of Technical and (or) Deliverable Documentation, as detailed in the Contractor Documentation Schedule (CDS).

4.4.3 TRANSNET uses the *Contractor's* Documentation Schedule (CDS), included in the *Works Information* for the *Contract*, to indicate those documents required to be submitted for information/review and/or acceptance.

4.4.4 The *Contractor* shall develop and maintain a comprehensive register of documents (*Contractor's* Documentation Register – CDR) that will be generated throughout the project. The CDR includes all quality-related documents. The CDR is a 'live' document and is submitted to TRANSNET for review following each revision by the *Contractor*. The CDR indicates the dates of issue of the documents considering sufficient time to allow for the TRANSNET review/acceptance cycle prior to the document being required for use. A sample of a CDR (DOC-FAT-0002) is issued by TRANSNET at the start of every *contract.*

Note: The above requirements must be applied in conjunction with ISO 9001:2015 Clause 8.4.3 Information for external providers

4.5 Project Quality Plan

4.5.1 Where specified, the *Contractor* submits a PQP to TRANSNET within the period stated in the CDS and in any event not later than 28 days after the *Contract* start date. The PQP details how the *Contractor's* Quality System will be applied to the Scope of Work specified in the *Contract*, and shall address the following:

a) Satisfying the technical and quality requirements of the Contractor's Scope of Work, and relevant elements of the applicable ISO 9001:2015 standard and should be developed with the reference to ISO 10005:2013 Guidelines.
b) Include all quality activities relevant to the Scope of Work, identifying all procedures, reviews, audits, controls, objectives, and records used to control and verify compliance with the specified Contractual requirements.
c) Include a listing of all special processes (e.g., welding and non-destructive testing, cube testing etc.) envisaged for use, including confirmation of personnel certification as required.
d) Include all proposed method statements (for site-based work activities).
e) Include a description of the Contractor's project organisation, with key positions and responsibilities identified and individuals named. The organisation structure shall also indicate the resources committed to the management and coordination of QA / QC activities.
f) Include a listing of all Quality Control Plans (QCPs), and associated Field Inspection Checklists (FICs), as applicable.
g) Identify in the PQP any Sub-Contractor/Sub-Supplier work. Sub-Contractor/Sub-Supplier plans are approved by the Contractor, and a copy forwarded to TRANSNET for information.
h) Include the proposed Authorised Inspection Authority (where applicable - for pressurised equipment and systems).
i) Include proposed quality records.

4.5.2 The PQP shall be controlled and re-submitted for approval when required to incorporate any change necessary during the *Contract* duration to ensure that the document is maintained as an effective control, change management and records. The change management will be done to an agreed policy or procedure.

Note: Where the *Contractor* is required to provide a PQP, no work shall commence until the PQP is accepted by TRANSNET.

Note: The above requirements must be applied in conjunction with ISO 9001:2015 Clause 8 Operations

4.6 Procedures

4.6.1 The *Contractor's* PQP and procedures shall address the system elements and activities appropriate to the Scope of Work, in compliance with the specified Quality Standard.

4.6.2 Where specified, the *Contractor* shall submit copies of Quality Procedures for review. In addition, the *Contractor* shall ensure that copies of all Procedures relevant to the Scope of Work are available for reference by TRANSNET at each work location.

4.6.3 These will include, as applicable, the following:

a) Document Control, the *Contractor's* PQP shall provide a description of how documents provided by TRANSNET to the *Contractor* are to be managed. The description shall address as a minimum:
- Management tools and databases
- Receipt, registration and maintenance
- Internal and external distribution to Employer, third parties and Sub-Contractors
- Management of Codes, Standards and Specifications
- Internal review and approval routines and authorities
- How it is ensured that the correct revisions of documents are available at the point of use including retention periods for all documentation

Note: The above requirement must be applied in conjunction with ISO 9001:2015 Clause 7.5 Documented Information

b) Design Control procedure, where the *Contractor* is responsible for any aspect of design related to the Scope of Work, the Quality Plan shall describe the *Contractor's* methods and procedures for the control of these design activities.

Note: The above requirement must be applied in conjunction with ISO 9001:2015 Clause 8.3 Design and development of products and services

c) Procurement procedure, where the *Contractor* is responsible for any aspect of procurement related to the Scope of Work, the Quality Plan shall describe the *Contractor's* methods and procedures for the control of these activities.

5. Quality Audits

5.1 Contractor Audits

5.1.1 The *Contractor* shall Carry out audits in accordance with its Quality System at its own and Sub-Contractor's facilities to ensure project quality requirements are being achieved.

5.1.2 The *Contractor* shall include a QA Audit Schedule in the *Contractor* PQP submitted to TRANSNET prior to commencement of the Scope of Work. The Audit Schedule shall include all audits to be implemented by the *Contractor* and Sub-Contractor during the execution of the *Contract*.

5.1.3 The *Contractor* shall, where stipulated in the *Contract*, perform an audit within three months after the *Contract* start date and thereafter at a minimum frequency of three months. Audit reports are submitted to TRANSNET at the completion of each Audit. Where unsatisfactory performance is evident, TRANSNET will direct the *Contractor* to perform additional audits.

Note: The above requirements must be applied in conjunction with ISO 9001:2015 Clause 9.2 Internal Audit

5.2 Transnet Audit

5.2.1 Upon the appointment of the Contractor, the project Quality Officer will schedule and conduct the QMS Audit at the contractor's head office to assess the *Contractor's* ISO 9001:2015 Quality Management System status.

5.2.2 TRANSNET reserves the right to perform quality audits or participate as an observer in *Contractor* audits to verify compliance with the Contractual requirements. The *Contractor* shall, within the time frame as agreed upon, correct any adverse audit finding advised by TRANSNET.

5.2.3 The *Employer* may, at own discretion, require a Quality Audit of sub-contractor(s) to ensure that the sub-Contractor(s) have the necessary management, facilities, skilled staff, and quality control facilities to carry out the Works to ensure compliance with the Works Information.

6. Quality Control Plans

Note the of requirements of 6.1 to 7.7 9must be applied in conjunction with ISO 9001:2015 Clause 8.5 Production and Service; ISO 10005:2018

6.1 Quality Control Plans

6.1.1 The *Contractor* shall prepare and submit QCPs to TRANSNET for review in accordance with the requirements of the Contract and PQP.

6.1.2 QCPs must clearly identify all inspection, test and verification requirements to meet the Contractual obligations, specifications, drawings and related details including destructive and non-destructive testing, acceptance criteria, witness and hold points.

6.1.3 The *Contractor* shall NOT commence fabrication or manufacture prior to review and approval of the applicable QCP by TRANSNET.

6.1.4 QCPs shall include reference to all tests specified in the *Works Information*.

6.2 Intervention Points

6.2.1 The QCP identifies points in the fabrication, manufacturing and/or installation process that are selected for inspection. These points are denoted by the following inspection codes:

a) Hold Point (H) — Inspection points in the manufacturing cycle, beyond which work shall not proceed without the specified activity, work or function being witnessed. Hold points require written notification to TRANSNET.

b) Witness Point (W) — An inspection point in the manufacturing cycle that will be witnessed or verified. If TRANSNET confirms it is unable to attend after being provided with the written notification, then manufacture may proceed. Witness points require written notification to TRANSNET.

c) Review Point (R) — A point at which products and quality records are verified and endorsed. Review points are not points that require notification to TRANSNET.

d) Surveillance (S) — An inspection point in the manufacturing cycle during which any activity, work or function is observed. No formal notification is required.

6.3 Field Inspection Checklists

6.3.1 For site installation and construction activities, the *Contractor* shall prepare Field Inspection Checklists (FICs) to permit inspection and testing of installed equipment and constructed facilities in accordance with the respective QCPs.

6.3.2 FICs are used to record the results of inspection and testing (where applicable). On completion, FICs are submitted to TRANSNET to confirm satisfactory completion of the tests and inspections at nominated QCP witness and hold points.

7. Inspection and Testing

7.1 General

7.1.1 Inspection means all activities such as measuring, examining, testing, gauging one or more characteristics of material or service and comparing these with specified requirements to determine conformity.

7.1.2 TRANSNET may, at its discretion, perform surveillance inspections at the *Contractor's* premises, the premises of any Sub-Contractor or at the location of the Scope of Work.

7.1.3 Dependent on the nature of the Scope of Work and the frequency of inspections, TRANSNET may elect to have inspection personnel resident at the place of manufacture, fabrication, or assembly.

7.1.4 The Contractor shall ensure free entry and access is given to TRANSNET, certifying authorities and statutory authorities to inspect the Scope of Work and review procedures and quality records at all parts of the *Contractor's* and Sub-Contractor's premises, or at the location of the Scope of Work while any work or test is in progress.

7.1.5 The *Contractor* shall provide TRANSNET with all necessary tools, calibrated measuring equipment, safety equipment and workspace to verify or witness tests in progress.

7.1.6 While TRANSNET is at the *Contractor's* premises, the *Contractor* shall provide, free of charge, reasonable facilities including office facilities and reasonable access to a telephone, facsimile machine and computer connection point.

7.1.7 The *Contractor* shall provide written notice within a time frame as agreed upon, to allow the attendance of TRANSNET and other representatives at nominated witness and hold points.

7.2 Schedule of Inspection

7.2.1 The *Contractor* shall submit a Schedule showing the proposed dates for inspections and tests nominated in the QCP where witness and hold points are required. The Schedule shall be regularly updated with progress and issued to TRANSNET to show the current inspection and test status.

7.3 Contractor's Inspection

7.3.1 The Contractor shall, as a minimum, carry out the inspections as detailed in the Quality Control Plan and maintain the required records for verification by the Employer and/or Third-Party Inspection Authority.

7.3.2 For sub-contracted material or services, the Contractor shall ensure that controls are effective, including, where necessary, monitoring of the Subcontractor's works and retention of the necessary records.

7.3.3 Signing-off of the Quality Control Plan progressively by all relevant parties is a mandatory requirement following the indicated inspection activity.

7.4 Readiness for Inspection

7.4.1 Material or services shall be deemed ready for inspection by the Employer and/or Project Manager only when:

a) The Contractor has firstly carried out his own inspection at the stage identified on the relevant Quality Control Plan and is satisfied that material, workmanship and services meet the specified requirements. Documented evidence shall be maintained by the Contractor including signing-off the Quality Control Plan.
b) The Contractor shall ensure that the latest revisions of approved drawings and/or procedures with evidence of acceptance by Transnet, his nominated representative or Third-Party Inspection Authority are available.

7.5 Inspection Notification

7.5.1 The *Contractor* shall notify TRANSNET in writing for inspections or tests within the country, arrangements are confirmed at least two working days before the event. For inspection and tests outside of the country, arrangements are confirmed at least seven working days before the event.

Inspection notifications include the following essential information:

- Contract Number
- Location of Inspection or Test
- Nature of Inspection or Test
- Date and Time of Inspection or Test
- Name and telephone number of the *Contractor's* Representative.

7.6 Cancellation of Inspection

7.6.1 Contractors are advised that it is a condition of Purchase / Contract that all costs of Employer's representative and/or Third-Party Inspection Authority will be passed on to the Contractor for cancellation of inspection visits.

7.6.2 A visit is considered cancelled if:

a) The Contractor advises "readiness" for inspection and upon arrival of Employer's representative or Third-Party Inspection Authority, the material, or Services and/or the associated documentation is not ready; or
b) If Employer's personnel identify that material or services are to specification such that the Contractor's Inspector should have identified the non-conformity prior advising readiness for Employer's or Third-Party Inspection Authority inspection.

7.7 Inspection Waiver

7.7.1 Any Employer's Witness, or review or Hold point may, at the sole discretion of Employer, be waived, which will be followed by an inspection waiver report.

8. Fabrication Process and Factory Acceptance Test

8.1 Fabrication Process

8.1.1 It is the *Contractor's* responsibility to ensure that all processes which require prequalified procedures and/or work methods are tested and qualified before work begins at the manufacture's premises. This typically covers such activities as welding, non-destructive testing, special fabrication techniques and painting. When such procedures are requested, no work shall commence at the manufacturer's premises until procedures are approved by TRANSNET.

8.1.2 It is the *Contractor's* responsibility to ensure all operators are qualified for the processes in accordance with the procedure and/or applicable standards. Records of qualification of operators shall be maintained by the *Contractor* and made available to TRANSNET when requested.

8.1.3 Records of qualification of procedures and processes shall be maintained by the *Contractor* in accordance with the applicable procedure or code.

8.1.4 The Employer's representatives are also required to do inspections during fabrication to ensure that the fabrication process is in accordance with the designs, specifications, and standards to ensure the work meets the requirements specified in the Contract.8.1.1 Welding Procedures

8.1.5 Where the *Contractor's* Scope of Work includes fabricated weldments, Welding Procedure Specifications (WPS) defining the method, preparation and sequences to be adopted to achieve a satisfactory welded joint shall be provided for all weld types required in the execution of the *Contractor's* Scope of Work. The procedure shall only be submitted to TRANSNET when requested in the *Contract*.

8.1.6 WPS includes all welding essential and non-essential variables for each process used, including appropriate test results. WPS comply fully with the standard or code pertaining to welding required in the execution of the *Contractor's* Scope of Work.

8.1.7 When requested in the *Contract*, a suitably marked "weld map" is completed by the *Contractor* for all items to be fabricated. A summary of WPS is prepared and, when used, is identified on the weld map.

8.1.8 Where TRANSNET approval is required, fabrication is not to commence until written approval of WPS and Welding Procedure Qualification Records (WPQR) is received by the *Contractor*. No welding fabrication will be accepted that is not covered by a TRANSNET approved WPS/WPQR.

8.1.9 Welding Procedure Qualification (WPQ) tests may be witnessed by TRANSNET and/or an independent inspection authority. Testing of the specimens prepared during the WPQ Tests is carried out by an approved testing laboratory, independent of both TRANSNET and the *Contractor*. In certain instances, a certificate to EN 10204 3.1 B may be required which will be clarified at Tender review and clarification stage.

8.1.10 Where actual weld deposit analysis and weld metal physical properties are required for procedure qualification, the information is taken from the procedure qualification tests. Data listed in the catalogues of the manufacturer of welding consumables is not acceptable.

8.1.11 Welders/welding operators are qualified in accordance with the relevant welding code prior to commencing production fabrication. Specific Welder Qualification (WQ) records will be reviewed by TRANSNET in the *Contractor's* works and should NOT be submitted for review.

8.1.12 A register of welders qualified to work shall be maintained by the *Contractor*.

8.2 Material Traceability

8.2.1 Where, and to the extent that material traceability is required, the *Contractor* shall provide its procedures for the maintenance of material identification throughout all phases of manufacture. Methods of identification, routines for re-stamping or stenciling as appropriate shall be defined and agreed with the *Employer*.

8.2.2 Adequate records shall be maintained throughout construction enabling traceability of key materials from final product back to original material certificates. The material traceability records shall form part of the DP.

8.2.3 The *Contractor* shall prepare a schedule of materials and equipment that are subject to traceability requirements.

8.3 Material Certification

8.3.1 Where specified in the Contract the following certificates shall be provided to TRANSNET and included in the DP.

a) *Type A:* A *Contractor's* certificate of compliance with the *Contract*. This certifies that the goods or services are supplied in compliance with the *Contract* without mention of any test results (EN10204 certificate 2.1).
b) *Type B:* A certificate issued by a laboratory or test facility independent of the *Contractor's* works. It shall quote test results carried out on the product supplied and state whether compliance with the relevant technical standard, code, etc., has been complied with. (EN10204 certificate 3.1B).
c) *Type C:* The same as Type B, the tests are to be witnessed by a third party (EN10204 certificate 3.1C).

8.4 Factory Acceptance Test

8.4.1 The factory acceptance test (FAT) is a process that evaluates the equipment during and after the assembly process by verifying that it is built and operating in accordance with design specifications.

8.4.2 The Contractor shall conduct a Factory Acceptance Test for all Plant's to be installed as part of the Works to be executed in this Contract prior to delivery to site. The Factory Acceptance Test shall be conducted in the presence of the Employer's representatives (Quality, Engineering and/or the Third-Party Inspection Authority).

8.5 Inspection Release

8.5.1 At completion of the Scope of Work, either in total or in phases, TRANSNET may issue an Inspection Release Report (IRR) or an Inspection Waiver Report (IWR).

8.5.2 The issue of either an inspection release or waiver of inspection does not relieve the *Contractor* of its obligations under the *Contract*. The *Contractor* ensures that a copy of the release note and final expediting release note for transport, where appropriate, is attached to the delivery docket and accompanies the Work to the designated destination indicated in the *Contract.* Items delivered to TRANSNET without a copy of these documents may not be accepted.

8.5.3 A copy of the inspection release or waiver of inspection is included in the DP.

9. Non-Conforming Products

9.1 General

Note the requirements of 9.1 to 9.3 must be applied in conjunction with ISO 9001:2015 Clause 10.2 Nonconformity and Corrective action

9.1.1 The *Contractor* shall establish and maintain procedures to control material or products that do not meet the specified requirements.

9.1.2 All Contractor product and/or materials identified as not conforming to requirements shall be dealt with promptly as follows:

a) If the *Contractor* discovers material or product which is not in accordance with the requirements of the *Contract*, i.e., a non-conformance, the *Contractor* shall immediately initiate the non-conformance procedure in terms of the *Contractor's* Quality Management System, advise TRANSNET promptly, and provide a copy of the non-conformance report (NCR) to TRANSNET
b) If TRANSNET or its agent identifies a non-conformance, a TRANSNET NCR may be raised.

9.1.3 Originals of all closed out NCRs shall be included in the DP.

9.2 Defects

9.2.1 The project Quality officer will notify the NEC supervisor / Construction Manager of any defects observed and long them on the snag list.

9.3 Corrective and Preventative Action

9.3.1 If the Contractor proposes a disposition of any non-conforming materials or product which varies from the requirements of the Specification or *Contract*, such a proposal shall be submitted in writing to TRANSNET whose decision on the proposal shall be obtained in writing before the non-conforming material or product is covered up or incorporated into the Works, or is the subject of any other disposition.

9.3.2 The disposition of non-conformances which do not vary the requirements of the *Contract*, specification or drawings may be approved by the *Contractor* following discussion and agreement with TRANSNET.

10. Concession Requests and Technical Queries

10.1 Concession Requests

10.1.1 Where a *Contractor* requests a Concession to deviate from the requirements of the *Contract* or specified requirements, the *Contractor* raises the request for TRANSNET review and approval.

10.1.2 The Concession Requests shall clearly identify all elements of the proposed deviation together with any resulting technical, commercial and/or schedule impacts.

10.1.3 Completed original Concession Requests shall be included in the DP.

Note: The above requirements must be applied in conjunction with ISO 9001:2015 Clause 8.7 Control of Non-Conforming outputs

10.2 Technical Queries

10.2.1 For clarification of technical issues (only), the *Contractor* may submit a Field Engineering Query (FEQ) to TRANSNET in accordance with the *Contract*.

10.2.2 The FEQ shall clearly identify all elements of the query, and all supporting documentation and/or drawings shall be attached where appropriate.

Completed original FEQ's shall be included in the DP.

11. Inspection, Measuring and Test Equipment

Note the requirements of 11.1 to 11.3 must be applied in conjunction with ISO 9001:2015 Clause 7.1.5.1 &7.1.5.2 General and Measurement traceability

11.1 Calibration

11.1.1 The *Contractor*, including its Sub-Contractors/Sub-Suppliers, shall ensure the calibration of test and measuring equipment is performed and maintained in accordance with the relevant *Contractor* procedures and/or the equipment manufacturer's specifications.

11.1.2 Where calibration is required by an external laboratory, the *Contractor* shall ensure that the facility selected for calibration possesses current certification. Calibration certificates shall contain a statement that the test equipment is accurate to within specified tolerances.

11.1.3 The Contractor should establish the frequency of calibration for each item of equipment (including jigs, fixtures or templates) and record the details in a 'Measuring and Test Equipment Register' (or similar).

11.2 Use of Inspection, Measuring and Test Equipment

11.2.1 The *Contractor* shall ensure that authorized equipment users:

a) Use the equipment in accordance with manufacturer's instructions, and accepted industry practices
b) Ensure the equipment is covered by a current calibration certificate
c) Conduct the measurements or tests in accordance with the equipment manufacturer's specifications or other relevant specification
d) Prior to commencement of each inspection or test activities:
   - Identify the measurements to be made
   - Determine the accuracy required
   - Select the appropriate inspection, measuring or test equipment for the scope of work.

11.3 Verification of Previous Test Results

11.3.1 Where the calibration status of the equipment is unknown, expired or has doubtful accuracy, the equipment shall immediately be quarantined, and tagged according to *Contractor's* Quality System procedures. The *Contractor* shall then arrange for either in-house or external calibration, and:

a) review all previous test results associated with the suspect equipment;
b) identify the inspections, measurements or tests required to re-validate the results;
c) ensure that suitable re-testing is performed with calibrated equipment;
d) record the results of the re-testing on the respective inspection and test documentation.

12. Quality Personnel Qualifications

12.1.1 The contractor shall nominate/appoint a Quality officer with minimum experience and qualifications specified in the Tender documents.

12.1.2 The Contractor shall submit the CV and relevant qualifications of its nominated/appointed quality representative for the Project Manager's review and approval.

12.1.3 Should the approved qualify officer be no longer available, the contractor will notify the Project Manager in writing and upon agreement the contractor will provide the CV and qualifications of the proposed resource that is equivalent to the previously approved.

Note: The above requirements must be applied in conjunction with ISO 9001:2015 Clause 7.2 Competence

13. Quality Records

13.1.1 *Contractors* shall maintain Quality Records necessary to provide objective evidence that demonstrates and verifies achievement of the QA / QC requirements associated with the Scope of Work.

13.1.2 All Quality Records, including original source material test certificates and non-destructive test reports, shall be retained by the *Contractor* during the project, and be provided to TRANSNET at the times, and in the quantities specified in the *Contract*.

13.1.3 The *Contractor* shall collate all quality records in the Data Pack (DP) and submit the DP to TRANSNET in accordance with the *Contract* and all referenced standards and specifications. This DP shall be compiled progressively and shall be available for review at all phases of manufacture or construction activities.

13.1.4 The Scope of Work shall not be complete until the *Contractor's* DP, including the quality records from Sub-Contractors/Sub-Suppliers, has been reviewed and accepted by TRANSNET.

13.1.5 The *Contractor* compiles the DP progressively during the execution of the Scope of Work and makes the DP available for review by TRANSNET as required.

13.1.6 The *Contractor* shall retain a copy of all Quality documentation generated during the *contract*, including a copy of the complete DP, for his own records for a minimum period of five years after the completion of the work.

Note: The above requirements must be applied in conjunction with ISO 9001:2015 Clause 7.5.3 Control of Documented Information

Annexure B: Contractor's Environmental And Sustainability Specification Guidelines And Contractor Environmental And Sustainability Specification Guidelines

_____ hereby acknowledge receipt and full understanding of Transnet SOC Ltd.'s ***Contractor's Environmental And Sustainability Specification Guidelines And Contractor Environmental And Sustainability Specification Guidelines***

Signed on _____

_____

Signature Of Tenderer

CONTRACTOR ENVIRONMENTAL AND SUSTAINABILITY SPECIFICATION GUIDELINES

Document number	TRN-IMS-GRP-GDL-014.4
Version number	3.0
Classification	Unclassified
Effective date	01 October 2023
Review date	30 September 2028

SUMMARY VERSION CONTROL

VERSION NO.	NATURE OF AMENDMENT	PAGE NO.	DATE REVISED
3.0	• Addition of reference documents (section 3) • Inclusion of additional definitions • Removal of DEA and replacing it with DFFE • Removal of Transnet EO and replacing with Transnet Environmental Resource (PER) • Inclusion of additional abbreviations • Inclusion of minimum environmental requirements for construction (section 5) • Inclusion of details of site inspections/audits (table 1) • Inclusion of Records Management	6-7 7-10 11 12 12-23 23 45	June 2023

Note: Only latest amendments and/or additions are reflected in italics in the body of the document.

DOCUMENTATION SIGN-OFF SHEET

I, the undersigned hereby approve this procedure.

ROLE	CAPACITY/ FUNCTION	SIGNATURE	DATE
Process Owner:	**Senior Specialist: Environmental Risk and Compliance**		01/10/2023
Accepts document for adequacy and practicability. Comments:			
Approval Committee:	**GM: Corporate Sustainability**		01/10/2023
Approves document for use. Comments:			

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TABLE OF CONTENTS

1. PURPOSE

This document describes the minimum requirements for environmental management to which Contractors must comply. This document must be read in conjunction with the Transnet Construction Environmental Management Standard Operating Procedure (CEM SOP).

In this document, unless the context clearly indicates otherwise:

- Words importing any one gender shall include the other gender;
- The singular shall include the plural and vice versa; and
- Any reference in this document to legislation or subordinate legislation is to such legislation or subordinate legislation at the date of promulgation thereof and as amended and/or re-enacted from time to time.

2. APPLICABILITY

This standard applies to Contractors that work on site under the authority of Transnet SOC Ltd.

3. REFERENCE DOCUMENTS

Name	Applicable Section
Constitution of South Africa, Act 108 of 1996	Section 24
National Environmental Management Act, 107 of 1998	Section 2 National Environmental Management Principles
National Water Act, 36 of 1998	Section 164, Permissible Water Use
National Environmental Management: Waste Act, 58 of 2008	Part 1 15 (1) (i) and (2) Part 6 26 (10 (a) and (b) Schedule 3, Defined Wastes Category A: Hazardous Wastes Part 8: Contaminated Land
Environment Conservation Act, 73 of 1989	Section 20
Occupational Health and Safety Act, 85 of 1993	Asbestos Regulations, 2001

Name	Applicable Section
	Government Notice R155 in Government Gazette 23108 of February 2002 General Safety Regulations-Reg. 2 (2) PPE
GNR 326, 7 April 2017 as amended, EIA Regulations	Chapter 15, Appendix 4
Transnet Environmental Risk Management strategy and Framework	2015:42
Environmental Management Systems ISO 14001: 2015	Clause 5, 6, 7, 8, 9 and 10

4. DEFINITIONS AND ABBREVIATIONS

4.1 Definitions

Compliance — Meeting of all the organization's regulatory requirements

Conformance — The action or fact of conforming to this standard and other internal Transnet policies, procedures, guidelines and best practice.

Construction Environmental Management Standard Operating Procedure — Is a document which is used to define how environmental management will be practiced on any construction site under the management of Transnet to ensure that the environment is considered, negative impacts avoided or minimized, and positive impacts are enhanced.

Contractor — The Principal Contractor as engaged by Transnet for infrastructure construction operations, including all sub-contractors appointed by the main contractor of his own volition for the execution of parts of the construction operations; and any other contractor from time to time engaged by Transnet directly in connection with any part of the construction operations which is not a nominated sub-contractor to the Principal Contractor.

Contractor Environmental and Sustainability Specification Guidelines	A set of minimum environmental standards for all Transnet SOC Ltd-managed construction sites.
Environmental Aspect	Element of an organization's activities or products or services that interacts or can interact with the environment.
Environmental Impact	Change to the environment whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects.
Environmental Risk	The product of the likelihood and severity of an unforeseen occurrence/incident/aspect and the impact it would have, if realised, on the environment.
Fauna	A group of animals specific to a certain region or time period.
Flora	A group of plants specific to a certain region or time period.
General waste	Waste that does not pose an immediate hazard or threat to health or to the environment; and includes:- (a) domestic waste; (b) building and demolition waste; (c) business waste; (d) inert waste;
Indigenous vegetation	Plants that naturally occur in an area.
Liquid waste	Waste that appear in liquid form such as used oil, grease and/or contaminated water or waste water.

Method statement	A document that describes how the Contractor will apply environmental management measures associated with a particular activity during construction.
Monitoring	Determining the status of a system, a process or an activity
Natural Vegetation	All existing species, indigenous or otherwise, of trees, shrubs, groundcover, grasses and all other plants found growing on the site.
Responsible Authority	A Responsible Authority, according to the National Water Act 36 of 1998, relates to specific power or authority in respect of water uses that is assigned by the Minister to a Catchment Management Agency or to a Regional Office.
Rehabilitation	Refers to measures that must be put in place to restore the site to its pre-construction or enhanced state, subsequent to construction taking place.
Scope of Work	The construction work for which the Contractor has been appointed in terms of the Contract with Transnet.
Sensitive area	Any area that is denoted as sensitive by this Specification due to its particular attributes, which could include the presence of rare or endangered vegetation, the presence of heritage resources (e.g. archaeological artefact or graves), the presence of a unique natural feature, the presence of a watercourse or water body, the presence of sensitive social receptors etc. As a minimum, habitats that fall under this definition include: mountain catchments, Ramsar wetland sites, coastal shores, estuaries and endangered ecosystems.
Solid waste	All solid waste, including construction debris, chemical waste, excess cement/ concrete, wrapping materials, timber, tins and cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers).

Spoil	Excavated material which is unsuitable for re-use as material in the Works or any other use; or is material which is surplus to the requirements of the Works.
Sub -Contractor	is a person or organisation who has a contract with the contractor to: Construct or install part of the contractor's work. Provide a service necessary to provide the works; or Supply plant and materials which the person or organisation has wholly or partly designed specifically for the works.
Temporary Storage	A once-off storage of waste for a period not exceeding 90 days.
Topsoil	Means a varying depth (up to 300 mm) of the soil profile irrespective of the fertility appearance, structure, agricultural potential, fertility and composition of the soil.
Waste	Any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all wastes. Waste or a portion of waste ceases to be a waste only once the waste is, or has been re-used, recycled or recovered.
Wastewater	means water containing waste, or water that has been in contact with waste material
Watercourse	Refers to - a river or spring; a natural channel in which water flows regularly or intermittently;

	a wetland, lake or dam into which, or from which, water flows; and any collection of water gazetted by the National Water Act, 36 of 1998 as a watercourse, and a reference to a watercourse includes, where relevant, its bed and banks.
Wetland	Land which is transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is periodically covered with shallow water, and which land in normal circumstances supports or would support vegetation typically adapted to life in saturated soil.

4.2 Abbreviations

Acronym	Meaning In Full
CEM SOP	Construction Environmental Management Standard Operating Procedure
CM	Construction Manager
CV	Curriculum Vitae
DEFF	Department of Environment, Forestry and Fisheries
EA	Environmental Authorisation
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
CESSG	Contractor Environmental and Sustainability Specification Guidelines
EO	Environmental Officer

Acronym	Meaning In Full
EMP	Environmental Management Plan
EMPr	Environmental Management Programme
EGF	Environmental Governance Framework
NEMA	National Environmental Management Act 107 of 1998
NEM:BA	National Environmental Management: Biodiversity Act 10 of 2004
NWA	National Water Act 36 of 1998
PER	Project Environmental Resource
PES	Project Environmental Specification
PM	Project Manager
SAHRA	South African Heritage Resource Agency
SDS	Safety Data Sheet
SHEQ	Safety, Health, Environment and Quality
TRANSNET	Transnet SOC Ltd

5. MINIMUM ENVIRONMENTAL REQUIREMENTS FOR CONSTRUCTION

5.1 Tender Documents

Any construction-related tender issued to the market must include:

- Transnet Integrated Management System Policy Statement;
- The Transnet Construction Environmental Management Standard Operating Procedure (CEM SOP);
- The Contractor Environmental & Sustainability Specification Guideline; and
- The Project Environmental Specification (PES).

Any construction-related tender must be recommended for issue by the Transnet Project Environmental Resource/s before it is released to the market.

5.2 Project Environmental Specification (PES)

Must incorporate all relevant recommendations of the Environmental Impact Assessment (EIA) and other environmental studies for the project and the relevant conditions of the EA and/or other applicable environmental permit(s) and licence(s), and the Transnet Operating Division's Environmental Management requirements (where applicable) into an environmental performance specification for implementation during the construction phase of the project.

The PES need not be a separate document; however it can be in a format of an appendix/addendum making reference to environmental authorisation(s), permit(s) or licence(s) applicable to the project. In cases where the project does not trigger any of the NEMA listed activities or any permit(s)/licence(s); the PES may be compiled to prescribe additional environmental management measures over and above the measures stipulated in the MERC.

5.3 Contractor's Environmental Policy

The Contractor's Environmental Policy must be signed and dated by Top Management.

The content of the Contractor's Environmental Policy must:

- be appropriate to the purpose and context of the Contractor's organization, including the nature, scale and environmental impacts of its activities, products and services;
- provide a framework for setting environmental objectives;
- include a commitment to the protection of the environment, including prevention of pollution and other specific commitment(s) relevant to the context of the Contractor's organization;
- include a commitment to fulfil compliance obligations; and
- include a commitment to continual improvement of the Contractor's environmental management system to enhance environmental performance

5.4 Contractor's Environmental Management Plan (EMP)

The Contractor's EMP must include:

- the name of the person who compiled the EMP;
- the expertise of the person who compiled the EMP, including a CV;
- a description of the Contractor's scope of work;
- a detailed description of the environmental aspects related to the Contractor's scope of work;
- a map at an appropriate scale which depicts all construction activities including associated structures, and infrastructure and environmental sensitivities affected by the construction footprint , as well as no go-areas and associated buffers;
    - The map must include the following:
    - an accurate indication of the project site position as well as the positions of the alternative sites, if any;
    - road names or numbers of all the major roads as well as the roads that provide access to the site(s)
    - a north arrow;
    - a legend;
    - the prevailing wind direction;
    - site sensitivities, including but not limited to vegetation, wetlands, watercourses, heritage sites, critical biodiversity area/s, World Heritage Site, etc. and it must be overlaid by the study area; and

- GPS co-ordinates (Indicate the position of the proposed activity with the latitude and longitude at the centre point for each alternative site. The co-ordinates should be in degrees and decimal minutes. The minutes should be to at least three decimal places. The projection that must be used in all cases is the WGS-84 spheroid in a national or local projection).

- a description of the impacts and risks that need to be avoided, managed and mitigated during the execution of the Contractor's scope of work including (as relevant);
    - planning and design;
    - pre-construction activities;
    - construction activities;
    - rehabilitation; and
    - operation of Transnet assets.
- a description and identification of impact management outcomes required for the identified aspects;
- a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated above will be achieved, and must, where applicable, include actions to:
    - avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
    - comply with any prescribed environmental management standards or practices; and
    - comply with any applicable local, provincial and national legislation.
- the method of monitoring the implementation of the impact management actions contemplated above;
- the frequency of monitoring the implementation of the impact management actions contemplated above;
- an indication of the persons who will be responsible for the implementation of the impact management actions;
- the timeframe within which the impact management actions contemplated above must be implemented;
- the mechanism for monitoring compliance with the impact management actions contemplated above;

- a program for reporting on compliance, taking into account the requirements of this document;
- an environmental awareness plan describing the manner in which:
    - the Contractor intends to inform his employees of any environmental risk which may result from his scope of work; and
    - risks must be dealt with in order to avoid pollution or the degradation of the environment.
- any specific information that may be required by Transnet.

5.5 Contractor's Environmental Officer (EO)

The Contractor's EO should have relevant environmental qualifications and experience required for the project. The level of qualifications and experience must be in line with the complexity of the Contractor's scope of work coupled with the sensitivity of the site. The level of competency will be determined by Transnet during tender.

5.6 Management of Sub-Contractors

The Contractor must ensure that all his sub-contractors comply with this document in so far as it relates to their specific scope of work or services.

5.7 Pre-Site Access Environmental Governance

The Contractor must appoint the EO recommended in his tender proposal. Should the EO no longer be available, the Contractor must submit a CV of an alternative EO with similar or better qualifications and experience for approval by the Transnet PM and PER. The same principle will apply if the Contractor's EO is replaced for whatever reason at any stage. No construction may take place without a duly appointed Contractor's EO.

The Contractor must provide his EO with all environmental documents provided by Transnet during tender and submitted as a part of the Contractor's proposal.

The Contractor must obtain the contact details of the responsible Transnet PER and Transnet PER and provide these details to his EO.

The Contractor's EO must develop an appropriate environmental file for approval by the Transnet PER, including but not necessarily limited to (the environmental file must always be available and up to date on the construction site):

- Documents from the tender as described above.
- His CV.
- An organogram indicating reporting lines of all Contractor's staff (with names included).
- Contact Information for: the overall responsible person acting on behalf of the Contractor to execute the construction works; Contractor's Construction Manager (CM); Contractor's EO; and all relevant emergency personnel.
- A list of the Contractor's plant and equipment indicating a description of the plant/equipment, its fuel capacity, any hazardous components (oils, greases etc.), individual service/maintenance cycles and noise levels.
- A list of hazardous substances to be used during construction indicating: official substance name from Material Safety Data Sheets (MSDS)/ Safety Data Sheet (SDS); quantity on site; storage method; transport method to site; and period to be used on site. All substances listed must have MSDS/ SDS on site in the environmental file.

The MSDS/ SDS should contain the following minimum requirements:

- Section 1: Product and company name
- Section 2: Hazard identification
- Section 3: Composition/information on ingredients
- Section 4: First aid measures
- Section 5: Fire fighting measures
- Section 6: Accidental release measure
- Section 7: Handling storage
- Section 8: Exposure controls/personal protection
- Section 9: Physical and chemical properties
- Section 10: Stability and reactivity
- Section 11: Toxicological Information
- Section 12: Ecological Information
- Section 13: Disposal Consideration

- Section 14: Transportation
- Section 15: Regulatory Information
- Section 16: Other Information

- Photographic pre-construction report that details the site before any activities commence.
- Site Layout Plan indicating but not necessarily limited to,: access roads, site offices, material laydown areas, stockpile areas and parking areas, waste and effluent storage and handling facilities, entire construction footprint, no-go-areas, sewage and sanitary facilities. The plan must be appropriately drawn on a computer and must be clearly visible and properly scaled.
- A site establishment method statement (minimum requirements for method statements are described below in this document).
- Environmental Induction Material to be used to educate site staff and visitors (minimum requirements for environmental induction are described below in this document).
- An activity-based environmental risk assessment.

The Contractor's EO must submit the environmental file for acceptance to the Transnet PER.

The Contractor must obtain a Site Access Certificate from the Transnet PM before accessing the site.

5.8 Safety Data Sheets

Each hazardous substance used on site must have a valid SDS. The SDS must comply with the requirements of the Occupational Health and Safety Act, 85 of 1993.

5.9 Environmental Induction

The Contractor will ensure that all management, foremen and the general workforce, as well as all sub-contractors, suppliers and visitors to site have attended the Transnet Environmental Induction Programme prior to commencing any work on site. Where new personnel commence work on site during the construction period, the Contractor will ensure that these personnel also undergo the Transnet Environmental Induction Programme and are made aware of the environmental specifications on site.

The Contractor must ensure that all of his personnel understand the requirements of the CEM SOP; MERC; EA, EMPr, relevant permits and licences and PES as relevant to their scope of work.

5.10 Environmental Method Statements

- Environmental Method Statements as identified by the Transnet PER based on the Contractor's activity-based environmental risk assessment will be written submissions by the Contractor to the Transnet CM and PER describing:
- The proposed activity, setting out the plant, equipment, materials, labour and method the Contractor proposes using to carry out an activity;
- The environmental management of site conditions – waste management, housekeeping, site establishment etc;
- Transportation of the equipment to and from site;
- How the equipment/ material will be moved while on site;
- How and where material will be stored;
- The containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur;
- Timing and location of activities;
- Description of potential positive and negative environmental impacts and how they will be managed;
- Conformance/ non-conformance with this document and any other statutory and best practice standards;
- Monitoring and reporting requirements;
- Records Management; and
- Any other information deemed necessary by the Transnet CM and Transnet PER as well as ECO where applicable.

The Environmental Method Statements will enable the potential positive and negative environmental impacts associated with the proposed construction activity to be identified and mitigation measures put in place. All method statements must be signed by the Contractor, Transnet CM and PER, with the addition of the ECO on authorized projects, thereby indicating that the works will be carried out according to the methodology described therein.

Activities may only commence once the Environmental Method Statements have been approved by the Transnet CM, Transnet PER and ECO (where relevant). In some instances, local authorities may also need to approve the method statements. This will be highlighted in the Project Environmental Specification, where applicable.

All changes to the original Environmental Method Statements must be approved by the Transnet PER and Transnet CM prior to implementation.

To enable timely approvals, the environmental method statements will be submitted to the Transnet CM and Transnet PER for review two (2) weeks prior to the intended date of commencement of the activity, or as directed by the Transnet Project Manager/CM.

Emergency construction activity Environmental Method Statements may also be required. The activities requiring Environmental Method Statements cannot commence if they have not been approved by the CM and PER or ECO.

NOTE: No advice, approval of method statements or any other form of communication from Transnet will be construed as an acceptance by Transnet of any obligation that indemnifies the Contractor from achieving any required level of performance. Further, there is no acceptance of liability by Transnet which may result from the Contractor failing to comply with the specifications, i.e. the Contractor remains responsible for achieving the required performance levels.

5.11 Environmental Occurrences (Incidents)

The Transnet PER shall provide the Contractor with the procedure to follow in managing environmental occurrences during pre-site access governance.

The Contractor shall follow the procedure provided to him by the Transnet PER and maintain required records thereof.

In the event of an environmental occurrence, the Contractor must, as soon as is reasonably practicable:

- classify an environmental occurrence in line with the Transnet Environmental Management Occurrence process flow;

- take all reasonable measures to contain and minimise the effects of the occurrence, including its effects on the environment and any risks posed by the occurrence to the health, safety and property of persons;
- undertake cleanup procedures;
- remedy the effects of the occurrence; and
- assess the immediate and long-term effects of the occurrence on the environment and public health

5.12 Environmental Non-Conformances (Defects)

Environmental Non-Conformances shall be handled as per the terms and conditions of the Contract.

The Transnet PER shall provide the Contractor with the procedure to follow in managing environmental non-conformances during pre-site access governance.

The Contractor shall follow the procedure provided to him by the Transnet PER and maintain required records thereof.

The Transnet Project Manager shall ensure that all Non-conformances are appropriately closed out within the timeframe specified in the Non-Conformance Report.

Any environmental non-conformance will be dealt with similarly to a Defect as defined in the Contract. A defect is due to non-compliance with the Works Information and it is the responsibility of the Contractor to correct the defect in order to ensure that the work takes place in accordance with the Works Information. Similarly, non-conformance/non-compliance with any other permit or licence will be regarded as a non-conformance with the Works Information. The Contractor is responsible for rectifying any defect (non-conformance) as defined above promptly.

The Contractor's EO shall be responsible to search for and identify non-conformances with the environmental specifications at inspection intervals agreed to with the Transnet PER. The Transnet PER shall also undertake such inspections on a monthly basis. If such monthly inspections indicate that any part of the Contractor's work is non-conformant with the environmental requirements, the Transnet PER shall advise the Transnet PM to issue a Defects Notification to the Contractor accordingly. The Contractor shall correct the non-

conformance (defect) within the timeframes specified in the report and notification and submit proof of such correction to the Transnet PER.

The Transnet PER shall not recommend that a Site Closure Certificate be issued to the Contractor if any non-conformances have not been properly closed out. In such an event, the Transnet Project Manager may also make use of any reasonable contractual means to rectify the non-conformance(s) as allowed by the Contract (retention moneys etc.).

5.13 Community Grievances (Public Complaints)

The Transnet PER shall provide the Contractor with the procedure to follow in managing community grievances during pre-site access governance.

The Contractor shall follow the procedure provided to him by the Transnet PER and maintain required records thereof.

5.14 Environmental Inspections and Audits

Environmental inspections and audits may be conducted using five basic techniques:

- Interviews with Contractor's staff including Sub-contractors and suppliers;
- Document review;
- Observations;
- Monitoring; and
- Measurement and verification.

Table 1 sets out the areas and aspects of the construction site that will be inspected or audited, the frequency of such inspections/audits, the inspector/auditor and the inspected party/auditee. It should be noted that the list is not exhaustive and that each site will have specific issues that will need to be inspected/audited.

Table 1: Details on Environmental Inspections/Audits (where Transnet is the Inspected Party/Auditee, respective Contractors must give full cooperation).

Place	**Inspector/Auditor**	**Inspected Party/ Auditee**	**Inspection/audit frequency**
Construction Site	Contractor's Environmental Officer	Contractor	Daily/Weekly Inspection
Project (including all construction sites).	Transnet Project Environmental Resource/Project Environmental Manager	Contractor	Monthly Inspection
Project (including all construction sites)	Transnet Environmental Specialist: Assurance	Transnet Project Environmental Resource	As stipulated on the annual audit plan
Project (as defined in Environmental Authorisation)	Environmental Control Officer	Transnet (represented by Transnet Environmental Resource)	As stipulated in the Environmental Authorisation
Project (as defined in Water Use Authorisation)	Independent Auditor	Transnet (represented by Transnet Environmental Resource)	As stipulated in the Water Use Authorisation

The Contractor's EO will be required to conduct inspections of all work areas for which the Contractor is responsible, at intervals agreed to with the Transnet PER. Monitoring shall

be conducted as per the Contractor's approved EMP and all required records shall be maintained by the Contractor.

The Transnet PER will be required to conduct inspections of all work areas for which the Contractor is responsible on a monthly basis or at intervals agreed to with the Transnet Project Environmental Manager. Monitoring shall be conducted as per the Project Environmental Specification. The Inspection Checklist to be used shall be approved by the Transnet PER prior to each inspection.

5.15 Contractor's Environmental Performance

The Transnet PER will explain how the Contractor's performance will be scored during pre-site access governance to the Contractor's EO. The standard/minimum requirement for all environmental inspections will be 90%.

5.16 Site Planning and Establishment

The Contractor shall establish his construction camps, offices, workshops, eating areas and any other facilities on the site in a manner that does not adversely affect the environment. These facilities must not be sited in close proximity to sensitive areas; the buffer to be determined by the ecological requirements of the fauna/flora found on-site.

The site offices should not be sited in close proximity to steep areas. It is recommended that the offices, and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles be located as far away as possible from any watercourse.

5.16.1 Site Layout Plan

The Site Layout Plan must as a minimum include but not limited to:

- Detailed layout of the construction works areas including access roads, site offices, material laydown areas, temporary stockpile areas and parking areas;
- Detailed locality and layout of all waste storage and handling facilities for litter, kitchen refuse and workshop-derived effluent;
- Proposed areas for the stockpiling of topsoil and excavated spoil material;
- Demarcation of the construction footprint including areas not to be disturbed by the development;

- Location of sewage and sanitary facilities at the site offices and staff accommodation at all localities where there will be a concentration of labour.

Any changes to the location of the facilities and site activities as per the approved site layout plan shall be re-submitted to the Transnet CM and Transnet PER for approval prior to implementation.

The Contractor may be required to submit a separate layout plan dealing only with his site camp. If so this will be specified in the PES.

5.16.2 Identification and Establishment of Suitable Access Routes/Roads

Existing access routes to the construction/works areas must be used as far as possible. The building of access roads must be restricted to prevent unnecessary disturbance of the surrounding environment. Access tracks must be maintained in a good condition at all times during construction to minimize erosion and dust generation.

5.16.3 Demarcation of Site Limits

Prior to the commencement of construction, the site must be clearly demarcated by means of visible barriers. Vegetation within the demarcated zone may be cleared only upon obtaining approval from the Transnet PER. No activities are allowed outside of the approved footprint on the Site Layout Plan.

5.16.4 Eating Areas

The Contractor is responsible for providing adequate eating facilities within the works area to ensure that workers do not leave the site to eat during working hours. Refuse bags/bins must be provided at all established eating areas and when full it should be disposed of appropriately.

5.16.5 Liquid Waste Management

Liquid waste water from site shall be stored on-site in a properly designed and constructed system, situated so as not to adversely affect water courses. Only domestic type wastewater, i.e. toilet, shower, basin, kitchen water shall be allowed to enter the designated system.

5.17 Sewage and Sanitation

The Contractor is responsible for providing adequate sanitary facilities including toilets, toilet paper, wash basins etc. to all workers on site and for enforcing the proper use of these facilities.

Toilet facilities shall be serviced regularly and the waste material generated from these facilities shall be disposed of at a registered waste water treatment works/macerator and relevant permits for transportation of waste and proof of servicing and disposal shall be maintained.

Toilets and latrines shall be easily accessible and shall be positioned within walking distance from wherever employees are employed on site, and away from sensitive areas. Use of open areas (i.e. the veld) is not allowed. For projects of high mobility a mobile toilet facility shall be made available by the Contractor.

Outside toilets shall be provided with locks and doors and shall be secured to prevent them from blowing over. Toilets must not be placed in areas susceptible to flooding and high winds. The Contractor shall arrange for regular emptying of toilets and shall be entirely responsible for enforcing their use and for maintaining such facilities in a clean, orderly and hygienic condition to the satisfaction of the Transnet CM.

5.18 Waste Management

Waste shall be grouped into "**general**" or "**hazardous**", depending on its characteristics. The classification shall determine handling methods and the ultimate disposal of material.

General waste which is likely to be generated on site during construction include but not limited to the following:

- Trash (waste paper, plastics, cardboard, etc.) and food waste from offices, warehouses and construction personnel;
- Uncontaminated construction debris such as used wood and scrap metal; and
- Uncontaminated soil and non-hazardous rubble from excavation or demolition.

The Contractor shall classify all waste expected to be generated during the construction period. Examples of typical construction waste which could be expected on the site and how they should be classified are indicated in the following table:

TABLE 2: EXAMPLE OF CONSTRUCTION WASTE CLASSIFICATION

Waste	Classification	
	Hazardous	**General**
Aerosol containers	**X**	
Batteries, light bulbs, circuit boards, etc.	**X**	**X**
Clean soil		**X**
Construction debris contaminated by oil or organic compounds	**X**	
Domestic waste		**X**
Empty drums (depends on prior use)	**X**	**X**
Empty paint and coating containers		**X**
Explosive waste	**X**	
PCB waste	**X**	
Rubble (not contaminated by oil or organic compounds)		**X**
Waste Cable		**X**
Waste plastic		**X**
Waste paint and/or solvent	**X**	
Waste oil	**X**	
Waste concrete		**X**
Waste cement powder	**x**	
Waste empty cement bags (must be thoroughly decanted)		**x**
Waste containing fibrous asbestos	**X**	
Waste timber		**X**
Sewerage sludge	**X**	
Scrap metal		**X**

Waste	Classification	
	Hazardous	General
Chemically-derived sanitary waste	X	

Waste will be managed in accordance with the Waste Management Hierarchy depicted in Figure 1 below:

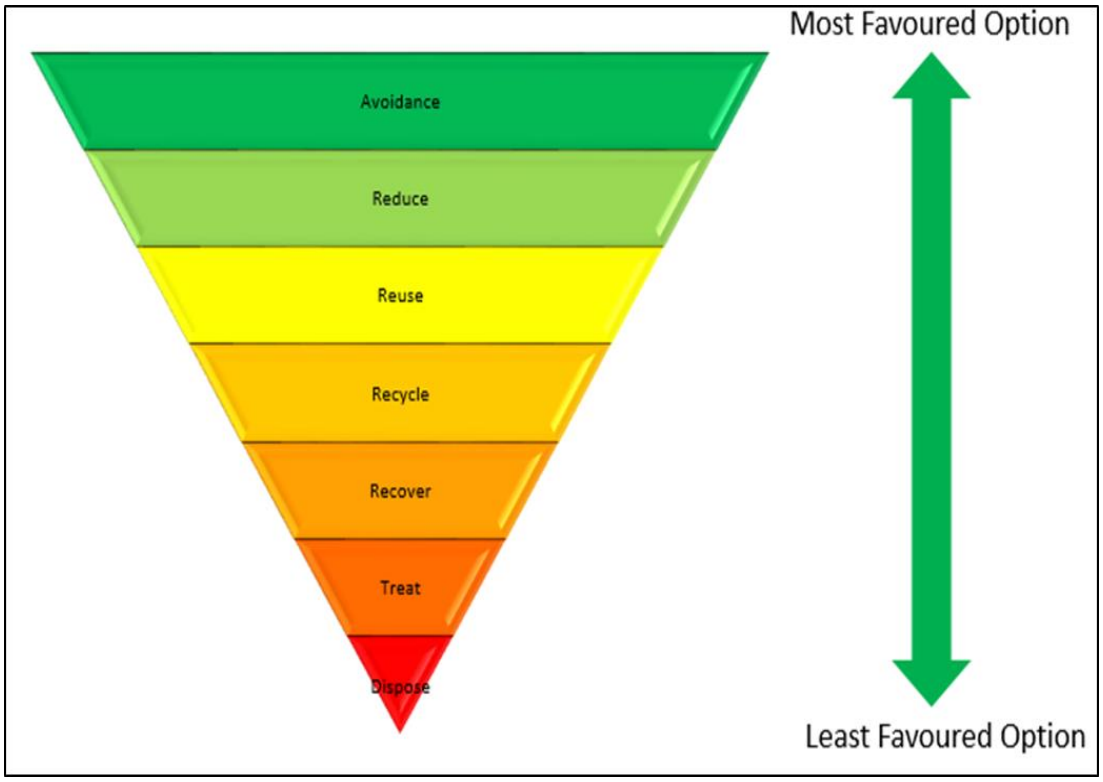


FIGURE 1: THE WASTE MANAGEMENT HIERARCHY

(Transnet Environmental Risk Management strategy and Framework, 2015:42)

1. **Avoidance/Prevention:** using goods in a manner that minimises their waste components
2. **Reduction/Minimisation:** reduction of the quantity and toxicity of waste generated during construction
3. **Re-use:** removing an article from a waste stream for use in a similar or different purpose without changing its form or properties

4. **Recycling:** separating articles from a waste stream and processing them as products or raw materials
5. **Recovery:** reclaiming particular components or materials, or using the waste as a fuel
6. **Treatment:** processing of waste by changing its form or properties in order to reduce toxicity and quantity
7. **Disposal:** burial, deposit, discharge, abandoning or release of waste

The Contractor is responsible for the removal of all waste generated from site. The Contractor shall ensure that all waste is removed to appropriate licensed waste management facilities. (For the identification of an appropriate facility, the following source may be utilized: http://sawic.environment.gov.za/).

The Contractor shall manage **GENERAL WASTE** that is anticipated to be generated by operations as follows:

- Notify waste hauler when container is full so that it can be removed and replaced with an empty container/skip;
- No littering is allowed on site. In the event where staff mobility is high, refuse bags will be made available by the Contractor;
- Provide documented evidence of proper disposal of waste (Waste Disposal Certificate)

The Contractor shall recycle **GENERAL WASTE** (as far as practically possible) that is anticipated to be generated by its operations as follows:

- Obtain and label recycling containers for the following (whichever relevant) and locate them at secure designated locations on site:
  - Office Waste;
  - Aluminium;
  - Steel;
  - Glass;
  - Ferrous Metals;

- Non Ferrous Metals; and
- Waste Timber

- Establish recycled material collection schedule;
- Arrange for full bins to be hauled away;
- Spent batteries, circuit boards, and bulbs, while non-hazardous, require separate storage, special collection and handling; and
- No burning, burying or dumping of waste of any kind will be permitted.

The Contractor shall manage **HAZARDOUS WASTE** anticipated to be generated by his operations as follows:

- Obtain and provide an acceptable container with correct and visible classification label;
- Place hazardous waste material in allocated container;
- Inspect the container on a regular basis as per the Contractor's EMP;
- Track the accumulation time for the waste, haul the full container to the registered hazardous disposal site;
- Notify the waste hauler when container is full so that it can be removed and replaced with an empty container/skip; and
- Provide documented evidence of proper waste disposal of the waste (Waste Disposal Certificate).

The Contractor shall maintain the following waste records for submission to the Transnet PER on request:

- Date of waste management activity;
- Activity Type (reuse, recycle, recover, treat, dispose);
- Description (e.g. contaminated soil, medical waste, tyres, plastic, domestic waste etc.)
- Classification (General/Hazardous);
- Estimated Quantity in kilograms
- Disposal Site Name and Reference Number (where relevant);
- Method of Transport; and
- Signed Collection or Disposal Records

5.19 Workshops, equipment maintenance and storage

All vehicles and equipment must be kept in good working order to maximise efficiency and minimise pollution. Maintenance, including washing and refueling of plant on site must be done at designated locations approved on the Site Layout Plan. The Contractor must ensure that no contamination of soil or vegetation occurs around workshops and plant maintenance facilities.

All machinery servicing areas must be bunded. Stationary plant that leak harmful substances shall not be permitted on site. Washing of equipment should be restricted to urgent maintenance requirements only. Adequate wastewater collection facilities must be provided and the wastewater should be disposed of appropriately in accordance with its waste classification.

5.20 Vehicle and Equipment Refueling

5.20.1 Stationary/Designated Refuelling

No vehicles or machines shall be serviced or refueled on site except at designated servicing or refueling locations included on the approved Site Layout Plan.

The Contractor shall provide details of his refueling activities in his EMP or Refueling Method Statement. Facility design shall comply with the regulations of the National Water Act, (Act 36 of 1998), the Hazardous Substances Act, (Act 15 of 1973), the Environmental Conservation Act, (Act 73 of 1989), National Environmental Management Act, (Act 107 of 1998), and the Occupational Health and Safety Act, (Act 85 of 1993), mainly the Construction - and Hazardous Chemical Substances Regulations.

5.20.2 Mobile Refuelling

In certain circumstances, the refueling of vehicles or equipment in a designated area is not a viable/practicable option and refueling has to be done from a tank, truck, bowser or container moved around on site. In such circumstances, the Contractor may request approval from the Transnet CM to conduct mobile refueling subject to the following control measures:

- Secondary containment equipment shall be in place. This equipment shall be sized to contain the most likely volume of fuel that could be spilt during transfer.

- Absorbent pads or drip trays are to be placed around the fuel inlet prior to dispensing.
- Mobile refueling units are to be operated by a designated competent person.
- The transfer of fuel must be stopped prior to overflowing. Fuel tanks or refueling equipment on vehicles may only be filled to 90% carrying capacity.
- Mobile fuelling equipment must be stored in areas where they are not susceptible to collisions.
- Mobile refueling operations shall not take place within 30 meters of any watercourses or 7.5 meter from other structures, property lines, public ways or combustible storage.

All mobile refueling tanks are to be properly labelled and fire extinguishers with valid service dates shall be located near the fuel storage areas. These extinguishers must be of a suitable type and size.

5.21 Spill Response

The Contractor shall have adequate spill response materials/equipment on site which must be aligned with the volumes of hazardous substances used on site and the risk of pollution to sensitive environmental features.

The Contractor shall have an approved Spill Response Plan, either in his EMP or in the form of a method statement approved by the Transnet CM and Transnet PER.

The Contractor shall instruct construction personnel on the following spill prevention and containment responsibilities:

- All plants to be inspected daily to ensure that they are in good condition;
- Immediately repair all leaks of hydrocarbons or chemicals;
- Take all reasonable measures to prevent spills or leaks;
- Do not allow sumps receiving oil or oily water to overflow;
- Prevent storm water runoff from contamination by leaking or spilled drums of oil or chemicals; and
- Do not discharge oil or contaminants into storm water or sewer systems.

If a spill occurs on land, the Contractor must:

- Immediately stop or reduce the spill;

- Contain the spill;
- Recover the spilled product;
- Remediate the site;
- Implement actions necessary to prevent the spill from contaminating groundwater or off-site surface water; and
- Manage the contaminated material in accordance with Waste Management requirements in this document.

Any spill to water has the potential to disperse quickly, therefore, the spill must be contained immediately using appropriate containment equipment.

If a spill to water occurs, the Contractor must:

- Take immediate action to stop or reduce the spill and contain it;
- Notify the appropriate on-site authorities;
- Implement actions necessary to prevent the spread of the contamination by deploying appropriate absorbent material;
- Recover the spilled product; and
- Manage the contaminated material in accordance with Waste Management requirements in this document. Water samples to be taken downstream from where the spill took place to trace the extent of pollution.

All spills must be recorded as occurrences and managed in accordance with the requirements for Occurrences in this document.

5.22 Spray Painting and Sandblasting

Spray painting and sandblasting must be kept to a minimum. All painting must, as far as practicable, be done before equipment and material is brought on site. Touch-up painting is to be done by hand painting or as per the approved EMP or Method Statement.

The relevant Contractor will inform his EO when and where spray painting or sandblasting will be carried out prior to commencement of work. The Contractor's EO will monitor these activities to ensure that adequate measures are taken to prevent contamination.

Sand may only be acquired from approved commercial sources and in instances where sand is collected from the natural surrounds, such collection must be approved by the Transnet PER.

If the area is in confined or high (elevated) areas, a protection plan must be issued for approval by the Transnet PER.

5.23 Dust Management

The usage of water for dust management will be minimized as far as practically possible. Discretion must be applied in this regard especially relating to drought conditions. Only water from approved sources may be used. Dust control measures must be approved by the Transnet PER prior to commencement of the Works.

The following minimum dust management practices must be implemented on site:

- Vehicles must be operated within speed limits, where no speed limit has been specified, the limit shall be 40km/h;
- Haulage distances must be minimized as far as reasonable practicable;
- Where water suppression is insufficient or impractical, environmentally friendly soil stabilizers must be used;
- Stockpiles and open areas that may cause dust must be stabilized and vegetated where required;
- Dust suppression measures must be implemented on inactive construction areas. (An inactive construction site is one on which construction will not occur for a month or more);
- Disturbance of natural vegetation must be minimized to reduce potential erosion, runoff, and air-borne dust;
- Material in transit must be loaded and contained within the load bin of the vehicle in such a way as to prevent any spillage or creation of dust clouds. If necessary, the load bin of the vehicle shall be covered with a tarpaulin;

5.24 Storm Water and Dewatering Management

Apart from runoff from overburden emplacements and stock piles, storm water can also be contaminated from batch plants, workshops, vehicle wash-down pads, etc., and contaminants during construction may include hydrocarbons from fuels and lubricants, sewerage from employee ablutions and excess fertilizer from rehabilitated areas, etc.

Discharges to controlled waters such as the sea, rivers, and groundwater or to sewerage systems are controlled under South African Water Legislation. The following specific measures are required:

- Temporary drainage must be established and maintained on site during the construction period until permanent drainage is in place. Secondary drainage that prevents erosion must be provided, where necessary.
- Contractors must employ good housekeeping in their areas to prevent contamination of drainage water.
- Stagnant water shall be cleared at a frequency approved by the Transnet PER.
- Any surface water flows off-site must be approved by the Transnet PER. Where necessary, silt traps shall be constructed to ensure retention of silt on site and cut-off ditches shall be constructed to ensure no runoff from the site except at points where silt traps are provided. The Contractor shall be responsible for checking and maintaining all silt traps for the duration of the project.
- The removal from groundwater is defined as a water-use under the National Water Act 36 of 1998. Therefore, it must be ensured that the project has been authorised by the Responsible Authority to remove and discharge groundwater prior to dewatering taking place. If applicable, the Contractor shall be responsible for collection, management, and containment within the site boundaries of all dewatering from all general site preparation activities.
- On-site drainage shall be accomplished in accordance with a plan approved by a suitably qualified civil engineer.

5.25 Erosion Control

Erosion control measures will be designed, implemented, and properly maintained in accordance with best management practices which will include, but not limited to the following:

- Activities must be scheduled to minimise the extent of disturbance of an area at any one time;
- Re-vegetation must be implemented as early as feasible;
- Construction traffic must be properly managed and controlled;
- Areas must be graded to the extent feasible at drainage ditches;
- Loose soil will be compacted as soon as possible after excavation, grading, or filling;
- Silt fences, geo-textiles, temporary rip-rap, soil stabilisation with gravel, diversionary berms or swales, small sedimentation basins must be used;
- The transport of sediment must be minimised;
- An erosion and sedimentation control plan must be developed, approved by the Transnet PER and communicated to staff; and
- The Contractor shall be responsible for checking and maintaining all erosion and sedimentation controls.

5.26 Noise Management

- The following specific measures are required:
- Keep all equipment in good working order;
- Operate equipment within its specification and capacity and don't overload machines;
- Apply regular maintenance, particularly with regards to lubrication;
- Operate equipment with appropriate noise abatement accessories, such as sound hoods;
- Relevant stakeholders shall be notified of any excessive noise-generating activities that could affect them;
- Ensure that the potential noise source will conform to the South African Bureau of Standards recommended code of practice, SANS 10103:2004 or the latest at the time, so that it will not produce excessive or undesirable noise when released;

- All the Contractor's equipment shall be fitted with effective exhaust silencers and shall comply with the South African Bureau of Standards recommended code of practice, SANS 10103:2004 or the latest at the time, for construction plant noise generation
- Contractor's vehicles shall comply with the Road Traffic Act, (Act 29 of 1989) when any such vehicle is operated on a public road.
- If on-site noise control is not effective, protect the victims of noise by ensuring that all noise-related occupational health provisions are met. (Occupational Health and Safety Act, (Act 85 of 1993).

5.27 Protection of Heritage Resources

5.27.1 Archaeological Sites

If an artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The Contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the Transnet CM and Transnet PER of such a discovery. The South African Heritage Resources Agency (SAHRA) or relevant Authority is to be contacted and will appoint an Archaeologist to investigate the find. Work may only resume once clearance is given in writing by the Archaeologist.

5.27.2 Graves

If a grave is uncovered on site, or discovered before the commencement of work, all work in the immediate vicinity of the grave shall be stopped and the Transnet CM and PER informed of the discovery. The South African Heritage Resources Agency (SAHRA) or relevant Authority should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The undertaker will, together with the SAHRA, be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred.

5.28 Fire Prevention

Fires shall only be allowed in facilities or equipment specially constructed for this purpose.

A firebreak shall be cleared and maintained around the perimeter of the camp and office sites where and when necessary. In cases where construction is taking place in a Critical Biodiversity Area as listed under NEM:BA; it must be ensured that the requirement of a firebreak is screened against the NEMA Listing Notice 3 to confirm legislative requirements.

All conditions incorporated in the requirements of the Occupational Health and Safety Act shall be implemented.

5.29 Water Protection and Management

No water shall be abstracted from any water course (stream, river, or dam) without the expressed permission of the Transnet CM and Transnet PER. Such permission shall only be granted once it can be shown that the water is safe for use, that there is sufficient water in the resource to meet the demand, and once permission has been obtained from the Department of Water and Sanitation in accordance with the requirements of the National Water Act (Act 36 of 1998).

Water for human consumption shall be available at the site offices and at other convenient locations on site. The generally acceptable standard is that a supply of drinking water shall be available within 200m of any point on the construction site.

Method Statement(s) must be prepared by the Contractor for the various water uses. The Contractor shall keep a record of the quantities of water used on-site during construction (including use by sub-contractors), irrespective of the purpose of use.

5.30 Protection of Fauna and the collection of firewood

On no account shall any hunting or fishing activity of any kind be allowed. This includes the setting of traps, or the killing of any animal caught in construction works.

On no account shall any animal, reptile or bird of any sort be killed. This specifically includes snakes or other creatures considered potentially dangerous discovered on site. If such an animal is discovered on site, an appropriately skilled person should be summoned to remove the creature from the site. Consideration should be given to selection and nomination of such a person prior to site establishment. If no-one is available, training should be provided to at least two site staff members.

The Contractor shall provide adequate facilities for all his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. The Contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.

5.31 Environmental Awareness Training

An Environmental Awareness Program is considered a necessary part of the Construction Environmental Management Plan for the Project. Training of the appropriate construction personnel will help ensure that all environmental regulations and requirements are followed which must be defined in the relevant Method Statement to be prepared by the Contractor.

Objectives of environmental awareness training are:

- Environmental Management – protecting the environment from the effects of construction by making personnel aware of sensitive environmental resources.
- Regulatory compliance – complying with requirements contained in project – specific permit conditions, also complying with requirements in regional and local regulations.
- Problem recognition and communication – training personnel to recognise potential environmental problems, i.e. spills, and communicate the problem to the Contractor's EO for a solution.
- Liability control - non-compliance with regulatory requirements can lead to personal and corporate liability.

All individuals on the Project construction site will need to have a minimum awareness of environmental requirements and responsibilities. However, not all need to have the same degree of awareness. The required degree of knowledge is greatest for personnel in the Safety, Health, and Environmental Sections and the least for the manual personnel.

The Contractor shall present environmental awareness programmes on a weekly/bi-monthly basis (depending on project requirements) and keep record of all the environmental related training of the personnel.

5.32 Handling and Batching of Concrete and Cement

Concrete batching shall only be conducted in demarcated areas which have been approved by the Transnet CM and Transnet PER.

Such areas shall be fitted with a containment facility for the collection of cement-laden water. This facility shall be bunded and have an impermeable surface protection so as to prevent soil and groundwater contamination. Drainage of the collection facility will be separated from any infrastructure that contains clean surface runoff.

The batching facility will not be placed in areas prone to floods or the generation of stagnant water. Access to the facility will be controlled so as to minimise potential environmental impacts. Hand mixing of cement and concrete shall be done on mortarboards and/or within the bunded area with impermeable surface or concrete slab. Bulk and bagged cement and concrete additives will be stored in an appropriate facility at least 10m away from any watercourses, gullies and drains.

Waste water collected in the containment facility shall be left to evaporate. The Contractor shall monitor water levels to prevent overflows from the facility. It is acknowledged that all waste water will evaporate; it must be ensured that the remaining water can be pumped into sealed drums for temporary storage and must be disposed of as liquid hazardous waste at an authorised hazardous waste management facility.

All concrete washing equipment, such as shovels, mixer drums, concrete chutes, etc. shall be done within the approved washout facility. Water used for washing shall be restricted as far as practically possible.

Ready-mix concrete trucks are not allowed to wash out anywhere other than in an area designated and approved by the Transnet CM and PER for this purpose.

The Contractor shall periodically clean out hardened concrete from the wash-out facility or concrete mixer, which can either be reused or disposed of as per accepted waste management procedures.

Empty cement and bags, if temporarily stored on site, must be collected and stored in weatherproof containers. Used cement bags may not be used for any other purpose and

must be disposed of on a regular basis in accordance with the Contractor's solid waste management system.

Sand and aggregates containing cement will be kept damp to prevent the generation of dust.

Concrete and cement or any solid waste materials containing concrete and cement will be disposed of at a relevant registered disposal facility and SDCs kept on the file. Where disposal facilities for general waste are utilised, written consent from the relevant municipality must be obtained by the Contractor and filed in the Green file.

5.33 Stockpiling, Soil Management and Protection of Flora

The Contractor shall measure the extent of all areas cleared for construction purposes and keep this figure updated. Sensitive areas shall be cordoned off and avoided in this regard.

Stockpiling may only take place in designated areas indicated on the approved site layout plan. Any area to be used for stockpiling or material laydown shall be stripped of all topsoil.

Clearance of vegetation shall be restricted to that which is required to facilitate the execution of the works. Vegetation clearance shall occur in a planned manner, and cleared areas shall be stabilised as soon as possible when and where necessary. The detail of vegetation clearing shall be subject to the Transnet CM's approval and shall occur in consultation with the Transnet PER.

Stockpiles must be positioned in areas sheltered from the wind and rain to prevent erosion and dispersion of loose materials. Stockpiled soil shall be protected by adequate erosion-control measures. Soil stockpiles shall be located away from drainage lines, watercourses and areas of temporary inundation. Stockpiles containing topsoil shall not exceed 2m in height unless otherwise permitted by Transnet.

Topsoil shall be stockpiled separately from other materials and prevented from movement. Excavated subsoil, where not contaminated, must be used for backfilling, if possible, and topsoil for landscaping and rehabilitation of disturbed areas. Where topsoil

has become mixed with subsoil or is not up to the original standard, fertiliser or new topsoil shall be provided by the Contractor.

No vegetation located outside the construction site shall be destroyed or damaged. As far as is reasonably practicable, existing roads must be used for access to the site. Before site clearance takes place, vegetation surveys must be conducted and protected species identified.

No protected plant species shall be removed without written consent from the relevant authorities. The development of new embankments or fill areas must be undertaken in consultation with the Transnet PER.

No dumping of solid waste or refuse shall be allowed within or adjacent to areas of natural vegetation.

The Contractor shall identify and eradicate all declared alien and invasive plant species occurring on site.

5.34 Traffic Management

Vehicles usage is permitted only on access roads. Vehicles should only be parked within designated parking areas as demarcated on the site layout plan.

Turning of vehicles should only take place within a clearly demarcated "turn area" located within the approved construction footprint.

The Contractor must co-ordinate the loading and offloading of material during the construction phase so as to ensure that vehicular movement is in one direction only at any one time and that side-tracks are not created on the site.

5.35 Transportation of Materials

The Contractor is responsible for ensuring that all suppliers and delivery drivers are aware of procedures and restrictions (e.g. no-go areas) in terms of the SOP CM and this Specification. Material must be appropriately secured to ensure safe passage between destinations during transportation. Loads must have appropriate cover, where ADTs are not utilised, to prevent spillage from the vehicles. The Contractor will be held responsible for any clean-up resulting from the failure to properly secure transported materials.

5.36 Borrow Pits and Quarries

The Contractor shall ensure that suppliers of rock and sand raw materials are in possession of the required permit/license and keep record of the quantity of material supplied.

The Contractor will not make direct use of any borrow pits and quarries unless the borrow pit has a valid permit, he has obtained written approval from the Transnet CM and Method Statement has been submitted and approved. The Method Statement will provide the detailed description of the location of the borrow pits and/or quarries and the procedures that will be followed to adhere to any pertinent national or local legislation (e.g. mineral extraction, rehabilitation, safety and noise levels).

5.37 Social and Labour Issues

The criteria for and selection of labourers, sub-contractors and suppliers for the project shall demonstrate preference for the local community and shall be aligned with the criteria set by Transnet SOC Ltd in appointing the Contractor. The Contractor shall keep records of the identity of all staff.

Under no circumstances shall the Contractors engage in formal discussions with landowners without prior consent by the Transnet CM.

No activity on private property shall be allowed without written consent by the relevant landowner and Transnet CM/Transnet PER.

Any damage to private property caused by the Contractor during the construction period, shall be repaired to the satisfaction of the Transnet CM, the Transnet PER and the land-owner.

The Contractor shall keep record of any complaint raised during the construction period relating to the Contractor's activities.

No job-seekers shall be allowed on site and signs reflecting such shall be displayed on the notice boards.

5.38 Energy Management

The Contractor shall measure and keep updated records of the following:

- Electricity consumption (to be measured in Kilowatt Hours)
- Fuel consumption (to be measured in liters)

5.39 Handling, Storage and Management of Hazardous Substances

All hazardous materials/substances shall be stored in a secured, designated area that is fenced, bunded and has restricted entry.

All storage shall take place using suitable containers to the approval of the Transnet CM and PER.

All hazardous liquids shall be located in a secure, demarcated area and an adequate bund wall (110% of the total volume stored) shall be provided. The floor and wall of the bund area shall be impervious to prevent infiltration of any spilled/leaked liquids into the soil.

No spillages or accumulated stormwater within this bunded area will be allowed to be flushed from the bund into the surrounding area.

Hazard signs indicating the nature and volume of the stored materials shall be displayed on the storage facility or containment structure.

Weigh bills of hazardous substances shall be sourced from suppliers and kept on site for inspection by the Transnet PER.

The Contractor must provide a method statement detailing the hazardous substances that are to be used during construction, as well as the storage, handling and disposal procedures for each substance. Emergency procedures in the event of misuse or spillage that might negatively affect the environment must be specified.

Information on each hazardous substance will be available to all persons on site in the form of MSDS/SDS. Training and education about the proper use, handling, and disposal of the material will be provided to all workers handling the material.

The Contractor's EO must be informed of all activities that involve the use of hazardous substances to facilitate prompt response in the event of a spill or release.

5.40 Housekeeping

The Contractor must ensure proper housekeeping of the site for the duration of the project. If practical the contractor shall amongst construction personnel, assign one to be responsible for good housekeeping

Materials shall be stored in a neat and tidy manner in designated areas as per the approved site layout plan.

5.41 Rehabilitation

Contractors shall rehabilitate the entire site upon completion of work. Where applicable, rehabilitation must be in line with the measures outlined in the Project Environmental Specification. A rehabilitation plan will be submitted to the Transnet CM and PER for approval at least six weeks before project completion. The following, but not limited are critical issues to be included in the rehabilitation plan:

- Details of soil preparation procedures including proposed fertilisers or other chemicals being considered for use;
- A list of the plant species that will be used in the rehabilitation process. Note that these should all be indigenous species, and preferably species that are endemic to the area. The assistance of an appropriately qualified Botanist/Horticulturist should be sought in developing this list;
- Procedures for watering the planted areas (frequency of watering, methodology proposed etc.);
- An indication of the monitoring procedures that will be put in place to ensure the successful establishment of the plants (duration and frequency of monitoring, proposed criteria for declaring rehabilitation as being successful); and
- Procedures for the prevention of the establishment and spread of alien invasive species.

5.42 Documentation and Records Management

The Contractor's EO will complete and maintain copies of all documents and records and ensure that these documents and records are kept up to date.

The Contractor's EO will submit these documents to the Transnet PER on a frequency as agreed to with the Transnet PER, except where documents have remained unchanged in which case written notification to this effect must be provided to the Transnet PER. The Contractor's EO must ensure that electronic copies of these documents are saved on the Transnet system.

Once the construction activities have been completed and the Transnet PER has conducted a site closure inspection and notified the Contractor that site closure will be granted, all documents described above must be handed over to Transnet after which a Site Closure Certificate will be issued by the Transnet Project Manager.

NOTE: All documents/records are to be retained, within the Transnet Document Control System, for a period of 10 years. In the event of environmental documentation/record being lost before receiving a Site Closure Certificate, the Contractor will be penalised according to the specifications laid down in the Contract.

6. RECORDS

Refer to CEM SOP.

7. ANNEXURES

None.

Annexure C: Transnet Integrated Management System Policy Statement

_____ hereby acknowledge receipt and full understanding of Transnet SOC Ltd.'s ***Integrated Management System Policy Statement.***

Signed on _____

_____

Signature Of Tenderer

Transnet Integrated Management System (TIMS)
POLICY COMMITMENT STATEMENT

Transnet is a State-Owned Company that operates as an integrated freight transport company. It is structured around six core Operating Divisions, namely Transnet Freight Rail (TFR), Transnet Engineering (TE), Transnet National Ports Authority (TNPA), Transnet Port Terminals (TPT), Transnet Pipelines (TPL) and Transnet Property (TP) as well as the Transnet Academy, a specialised unit, a skills development provider in the transportation, freight, maritime, logistics and associated industries.

Transnet has developed and implemented a Transnet Integrated Management System (TIMS) programme, which sets out Systems, Policies, Procedures and Processes, providing a foundation and framework for conducting its core business. We are committed to **transporting freight, passengers and providing excellent customer service** to our customers along the key transport corridors. Our aim is to **competitively grow our business, enhance customer satisfaction** and ensure **sustainable business development** for the benefit of the South African economy.

TIMS is established, implemented, and maintained in accordance with recognised best practices that will enable us to:

- Incorporate and comply with applicable **legislation, regulations, codes, standards, protocols, best practices and customer requirements** to which we subscribe, in order to achieve our business objectives.
- Set and achieve **objectives and targets** that address significant enterprise-wide **strategic, tactical, and operational risks, opportunities and mitigate the consequences** thereof.
- Proactively implement **strategies** to prevent **environmental degradation, protect ecosystems and drive climate change mitigation and adaptation.**
- Continually promote the prudent and **sustainable** use of **energy and natural resources.**
- Provide **quality products** and **services** to meet our customers' requirements.
- Create a **safe and secure environment** for our employees and stakeholders.
- Carry out our business in a manner which **protects our assets and information** and **prevents injuries and ill health** to our employees and stakeholders.
- Promote **safe operational principles** during operations to minimise occurrences.
- Strategically **source our contractors** through fair, equitable and transparent processes.
- Provide **socio-economic development** as a good corporate citizen.
- Uphold **food safety practices** in our food preparation and handling environments.
- Ensure **proficiency and preparedness** to deal with and **effectively recover** from any **emergency situations.**
- **Develop, train and manage our employees** through inspirational leadership, providing the necessary **organisational information, knowledge and resources** to achieve the intention of this policy statement.
- Build relationships based on care, openness, mutual trust and involvement while protecting **personal and confidential information** of internal and external stakeholders. **Communicate, engage, support** and promote TIMS risk awareness culture.
- Allocate **responsibilities** and **accountabilities** to meet the requirements of the TIMS Policy Statement. Drive an **integrated assurance management programme** to ensure **continual improvement** of TIMS.

The TIMS Policy Commitment Statement shall be **reviewed every three (3) years** or **as circumstances dictate** to ensure that it remains **current and relevant**. Our progress on the achievement of the policy statement commitments shall be reported to the respective Governance Structures. Transnet Leadership, employees and stakeholders have a role to play in delivering on the commitment set out in this policy statement. The TIMS Policy Commitment Statement can be made available to external stakeholders on request.

Group Chief Executive

Date: 10/05/24

Next Review Date: 31 May 2027

Annexure D: Standard Operating Procedure - Constrcution Environmental Management

_____ hereby acknowledge receipt and full understanding of Transnet SOC Ltd.'s ***Standard Operating Procedure - Constrcution Environmental Management***

Signed on _____

_____

Signature Of Tenderer

STANDARD OPERATING PROCEDURE

CONSTRUCTION ENVIRONMENTAL MANAGEMENT

Document number	009-TCC-CLO-SUS-11386
Version number	1.0
Classification	Unclassified
Effective date	01 October 2023
Review date	30 September 2028

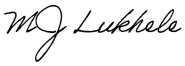
SUMMARY VERSION CONTROL

VERSION NO.	NATURE OF AMENDMENT	PAGE NO.	DATE REVISED
1.0	New Procedure		

Note: Only latest amendments and/or additions are reflected in italics in the body of the document.

DOCUMENTATION SIGN-OFF SHEET

I, the undersigned hereby approve this procedure.

ROLE	CAPACITY/ FUNCTION	SIGNATURE	DATE
Process Owner:	**Senior Specialist: Environmental Compliance and Permitting**		01/10/2023
Accepts document for adequacy and practicability. Comments:			
Sponsor:	**General Manager: Corporate Sustainability**		01/10/2023
Approves document for use. Comments:			

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1. PURPOSE

1.1 The purpose of this Standard Operating Procedure (SOP) is to define how environmental management will be practiced on any construction project under the management of Transnet to ensure that the environment is considered, negative impacts avoided or minimized, and positive impacts are optimized and/or enhanced throughout the lifecycle of the asset.

1.2 It further defines environmental management responsibilities for key stakeholders involved in the construction management process.

1.3 It must be read in conjunction with the Contractor Environmental and Sustainability Specification Guidelines (CESSG) and the Project Environmental Specification (PES) relevant to the project.

1.4 In this document, unless the context clearly indicates otherwise:

- Words importing any one gender shall include the other gender.
- The singular shall include the plural and vice versa; and
- Any reference in this document to legislation or subordinate legislation is to such legislation or subordinate legislation at the date of promulgation thereof and as amended and/or re-enacted from time to time.

2. APPLICABILITY

2.1 The SOP applies to any construction project under the management of Transnet SOC Ltd or its Construction Agent.

3. REFERENCE DOCUMENTS

Name	Applicable Section
Constitution of South Africa, Act 108 of 1996	Section 24 (a) right to an environment that is not harmful to health or wellbeing Section 24(b) (i) right to have environment protected for current and future generations through legislation and measures that prevents pollution and ecological degradation.
Capital Governance and Assurance Policy	Entire document
Capital Governance and Assurance Framework	Entire document
Capital governance and Assurance Manual	Entire document.
PLP Manual – Execution	Entire document
National Environmental Management Act, 107 of 1998	Section 2 National Environmental Management Principles (4) (viii), (e), (h), (j) and (p).
National Water Act, 36 of 1998	Section 164, Permissible Water Use Section 19
National Environmental Management: Waste Act, 58 of 2008	Part 1 15 (1) (i) and (2) Part 6 26 (10 (a) and (b) Scheduled 3, Defined Wastes Category B: Hazardous Wastes Part 8: Contaminated Land
Environment Conservation Act, 73 of 1989	Section 20
Occupational Health and Safety Act, 85 of 1993	Asbestos Regulations, 2001 Government Notice R155 in Government Gazette 23108 of February 2002

Name	Applicable Section
	General Safety Regulations-Reg. 2 (2) PPE
GNR 326, 7 April 2017 as amended, EIA Regulations	Chapter 15
Integrated Management System – Policy Statement Procedure (TRN-IMS-GRP-PROC-002)	Whole document
Integrated Management System – Competency, Awareness and Training Procedure	Whole document
Integrated Management System[1] – Document, Data and Record Management Procedure (TRN-IMS-GRP-PROC-010)	Whole document
Integrated Management System – Occurrence and Non-Conformance Management Procedure (TRN-IMS-GRP-PROC-013)	Whole document
Transnet Environmental Risk Management Strategy and Framework	2015:42
Environmental Management Systems ISO 14001: 2015	Clause 5, 6, 7, 8, 9 and 10

[1] Management of certain documents, data and records will be in accordance with NEC3 – Engineering and Construction Contract prescripts

4. DEFINITIONS AND ABBREVIATIONS

4.1 DEFINITIONS

Compliance	The action or fact of complying with legislation or regulations.
Conformance	The action or fact of conforming to this standard and other internal Transnet policies, procedures, guidelines and best practice.
Contractor	The **Principal Contractor** as engaged by Transnet for infrastructure construction operations, including all sub-contractors appointed by the main contractor of his own volition for the execution of parts of the construction operations; and any other contractor from time to time engaged by Transnet directly in connection with any part of the construction operations which is not a nominated sub-contractor to the Principal Contractor.
Contractor Environmental and Sustainability Specification Guidelines (CESSG)	A set of minimum environmental standards for all Transnet SOC Ltd-managed construction sites.
Corrective Action	It is generally a reactive process used to address problems after they have occurred. Corrective action may be triggered by a variety of events, e.g. Non-conformance to documented procedures and work instructions, non-conformances raised through internal audits, unacceptable monitoring and measurement results, internal & external SHEQ complaints, etc.
Emergency	Sudden unforeseen event needing immediate or prompt action.

Environment	Surroundings in which the Contractor operates, including air, water, land, natural resources, flora, fauna, humans and their interrelations.
Environmental Aspect	Element of an organization's activities or products or services that interacts or can interact with the environment
Environmental Authorisation (EA)	Environmental Authorisation is the authorisation granted by a competent authority of a listed activity or specified activity in terms of National Environmental Management Act 107 of 1998 (as amended).
Environmental Impact	Change to the environment whether adverse or beneficial, wholly or partially resulting from an organization's environmental aspects
Environmental Management Plan (EMP)	A plan generated by the Contractor describing the relevant roles and responsibilities and how potential environmental risks will be assessed and managed including the monitoring and recording thereof.
Environmental Management Programme (EMPr)	A programme that has been approved by the Competent Authority in terms of NEMA, 107 of 1998 stipulating information on any proposed management, mitigation, protection or remedial measures that will be undertaken to address the environmental impacts that have been identified
Environmental Risk	The product of the likelihood and severity of an unforeseen occurrence/incident/aspect and the impact it would have, if realised, on the environment

Incident/Occurrence	An undesired event occurring at work that results in physical harm to a person or death, or damage to the environment, plant and/or equipment, and/or loss of production.
Non-conformance	An action or situation that does not conform to Transnet's SHEQ standards, procedures or legislative requirement(s) and that can be, or lead to, an unacceptable SHEQ incident.
Non-compliance	Contravention to environmental legislative requirements.
Project Environmental Specification (PES)	Describes standards specific to a particular project. Variations and additions to the MESC are set out in this PES. These would include the EA issued to the project or elements generally drawn from the EA or permits for that project or from specific requirements set by the Transnet Operating Divisions. The PES may also require a more stringent standard to that described in the MESC if required by the EA or a particular industry code to which Transnet subscribes including any environmental constraints at a construction site.
Sub -Contractor	A person or organisation who has a contract with the contractor to - Construct or install part of the contractors work. - Provide a service necessary to provide the works; or - Supply plant and materials which the person or organisation has wholly or partly designed specifically for the works.

4.2 ABBREVIATIONS

Acronym	Meaning in Full
CESSG	Contractor Environmental and Sustainability Specification Guidelines
CM	Construction Manager
CV	Curriculum Vitae
CEM	Construction Environmental Management
DFFE	Department of Forestry, Fisheries and the Environment
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
ECO	Environmental Control Officer
EO	Environmental Officer
EMI	Environmental Management Inspectorate
NCR	Non-conformance Report
NEMA	National Environmental Management Act 107 of 1998 (as amended)
PER	Project Environmental Resource
PES	Project Environmental Specification
PLP	Project Life-cycle Process
PM	Project Manager

Acronym	Meaning in Full
SAHRA	South African Heritage Resources Agency
SOP	Standard Operating Procedure
SHEQ	Safety, Health, Environment and Quality
Transnet	Transnet SOC Ltd

5. ACCOUNTABILITY, RESPONSIBILITY AND AUTHORITY

5.1 Transnet Procurement Department

5.1.1 Ensures that this SOP (and relevant associated environmental specifications) is included in any construction-related request whether open market, quotation or confinement process.

5.1.2 The Procurement Department shall further ensure that the relevant environmental personnel are consulted during tender review, tender evaluation and contract award.

5. Transnet Project Manager (PM)

5.2.1 Takes overall accountability for the project including ensuring that this SOP is implemented by all relevant stakeholders.

5.2.2 The specific tasks during construction will include:

- Appointment of the Transnet Environmental Resource/s;
- Certifying site access to the Contractor;
- Giving instructions to the Contractor on recommendation from the Transnet Environmental Resource/s (e.g. defects, non-conformances etc.); and
- Certifying site closure to the Contractor.

5.3 Transnet Project Environmental Resource

5.3.1 The Transnet Project Environmental Resource (PER) will be responsible for ensuring that this SOP and associated specifications or requirements are complied with. The Transnet PER will report functionally to the relevant PM.

5.3.2 The specific tasks will include:

- Preparation of the PES;
- Tender evaluation, development of environmental criteria and adjudication thereof;
- Liaison with the relevant environmental Competent Authorities;

- Review and approve site layout plan including any subsequent revisions thereof;
- Environmental Induction of Contractor's staff;
- Generate an inspection checklist prior to construction commencement;
- Review and Sign off Method Statements prepared by Contractor;
- Prepare environmental monitoring protocols/checklists to be used during construction;
- Prepare monthly conformance audit reports, including sign-off on Monthly Inspection Reports;
- Conduct monthly observation & inspections of all work places based on the approved inspection checklist;
- Audit conformance to Method Statements;
- Monitor the Contractor's compliance with this SOP and any other environmental requirements relevant to the site;
- Develop an Audit Finding and Close out Register that documents all audit findings, close out actions and the time frame allowed for in order to close the finding/s;
- Ensure that all environmental monitoring programmes (sampling, measuring, recording etc. when specified) are carried out according to protocols and schedules;
- Measurement of completed work (e.g. areas top soiled, re-vegetated, stabilised etc.);
- Attendance at scheduled SHE meetings, as and when required, and project coordination meetings;
- Ensure that site documentation (permits, licenses, EA, EMPr, SOP-CEM, method statements, audit reports, waste disposal slips etc.) related to environmental management is maintained on the relevant Document Control System;
- Inspect and report on environmental incidents and check corrective action;
- Keep a photographic record of all environmental incidents;

- Environmental incident management as required by Transnet policies and procedures;
- Implementation of environmental-related actions arising out of the minutes from scheduled meetings;
- Management of complaints register;
- Conduct any environmental incident investigations;
- Coordinate and/or facilitate any environmental monitoring programmes e.g. EMI Inspections, ECO Audits, Transnet Environmental Assurance Audits etc.
- Collate information received, including monitoring results into a monthly report that is supported with photographic records to the Transnet CM and Transnet PM showing progress against targets; and
- Report environmental performance of the project on a monthly basis through relevant governance channels.

5.3.3 The tasks stipulated above may be conducted by one or more Project Environmental Resource, depending on the scale, complexity and sensitivity of the environment. Discretion to be taken by the Environment Lead within the area of control of the project site.

5.4 Transnet Construction Manager (CM)

5.4.1 The Transnet Construction Manager (CM) has overall responsibility for environmental management on site and reports to the Transnet PM. The Transnet CM is supported by the Transnet PER.

5.4.2 The specific tasks during the construction stage will include:

- Reviewing the monthly reports compiled by the Transnet PER;
- Approving method statements prepared by the Contractor;
- Communicating directly with the Contractor on environmental issues observed on-site; and
- Escalating any relevant environmental matters to the Transnet PM.

5.6 Environmental Control Officer

5.6.1 The Environmental Control Officer is an independent person legally appointed to monitor compliance of construction related activities with the conditions of the Environmental Authorisation. The ECO fulfils an autonomous role and submits reports to the Competent Authority at timeframes specified in the Environmental Authorisation.

5.6.2 The Environmental Control Officer will conduct the following tasks:

- Monitors compliance to the conditions of the EA, Environmental Management Programme (EMPr) and can include permits and licences applicable to a project;
- Attends project meetings as and when required;
- Conducts audits at a frequency stipulated on the EA/EMPr; and
- Compiles audit reports and submits them to relevant authorities.

5.7 Contractor's Environmental Officer

5.7.1 The Contractor's Environmental Officer (EO) must ensure implementation of the requirements of this SOP on site.

5.7.2 The Contractor's EO will liaise with the Transnet PER on site. It will be the responsibility of the Contractor's EO to ensure that all work is conducted according to the approved Method Statements and that the Contractor team's roles and responsibilities as set out in this document are fulfilled.

5.7.3 The Contractor EO's tasks will include:

- Developing an appropriate environmental file for approval by the Transnet PER prior to site access, including but not necessarily limited to (the environmental file must always be available and up to date on the construction site):
  - All environmental documents provided by Transnet in the tender e.g. policies, SOPs, standards, environmental approvals;

- Contractors commitments to comply with this SOP and associated documents as signed during tender;
- The Contractor's EMP;
- His/her CV;
- An organogram indicating reporting lines of all Contractor's staff (with names included);
- Contact Information for: the overall responsible person acting on behalf of the Contractor to execute the construction works; Contractor's CM; Contractor's EO; all relevant emergency personnel;
- A list of the Contractor's plant and equipment indicating a description of the plant/equipment, its fuel capacity, any hazardous components (oils, greases etc.), individual service/maintenance cycles and noise levels;
- A list of hazardous substances to be used during construction indicating: official substance name from Material Safety Data Sheet (MSDS); quantity on site; storage method; transport method to site; period to be used on site (all substances listed must have an MSDS on site in the environmental file);
- Site Layout Plan indicating but not necessarily limited to, access roads, site offices, material laydown areas, stockpile areas and parking areas, waste and effluent storage and handling facilities, entire construction footprint, no-go-areas, sewage and sanitary facilities. The plan must be appropriately drawn on a computer and must be clearly visible and properly scaled;
- A site establishment method statement (for more details on what method statements should entail the Contractor must refer to the Minimum Requirements for Construction Environmental Management)

- Conducting an activity-based environmental risk assessment based on the Contractor's scope of work;
- Agreeing on an appropriate inspection schedule with the Transnet PER (either daily or weekly);

- Ensuring that all required Contractor staff attends the environmental induction to be given by the Transnet PER (any Contractor's staff, sub-contractors or visitors to site must subsequently be inducted by the Contractor's EO);
- Inspection of the work area(s) as per schedule or authorised through written instruction by Transnet PER;
- Preparing activity-based Method Statements that indicate how environmental risks will be managed on site OR ensuring that the necessary environmental information is included in the Contractor's method statements (all method statements must be maintained in the Contractor's Environmental File);
- Identify local, provincial and national environmental legislation that applies to the Contractor's activities;
- Conduct ongoing Environmental Awareness Training of the Contractor's site personnel;
- Reporting, investigating and recording of any environmental incidents caused by the Contractor or due to the Contractor's activities, including their sub-contractors and visitors;
- Close out of environmental incidents;
- Attendance at all SHE meetings and induction programmes, and toolbox talks where required
- Monitor Waste Management;
- Monitor Water Management;
- Monitor Energy Management;
- Ensure that environmental signage and barriers are correctly placed;
- Taking required corrective action within specified time frame and close out of non-conformances; and
- Maintain site documentation related to environmental management on site.

5.7.4 The Contractor's EO will be expected to submit reports to the Transnet PER on a daily/weekly basis.

5.8 The Contractor

5.8.1 The Contractor shall comply with the requirements of this SOP and abide by the Transnet PM's instructions regarding the implementation of this SOP.

5.8.2 The Contractor must confirm that he will conform to the requirements of this SOP and any other documents provided to him by Transnet during tender.

5.8.3 The Contractor must recommend a suitably qualified, competent person to fulfill the role of the Contractor's EO at tender and if accepted by Transnet this person must be appointed when the Contract is awarded for the duration of construction. Should this person be replaced for whatever reason, the Contractor shall ensure that a person of similar qualification and competency is appointed in his/her place before the previous incumbent vacates his/her position.

5.8.4 The Contractor must obtain any relevant environmental approvals required by his activities that have not been obtained by Transnet e.g. permits for the destruction of protected plant species; grave relocation permits etc.

5.8.5 The Contractor shall have overall accountability for environmental compliance on site and will be held liable for any non-compliance with environmental statutes or non-conformances with this SOP due to his negligence.

5.9 Reporting Lines

5.9.1 The organisational structure identifies and defines the responsibilities and authority of the various entities involved in the project. All instructions and official communications regarding environmental matters will follow the organisational structure shown in Figure 1.

5.9.2 All instructions that relate to the SOP will still be given to the Contractor via the Transnet PM. In an emergency situation, however, the Transnet PER may give an instruction directly to the Contractor. Environmental Management of the site will be an item on the agenda of the monthly site meetings, and the Transnet PER will attend these meetings on request by the contractor. If at any time the Transnet

PM is uncertain in any way with respect to an environmentally related issue or specification in the SOP, he will consult with the Transnet PER .

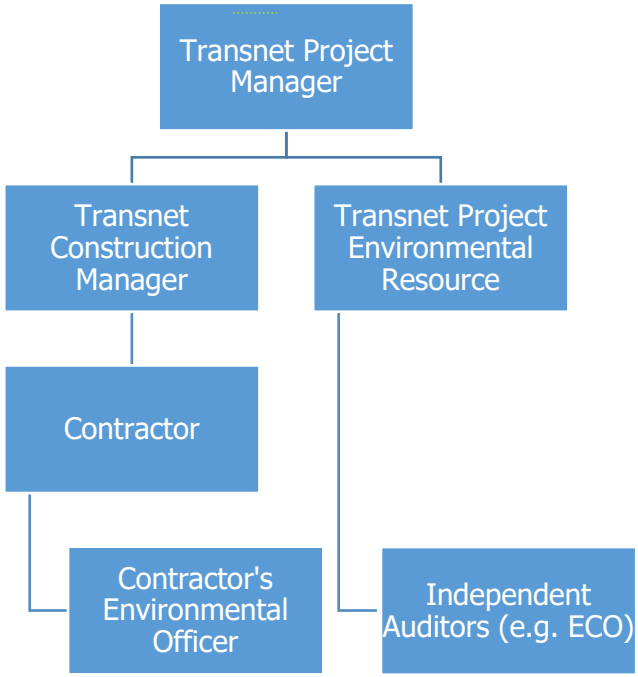


Figure 1: Typical Transnet Organogram for Construction Environmental Management[2]

6. STANDARD OPERATING PROCEDURE

6.1 Tender Stage (prior to Contract Award)

- The Transnet PM appoints or assign a Project Environmental Resource/s[3].
- The Transnet PER requests the draft tender from the Transnet Procurement Department
- Transnet Procurement routes the draft tender to the Transnet PER

[2] Structure dependent on OD own structure and organizational operating model

[3] Project complexity will determine the final environmental management structure on the project.

- The Transnet PER ensures the tender includes all relevant environmental documents and signs the routing slip.
- The Transnet Procurement Department issues the tender to prospective Contractor(s).
- The Contractor submits his bid which MUST include: a commitment to conform to this SOP signed by the duly delegated person; recommendation of a suitably qualified, competent person to fulfill the role of the Contractor's EO; Environmental Policy; and EMP
- After submission the Transnet Procurement Department will invite the Transnet PER to evaluate tender submissions (environmental section);
- The Transnet PER evaluates the prospective Contractor's environmental submission.
- The Contract is awarded to the successful bidder.

6.2 Construction Stage (prior to Site Access)

- The Contractor appoints the Contractor's Environmental Officer (EO) accepted by Transnet SOC Ltd.
- The Contractor provides his EO with all documents submitted during tender, including but not necessarily limited to:
  - All environmental documents provided by Transnet in the tender e.g. policies, SOPs, standards, environmental approvals etc;
  - commitment to conform to this SOP; and
  - The EMP.
- The Contractor's EO conducts an activity-based environmental risk assessment;
- The Contractor's EO develops an appropriate environmental file for approval by the Transnet PER, including but not necessarily limited to all the documents specified in Section 5.7 above (the environmental file must always be available and up to date on the construction site);
- The Contractor's EO submits the environmental file for acceptance to the Transnet PER;

- Once accepted, the Transnet PER recommends that site access be granted to the Transnet PM; and
- The Transnet PM issues the Contractor with a Site Access Certificate

6.3 Construction Stage (post Site Access)

- The Transnet PER inducts all Contractor's staff on the environmental requirements of the site;
- The Transnet PER has an inception meeting with the Contractor's EO on site where the following is agreed:
  - The contents of the contractor's environmental file (in addition to what was approved prior to granting site access). This will include but not necessarily be limited to: a list of interested and affected parties that may be impacted by construction e.g. surrounding landowners, nearby communities etc.; energy consumption information; water use information; environmental induction and awareness information; activity-based environmental method statements; complaints records; record of external communications; environmental incident reports; minutes of contractors environmental meetings.
  - The composition of the Project Environmental Specification (PES) and how it will be implemented. This will include but may not necessarily be limited to: Environmental Approvals (e.g. Environmental Authorisations, Water Use Licenses, Waste Management Licences, Atmospheric Emissions Licences etc.); Environmental Management Programmes/Plans approved by external parties/authorities; and any third party auditors/monitoring specialists (e.g. Environmental Control Officers; Independent Auditors; Transnet Environmental Assurance Specialists; Water Quality Monitoring experts etc.) that have a bearing on the contractor's scope of work.
  - The frequency of inspections to be conducted by the Contractor's EO (e.g. daily, weekly etc.)
  - The frequency of inspections to be conducted by the Transnet PER (e.g. daily, weekly and/or monthly). Notwithstanding that the frequency of

Transnet PER inspections will be agreed, the Contractor may never refuse the Transnet PER

- The format used and elements to be checked during Contractor's inspections
- Reporting frequency and requirements
- The process to be followed in handling Environmental Occurrences and – Non-conformances

- **Note:** All the aforementioned agreements will be formalized in the form of minutes which the Transnet - and Contractor's EO must sign and must subsequently be approved by the Transnet Project Environmental Resource.
- The Transnet PER reviews the Contractor's activity-based environmental risk assessment and instructs the Contractor's EO to submit activity-based method statements for construction activities that may pose an environmental risk (for more details on what method statements should entail the Contractor must refer to the Minimum Environmental Requirements for Construction). Only once a method statement has been approved by the Transnet PER and Transnet CM and ECO (where relevant) may the Contractor execute the relevant activity.
- The Contractor's EO submits the method statements to the Transnet PER for approval (these must also be approved by the Transnet CM);
- The Transnet PER compiles a site audit checklist (covering all environmental compliance and conformance requirements) for approval by the Transnet Project Environmental Manager
- Whilst the Contractor executes the work in terms of the requirements of the Contract, the Contractor's EO and Transnet PER execute their monitoring functions as per this SOP and other monitoring stakeholders/auditors as per the PES.
- The Transnet PER shall submit monthly reports to the Transnet CM and PM indicating the following:
  - Date of the inspection(s);
  - Details and expertise of the Transnet PER;

- Scope and purpose for which the report was prepared;
- Description of the methodology used during the inspection and report compilation;
- Compliance and/or conformance status of all relevant/individual elements as per the inspection checklist culminating in an overall compliance/conformance percentage for the project;
- Assumptions;
- Description of consultation processes undertaken during the inspection(s) with a summary and associated records of such consultations;
- Environmental incidents and non-conformances;
- Photos of pertinent construction and environmental matters that occurred on site;
- Water abstracted/withdrawn during the month (in kiloliters) as well as an indication of the source;
- Water recycled and/or reused during the month (in kiloliters);
- Waste water discharged (in kiloliters);
- Waste (both general and hazardous) disposed (in tonnages) with an indication of waste type;
- Waste recycled (in tonnages);
- Alien invasive species eradicated (in hectares);
- Number of listed species safely relocated;
- Environmental Fines, Non-Compliances or Directives issues by authorities;
- Any NEMA Section 30 or NWA Section 19 incidents;
- Environmental Grievances;
- Rehabilitated Land (in hectares);
- Number of graves and/or heritage artifacts moved;
- Energy consumption for the project [Electricity(kWh); Gas (GJ); Oil(l); Diesel(l); Petrol(l); LPG(GJ)];
- Status of previous findings and/or observations; and
- Recommendations for improvement.

6.4 Post Construction

- The Contractor's EO submits a rehabilitation and site closure method statement for approval by the Transnet PER and Transnet CM.
- Once approved, the Contractor implements the rehabilitation method statement accordingly.
- The Contractor's EO submits a site close-out report for acceptance by the Transnet PER and CM.
- Post rehabilitation, the Transnet PER conducts a site closure inspection to ensure all requirements of the rehabilitation method statement have been met.
- Once rehabilitation has been accepted by the Transnet PER, the Contractor's EO sends the Transnet PER a copy of the entire environmental file (original to be handed over to Transnet as per document handover requirements of the Contract).
- On receipt of the environmental file, the Transnet PER recommends that a site closure certificate can be issued to the Transnet PM.
- The Transnet PM issues the Contractor with a Site Closure Certificate.

7. RECORDS

7.1 The responsibility for maintaining all records required by this SOP shall rest with the Contractor's EO; Transnet PER as specified below:

Record	Maintained By
1. Transnet PER Appointment Letter	Transnet PER
2. Signed Tender Routing Slip	Transnet PER
3. Contractor's Confirmation to conform to this CEM SOP	Transnet PER; Contractor's EO
4. Recommendation of Contractor's EO	Transnet PER

Record	Maintained By
5. Contractor's Environmental Policy	Transnet PER; Contractor's EO
6. Contractor's Environmental Management Plan	Transnet PER; Contractor's EO
7. Tender Evaluation Records from Transnet PER	Transnet PER
8. Contract	Transnet PER
9. Contractor EO's Appointment Letter and CV	Transnet PER
10. Activity-Based Environmental Risk Assessment	Transnet PER; Contractor's EO
11. Contractor's Organogram	Transnet PER; Contractor's EO
12. Contractor's Contact Information	Transnet PER; Contractor's EO
13. List of Contractor's Plant and Equipment	Contractor's EO
14. List of Hazardous Substances used by Contractor	Contractor's EO
15. Material Safety Data Sheets	Contractor's EO
16. Site Layout Plan	Transnet PER; Contractor's EO
17. Site Establishment Method Statement	Transnet PER; Contractor's EO
18. Minutes of Transnet PER – Contractor's EO Inception Meeting	Transnet PER; Contractor's EO
19. Environmental Induction Attendance Register (including material used during induction)	Transnet PER; Contractor's EO
20. Activity-based Method Statements	Transnet PER; Contractor's EO

Record	Maintained By
21. Contractor's Inspection Reports	Transnet PER; Contractor's EO
22. Transnet PER Inspection Reports	Transnet PER
23. List of Local, Provincial and National Environmental legislation applicable to the site	Contractor's EO
24. Environmental Awareness Attendance Registers (including material used)	Contractor's EO
25. Environmental Incident Reports	Transnet PER; Contractor's EO
26. Minutes of SHE Meetings	Transnet PER; Contractor's EO
27. Waste Records	Transnet PER; Contractor's EO
28. Water Records	Transnet PER; Contractor's EO
29. Energy Records	Transnet PER; Contractor's EO
30. Non-Conformance Records	Transnet PER; Contractor's EO
31. Approval of Contractor's Environmental File	Transnet PER
32. Site Access Certificate	Transnet PER
33. Approved Transnet PER Checklist	Transnet PER
34. Transnet Monthly PER Reports	Transnet PER
35. Rehabilitation Method Statement	Transnet PER; Contractor's EO
36. Contractor's Site Close-Out Report	Transnet PER; Contractor's EO
37. Transnet PER Site Closure Report	Transnet PER
38. Contractor's Environmental File Handover Transmittal	Transnet PER; Contractor's EO
39. Site Closure Certificate	Transnet PER

8. ANNEXURES

8.1 List of Construction Environmental Management Templates, Forms and Guidelines

8.2 009-TCC-CLO-SUS-TMP-11386.22 - Construction Environmental Management File Index

8.3 009-TCC-CLO-SUS-TMP-11386.23 - *Construction Environmental Management Process Flow*

Annexure 8.1 List of Construction Environmental Management Templates, Forms and Guidelines

No	Item Description	Document No
1.	Construction Environmental Management File Index	009-TCC-CLO-SUS-TMP-11386.1
2.	Project Environmental Specification (PES)	009-TCC-CLO-SUS-TMP-11386.2
3.	Declaration of Understanding (Signed)	009-TCC-CLO-SUS-TMP-11386.3
4.	Contractor's Information	009-TCC-CLO-SUS-TMP-11386.4
5.	Appointment of Contractors EO and Declaration of Understanding (Including CV and Job Profile)	009-TCC-CLO-SUS-TMP-11386.5
6.	Schedule of Contractor's Construction Plant and Equipment	009-TCC-CLO-SUS-TMP-11386.6
7.	Hazardous Substances Register	009-TCC-CLO-SUS-TMP-11386.7
8.	Emergency Contacts Register	009-TCC-CLO-SUS-TMP-11386.8
9.	Energy Consumption Register	009-TCC-CLO-SUS-TMP-11386.9
10.	Water Usage Register	009-TCC-CLO-SUS-TMP-11386.10
11.	Project Start-Up Checklist	009-TCC-CLO-SUS-TMP-11386.11
12.	Site Access Certificate	009-TCC-CLO-SUS-TMP-11386.12
13.	Method Statement Register	009-TCC-CLO-SUS-TMP-11386.13
14.	Method Statements	009-TCC-CLO-SUS-TMP-11386.14
15.	Waste Disposal Register	009-TCC-CLO-SUS-TMP-11386.15
16.	Daily Inspection Checklist	009-TCC-CLO-SUS-TMP-11386.16
17.	Weekly Inspection Checklist	009-TCC-CLO-SUS-TMP-11386.17
18.	Monthly Inspection Checklist	009-TCC-CLO-SUS-TMP-11386.18

No	Item Description	Document No
19.	Public Complaints Register	009-TCC-CLO-SUS-TMP-11386.19
20.	Application for Exemption	009-TCC-CLO-SUS-TMP-11386.20
21.	Site Closure Certificate	009-TCC-CLO-SUS-TMP-11386.21
22.	Contractor's Environmental Management File Handover	009-TCC-CLO-SUS-TMP-11386.22
23.	Basic Environmental Rules for Visitors	009-TCC-CLO-SUS-GDL-11386.23
24.	Basic Environmental Rules for Contractors	009-TCC-CLO-SUS-GDL-11386.24
25.	Basic Site Procedure	009-TCC-CLO-SUS-GDL-11386.25
26.	Contractor Environmental and Sustainability Specification Guidelines (CESSG)	TRN-IMS-GRP-GDL-014.04

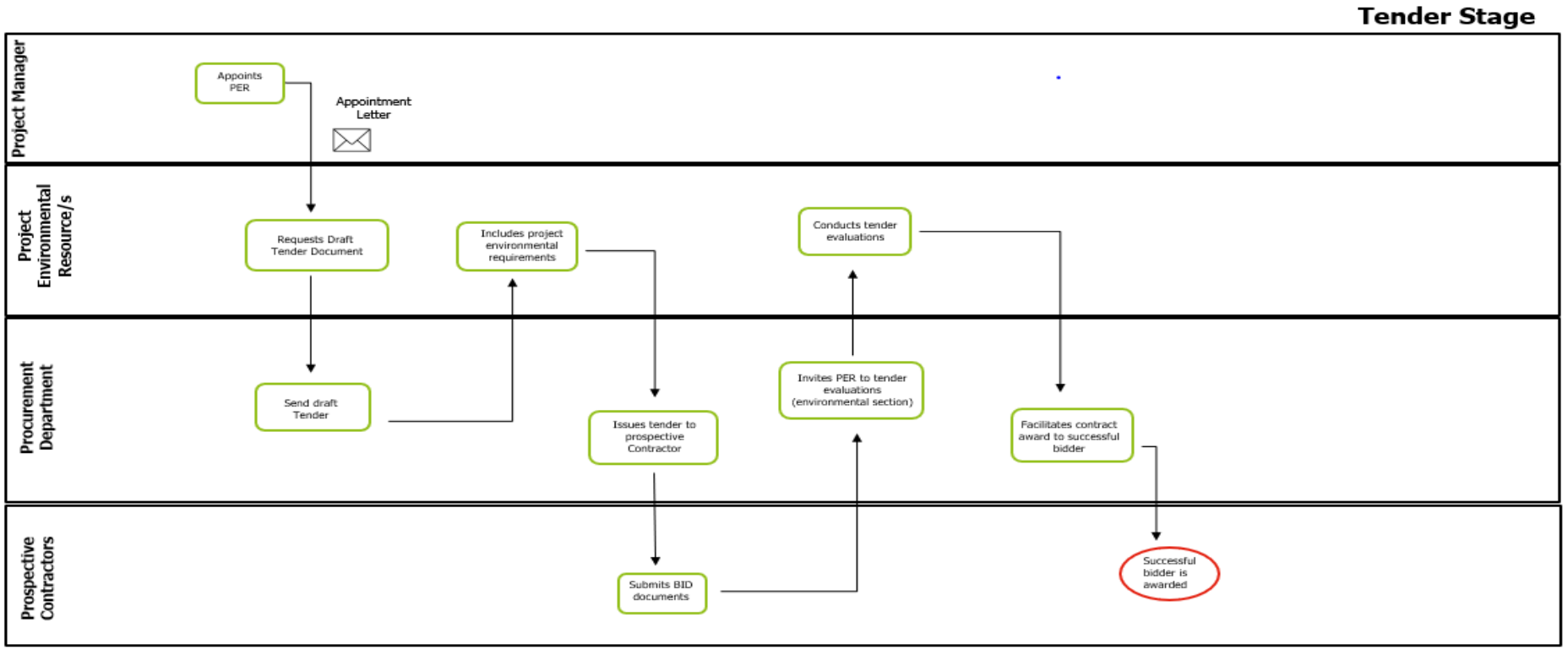
Annexure 8.2 Construction Environmental Management File Index

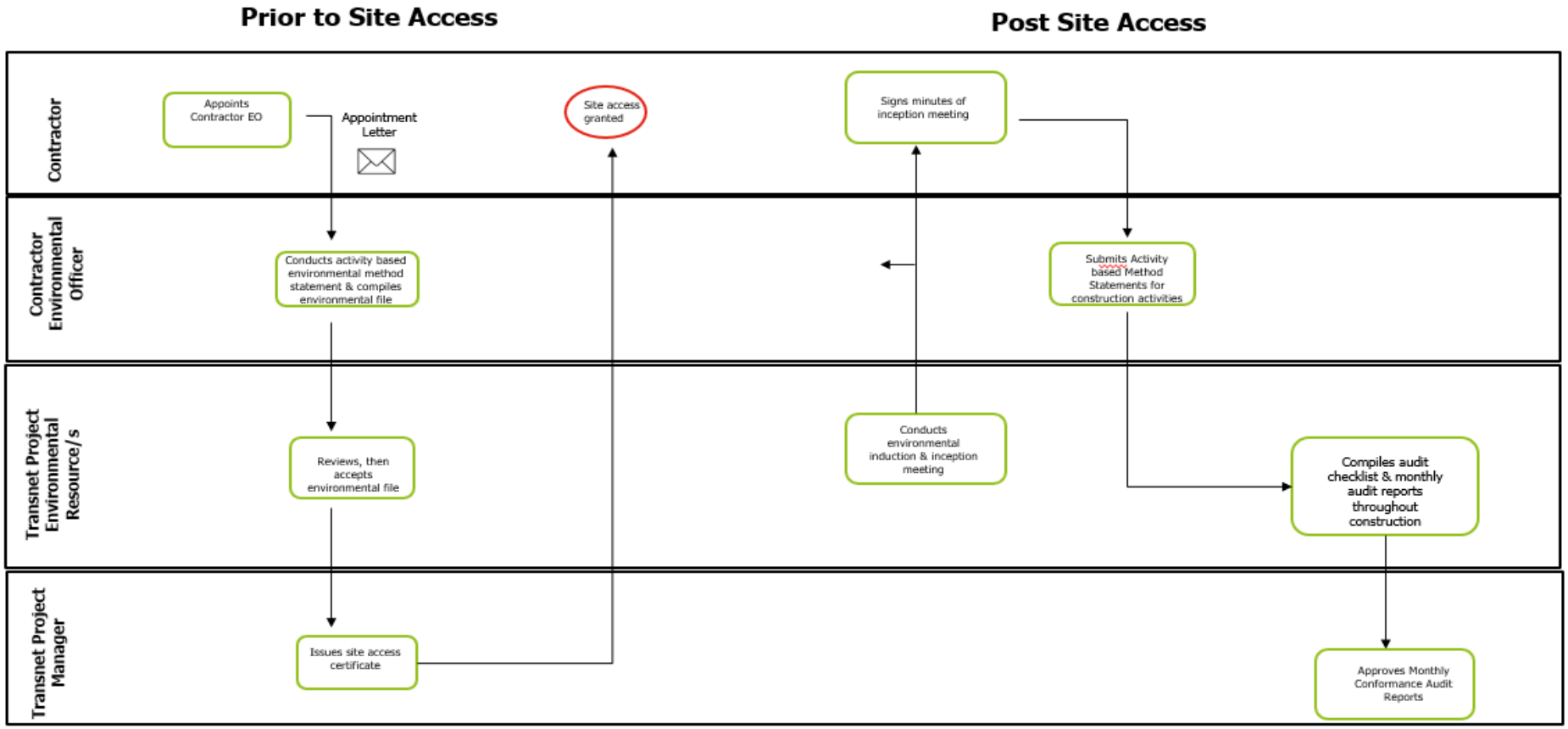
No	Item Description	Document No
1	Transnet Integrated management System (TIMS) Policy Statement	-
2.1	Standard Operating Procedure (SOP) - Construction Environmental Management (CEM)	009-TCC-CLO-SUS-11386
2.2	Environmental and Sustainability Specification Guidelines	TRN-IMS-GRP-GDL-014.04
3	Project Environmental Specification (PES)	009-TCC-CLO-SUS-TMP-11386.2
4	Declaration of Understanding (Signed)	009-TCC-CLO-SUS-TMP-11386.3
5.1	Contractor's Information	009-TCC-CLO-SUS-TMP-11386.4
5.2	Contractor's Environmental Policy	-
5.3	Contractor's Organogram	-
5.4	Contractor's Environmental Management Plan	-
5.5	Appointment of Contractors EO and Declaration of Understanding (Including CV and Job Profile)	009-TCC-CLO-SUS-TMP-11386.5
6	Schedule of Contractor's Construction Plant and Equipment	009-TCC-CLO-SUS-TMP-11386.6
7	Hazardous Substances Register	009-TCC-CLO-SUS-TMP-11386.7
8	Emergency Contacts Register	009-TCC-CLO-SUS-TMP-11386.8
9	Energy Consumption Register	009-TCC-CLO-SUS-TMP-11386.9
10	Water Usage Register	009-TCC-CLO-SUS-TMP-11386.10
11	Training Attendance Register	TIMS Procedure
12	Project Start-Up Checklist	009-TCC-CLO-SUS-TMP-11386.11
13	Site Access Certificate	009-TCC-CLO-SUS-TMP-11386.12
14	Method Statement Register	009-TCC-CLO-SUS-TMP-11386.13

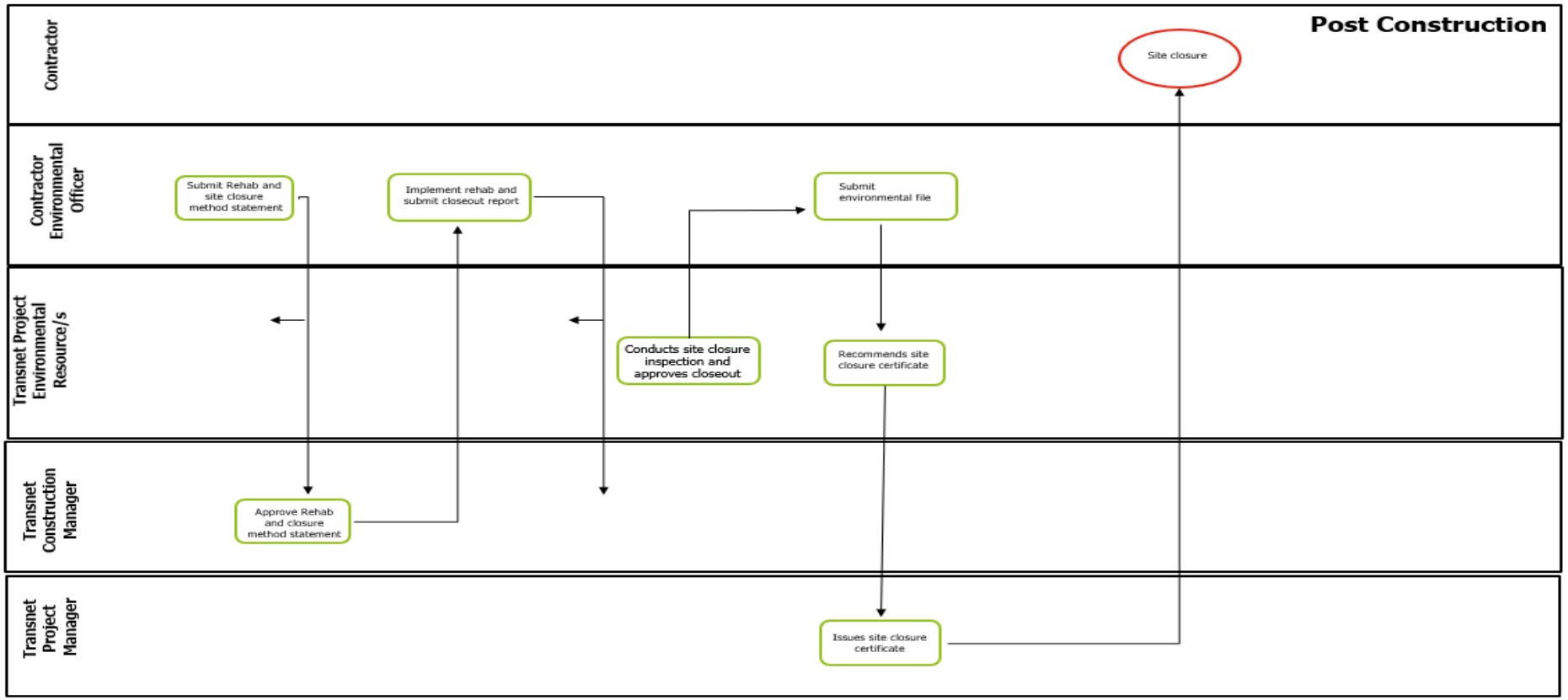
No	Item Description	Document No
15	Method Statements	009-TCC-CLO-SUS-TMP-11386.14
16	Waste Disposal Register	009-TCC-CLO-SUS-TMP-11386.15
17.1	Daily Inspection Checklist	009-TCC-CLO-SUS-TMP-11386.16
17.2	Weekly Inspection Checklist	009-TCC-CLO-SUS-TMP-11386.17
17.3	Monthly Inspection Checklist	009-TCC-CLO-SUS-TMP-11386.18
17.4	Environmental Inspection Findings Close-out Register	TIMS Procedure
18	Public Complaints Register	009-TCC-CLO-SUS-TMP-11386.19
19	Occurrence Register	TIMS Procedure
20	Transnet Occurrence Notification Report	TIMS Procedure
21.1	Environmental Occurrence Technical Form	TIMS Procedure
21.2	On-site Investigation Form – Incident Commander Report	TIMS Procedure
21.3	Investigation Form Report for Level 3 & 4 Occurrences	TIMS Procedure
21.4	Incident Commander Appointment Letter	TIMS Procedure
22	Non-Conformance Register	TIMS Procedure
23	Non-Conformance Report Form	TIMS Procedure
24	Non-Compliance Stop Certificate	TIMS Procedure
25	Application for Exemption	009-TCC-CLO-SUS-TMP-11386.20
26.1	Site Closure Inspection Form	TIMS Procedure
26.2	Site Closure Certificate	009-TCC-CLO-SUS-TMP-11386.21
26	Contractor's Environmental Management File Handover	009-TCC-CLO-SUS-TMP-11386.22

No	Item Description	Document No
27.1	Basic Environmental Rules for Visitors	009-TCC-CLO-SUS-GDL-11386.23
27.2	Basic Environmental Rules for Contractors	009-TCC-CLO-SUS-GDL-11386.24
27.3	Basic Site Procedure	009-TCC-CLO-SUS-GDL-11386.25

Annexure 8.3 Construction Environmental Management Process Flow






Post Construction
Contractor
Site closure
Contractor Environmental Officer
Submit Rehab and site closure method statement
Implement rehab and submit closeout report
Submit environmental file
Transnet Project Environmental Resource/s
Conducts site closure inspection and approves closeout
Recommends site closure certificate
Transnet Construction Manager
Approve Rehab and closure method statement
Transnet Project Manager
Issues site closure certificate

Annexure E: Baseline Risk Assessment

_____ hereby acknowledge receipt and full understanding of Transnet SOC Ltd.'s ***Baseline Risk Assessment.***

Signed on _____

_____

Signature Of Tenderer

4. Scope of Risk Assessment

The risks identified are those that will have a direct effect on the contractors during construction but also those that could have a detrimental effect on the project directly or indirectly from a time delay and cost point of view.

5. Hazards, Associated Risks, and Ratings

Task Steps (or Area) / Short risk name	Hazards	Associated risk event	Controls to manage the risk	Risk rating with controls		
				L	C	R
5.1 Hazard Identification and Risk Assessment						
Site establishment Clear area of any debris that might be in the way. (manual labour) Electrical Installations Fencing	Heavy equipment and or materials	Injuries to personnel and damage to equipment. Ergonomics	Site specific Health and safety plan for the project must be implemented. Provide detailed method statement for the activity Conduct Task based risk assessment Communication of all relevant controls with all stakeholders. Develop Written Safe Work Procedures for high risk activities Use proper Personal Protective Equipment Correct tools for the job and correct use of the tools competency/training and experience. Gloves mandatory when working with wires. All electrical equipment to be inspected by a competent person monthly and also daily in pre-use inspections.	**Possible**	**Moderate**	**High**
	Tripping hazards (Uneven surfaces, debris and materials lying around)	Injuries to personnel and damage to equipment.		**Possible**	**Minor**	**Medium**
	Stakeholder engagement (operations carried out by TNPA operations and/or clients)	Injuries to personnel and damage to equipment.		**Possible**	**Minor**	**Medium**
	Unknown chemicals or materials present on site.	Injuries to personnel and damage to equipment. Health related risks Environmental impacts		**Unlikely**	**Moderate**	**Medium**
	Improper loading and off-loading practices.	Injuries to personnel and damage to equipment.		**Likely**	**Moderate**	**High**
	Pinch points - wire cutters, pliers etc.	First Aid Injury		**Possible**	**Minor**	**Medium**
	Sharp edges/wires	First Aid Injury		**Possible**	**Minor**	**Medium**
	Falling from ladders	Lost Time Injury		**Rare**	**Moderate**	**Low**
	Incompetent persons doing	Fatality		**Unlikely**	**Major**	**Medium**

electrical installations	Injury relating in permanent Disabilities Loss and or damage to equipment.	Verified competency training for any person operating electrically driven tools and equipment with proof of competency testing against the relevant unit standard. Conduct Planned Task observation on employees. Task specific risk assessment to be in place and communicated. All tools to be inspected and checked before use, including use of correct cutting disk and backing plates. Grinders may only be used on solid surface, no working from ladders allowed. All electrically driven tools must be double insulated and must have a dead man switch fitted, it must not be possible to lock the equipment in the on position. Identify activities where isolation and lockout will be required. Communicate these requirements to all project employees. Include isolation and lockout in permit conditions for activities where the potential of contact with conductors exist			
Contact with live electrical conductors	Fatality Injury relating in permanent disabilities		**Possible**	**Critical**	**High**
Potential for fire exists during commissioning of incorrectly constructed installations	Lost Time Injury		**Possible**	**Moderate**	**Medium**
Commissioning of electrical installations outdoor during rain may cause injury	Lost Time Injury		**Unlikely**	**Moderate**	**Medium**
Substandard Electrical Tools (e.g. Portable Electrical Grinders, Drills) being used	Lost Time Injury		**Possible**	**Minor**	**Medium**
Unauthorized Access to electrical conductors	Fatality Injury relating in permanent disabilities		**Unlikely**	**Major**	**Medium**
Failure to adhere to Isolation and Lockout procedures	Fatality Injury relating in permanent disabilities		**Unlikely**	**Major**	**Medium**

Loading and Off-loading (Lifting Operations (Off-loading of containers with crane/ crane trucks and manual handling of heavy equipment)	Defective lifting equipment, machinery (Lifting tackle, HIAB crane, Lifting hooks, etc.)	Load drop, failing of equipment, personnel. Fatal injuries, damage to or loss of equipment and materials.	Load tests done and valid for all lifting machinery and or lifting equipment. Inspection by competent inspector prior to site mobilization. Pre-start inspections by Crane Operators. Mobile Cranes will be inspected and tested annually as per the requirements of Driven Machinery regulations. Verification and validity of Operator competencies. Inspections must be recorded and available at the crane for verification Purposes.	**Unlikely**	**Critical**	**High**
	Incompetent operator and or driver.	Collisions, Load drop, over toppling of load. Fatal injuries, damage to or loss of equipment and materials.	Ensure Crane operator and rigger competency - certificate available. Conduct Planned Task observation on employees. Lifting study done for any lift in excess of 5 t. Ground stability and placement of outriggers considered. Outriggers used with designed base plates at all times. All employees removed from the slew radius and drop zone during the lift - guide ropes fitted and used.	**Unlikely**	**Moderate**	**Medium**

Incorrect use of Lifting tackle	Load drop, failing of equipment. Fatal injuries, damage to or loss of equipment and materials.	Lifting tackle will only be used by personnel trained and competent in the use of such lifting tackle. Safe Working Load of the lifting tackle will not be exceeded. Lifting tackle will only be used as per the intended design of such lifting tackle	**Unlikely**	**Moderate**	**Medium**
Unsupervised lifts	Collapse overturning of loads Fatal injuries, damage to or loss of equipment and materials.	No lifting operations may be done without the competent supervisor appointed for the site.	**Unlikely**	**Moderate**	**Medium**
Unstable ground/ working surface.	Overturning or collapse of loads Fatal injuries, damage to or loss of equipment and materials.	Lifting assessment must be done for all lifts to ensure the integrity of the working surface is adequate for the lift to take place. Out riggers must not be placed on any drain/manhole covers or any access or egress entrances to the pump station/ valve chambers below the surface.	**Unlikely**	**Moderate**	**Medium**
Uncontrolled pedestrians or site traffic.	Collisions with plant or pedestrians (people/ employees moving below suspended load Fatal injuries, damage to or loss of equipment and materials.	Drop zone, slew radius must be controlled by a competent rigger. Appropriate overhead/suspended load signage must be implemented before and during each lift.	**Unlikely**	**Moderate**	**Medium**
Existing overhead services	Electrocution, explosion and or Fire. Fatal injuries, damage to or loss of equipment and materials	Overhead services considered. Mobile Cranes will not be used near Live Electrical Conductors where the crane have a potential of coming closer than 10 m to the overhead conductor. (The voltage	**Unlikely**	**Moderate**	**Medium**

			and guidance from an electrical engineer must be utilise prior to the lift operation) Lifting, rigging plan in place with task specific risk assessments. Only competent trained personnel used, verification and proof available on site. Equipment service and relevant inspections in date.			
	Use of Mobile and or HIAB Cranes in high wind conditions.	Fatality Injury relating in permanent Disabilities. Damage to equipment and or materials.	Mobile and or HIAB Cranes will not be used in wind conditions exceeding 35K/hr. Mobile and or HIAB cranes operations may be suspended during low wind conditions dependant on type of load and nature of wind radius and drop zone during the lift - guide ropes fitted and used. Calibrated wind meter must be used to ensure the accuracy of the wind and wind gusts.	**Unlikely**	**Moderate**	**Medium**
Demolition of the building structure and or internal infrastructure.	Unplanned or uncontrolled collapse of structure undergoing demolition	Multiple death and serious injury	All demolition work to be supervised by our site supervisor. Designated exclusion zones to be established with barrier tape and banks men when dismantling the building. Designated exclusion zones to be established external to the site with barrier tape and banks men	**Unlikely**	**Critical**	**High**

			when working close to the perimeter of the site. Persons not directly involved are to be excluded including the public by means of a hording and warning signs as necessary. The elements of the structure that are prone to collapse is the roof structure and external walls. Competent and experienced supervisor and operatives to undertake works and be able to evaluate load bearing members.			
	Falling objects	Damage to property, injury or fatality	All loose debris to be removed from height. Eg. Debris to be removed from flat roof or tops of wall. The project is designated a hard hat site and appropriate hard hat signs and a barrier safe zone shall be put in place. Falling object protection must be fitted on demolition excavator plant. All high level demolition and soft strip will be performed by an excavator Competent and experienced supervisor and operatives to undertake works A watchmen shall be present outside of the hording when	**Unlikely**	**Critical**	**High**

		demolition works are being undertaken close the hording to direct pedestrians and provide safe passage. Temporary barriers maybe erected			
Unknown live services (Electrical, Water, compressed air and or Sewage)	Death, fire, explosion or burns	Gas and electricity supplies to site must be isolated before work commences. All services are to be treated as live unless identified from plans, Isolation certificates / isolation reports. A permit to work is to be is to be issued along with all isolation certificates prior to work.	**Possible**	**Moderate**	**High**
Gas cutting and burning	Death, fire, explosion or burns and ill effects on health which include: metal fume fever, siderosis, neurological damage, fluorosis, Respiratory/nasal irritation, emphysema, lung cancer, lead poisoning.	Eye protection, gloves and suitable clothing to be worn. Burning to be undertaken within the building is to be well ventilated by opening or removing all windows and doors in the area. Burning outside the confines of the building will have natural ventilation allowing any fumes to be displaced into the atmosphere. Ensure all staff who undertake cutting/ burning duties are competent to do so. Hot work to be supervised closely and undertaken only under A Hot Work Permit issued by principle contractor.	**Possible**	**Moderate**	**High**

		Work to cease one hour before end of shift. Compressed gas bottles are to be stored upright in a well-ventilated cage away from drains and secured and locked. Flashback arresters and non-return valves must be fitted to gas hoses and bottles Hose lengths should be kept to a minimum. Proprietary hose assemblies are to be used with hose connectors crimped.			
Glazing and broken glass	Serious injury to demolition operatives/public from falling glass or flying shards	Site personnel are to be protected from falling glass, by the use of exclusion zones and machine demolition Exclusion zones are to be established with barrier tape when breaking or removing glass. Glazing is to be broken inwards with an excavator. When safe, operatives will enter the work area and sweep and shovel glass fragments into the excavator bucket for disposal. Operatives clearing glass are to wear boots with mid sole protection, rigger type gloves and safety spectacles.	**Possible**	**Moderate**	**High**

General demolition and soft stripping	Serious injury to demolition	Competent Supervision and continual activity monitoring for hazardous situations. All employees must be competent to use power tools and or equipment for demolition. PPE to be worn All debris to be segregated and stockpile by plant ready for disposal. Exclusion zones to be established	**Possible**	**Moderate**	**High**
Hand held pneumatic tools	VIBRATION WHITE FINGER – painful necrotic affliction to the blood supply, bones and nerves in fingers caused by prolonged use of vibrating tools. Exposure to cold weather may exacerbate this condition.	Avoid exposure wherever this is reasonably possible. Reduced the time exposure wherever possible, with rest periods away from the vibration. Reduce vibration in tool through maintenance or selecting tools with a lower magnitude of vibration. Provide information & instruction on this subject to all operative who are exposed to it. (Include as a Toolbox Talk item). Regular Occupational Health monitoring of those employees most at risk shall be undertaken. Any employees who show any early signs of vibration white finger, shall not operate any tool or plant which may further expose them to this hazard.	**Unlikely**	**Moderate**	**Medium**

Asbestos – discovery during general dismantling and soft stripping	ASBESTOS – CROCIDOLITE (BLUE ASBESTOS), AMOSITE (BROWN ASBESTOS), CHRYSOTILE (WHITE ASBESTOS risk of : mesothelioma (death occurs within 2 years of diagnosis), lung cancer, asbestosis, Breathlessness, loss of lung elasticity, pain, rapid loss of weight.	A full asbestos survey shall be undertaken before the start of the project. If any operative discovers anything which he suspects contains asbestos, work must stop until the material has been analysed and declared safe or safely removed by a licensed contractor. The principle contractor will be notified and an asbestos removal contractor will be asked to deal with suspected ACM. 4. All non-notifiable asbestos works shall be undertaken in accordance with Asbestos regulations in the OSH ACT and Asbestos work place plan. All removal of ACM will be removed by experienced and trained personnel.			
Nuisance dust – free silica, cement dust, chrome from cement dusts, manmade mineral fibres, hardwood dusts, ordinary household type dusts and respiratory sensitizers'.	Irreversible health conditions and breathing difficulties	Control the cause of dust at source. Contain dust wherever possible by keeping the work area clean. Isolate areas to reduce the number of personnel exposed. Control with dust suppression measures (such as very fine water spray methods).	**Possible**	**Moderate**	**High**

			Good housekeeping to reduce airborne dust. Personal Protective Equipment (only to be considered as a last resort) Dust masks FFP2 Standard Eating, drinking and smoking shall be prohibited on site.			
	Noise	Deafness And Tinnitus	Noise to be controlled and reduced to as low as is reasonably practical through the careful selection of plant and method of demolition. When noise is believed to be above 80 dBA (i.e. when you have to raise your voice to be heard two metres away). Appropriate hearing protection to be issued and worn. Provide information, instruction and supervision when and how to correctly use hearing protection.	**Unlikely**	**Moderate**	**Medium**
Stacking, Storing and Stockpiling of material and equipment.	Improper stacking and storing (lack of competency, adequate space for stacking and storage, uncontrolled areas)	Staked articles will fall over. Fatal injuries Damage and or loss to equipment.	Conduct Task based Risk assessment for stacking and storage. Appoint a Competent person for to supervise stacking and storage on site. Stakeholder engagement to acquire designated stacking and storage facilities/area prior to any	**Unlikely**	**Moderate**	**Medium**

			deliveries, removal or hording of any materials or equipment. The area must be barricaded, sign posted with the appointed/responsible persons contact details. Formal weekly inspections must be done on stacked materials and or after inclement weather.			
	Improper stacking and storing of hazardous and or flammable materials/liquids (lack of competency, adequate space for stacking and storage, uncontrolled areas)	Fires, explosion and environmental impacts. Fatal injuries, damage and or loss to equipment.	Conduct Task based Risk assessment for storage of hazardous and or flammable materials/liquids. Appoint a Competent person for to supervise stacking and storage on site. Ensure that MSDS for all hazardous and or flammable materials/liquids are available. Stakeholder engagement to acquire designated storage facilities/area that is ventilated, bunded to contain 10% more of the stored quantity. Ensure that no interaction of combustible materials can occur. Appropriate firefighting measures must be available at all times. The area must be barricaded, sign posted with the appointed/responsible persons contact details.	**Unlikely**	**Major**	**Medium**

	Strong winds and or gusts.	Staked articles will fall over. Fatal injuries, damage and or loss to equipment.	Conduct Task based Risk assessment for stacking and storage. Appoint a Competent person for to supervise stacking and storage on site. Preventative measures must be taken to ensure that stacks and integrity of stacked materials are net compromised by strong winds. Inspection must be done and recorded after inclement weather conditions.	**Possible**	**Minor**	**Medium**
Connecting/disconnecting and or energising or de-energising existing services (Water, electrical and or sewage)	Electricity(Live wires, exposed conductor) Incompetent persons doing electrical installations	Electrocution, fires. Fatality and or serious injuries.	Ensure Electrical work is done when electricity supply is off. Lock and tag out procedure. Competent person must conduct the work. Conduct Planned Task observation on employees. Correct tools for the job. Use Personal protective equipment.	**Unlikely**	**Major**	**Medium**
	Sewage Spills and or leaks (Environmental impact) Health and safety hazard to humans.	Ill health conditions and infections. Environmental impact.	Competent person must conduct the work. Provide correct tools and equipment. Ensure spill kit is available if spill occurs.	**Possible**	**Minor**	**Medium**
	Pinch and nip points.	Medical treatment case.	Conduct DSTI. Use correct tools for the job.	**Unlikely**	**Minor**	**Low**

			Use Personal protective Equipment.			
	Over exertion and or awkward work positions.	Injuries and or ill health conditions.	Provide Ergonomic Risk Assessment. Provide correct tools, materials and or equipment to conduct the activity safely.	**Unlikely**	**Minor**	**Low**
Brick laying/plastering work	Incorrect Manual handling Techniques (Lifting, carrying, Pushing, pulling,)	Medical Treatment Injury	Think and plan lifting activities before commencing. (Depending on the task to be undertaken, a Risk Assessment is required.) If the assessed risk is too great, use mechanical aids or seek assistance. Adopt a stable foot position when conducting manual lifting activities. Grip the load firmly and keep it close to your body. Use the strong muscles of your legs to lift and not your back. (Aim to maintain the natural curves of your spine, thereby lessening the chance of injury to disks.)	**Possible**	**Moderate**	**High**
	Ergonomics (Bending, twisting, Prolonged, frequent, repetitive movements.)	Medical Treatment Injury	Ergonomics Risk assessment must be done by a competent person. Avoid extreme positions including bending, twisting and excessive reaching.	**Possible**	**Moderate**	**High**

Personnel falling from scaffolding/roofs	Lost Time Injury	Personnel performing elevated work trained in use of fall protection systems. Fall Protection Plan implemented. Attachment points must be clearly identified on the construction site, 100% attached at all time when working at heights. Medical screening to include check for epilepsy or any other condition that could place employee at risk. Employer to define and declare job descriptions before medicals - part of the employee dossiers. Planned Task Observations conducted on personnel working at heights. Employees to wear/use Safety Harnesses	**Possible**	**Moderate**	**High**
Falling from ladders	Lost Time Injury	Fall protection plan for all work that poses a fall risk. Assistant employee to hold ladder. 3-Point contact is required at all times when accessing any ladder. Ladders to be at least 1 metre above building height.	**Possible**	**Moderate**	**High**
Substandard Hand tools being used	Medical Treatment Injury	Appropriate tools used for the activity and training in correct use in place. All tools and equipment to be inspected at least monthly.	**Unlikely**	**Moderate**	**Medium**

			Daily Pre-use inspections done by Competent Supervisor on the DSTIs of his work crew. Continuous supervision in place.			
	Substandard Electrical Tools (e.g. Portable Electrical Grinders, Drills) being used	Lost Time Injury	All electrical equipment to be inspected by a competent person monthly and also daily in pre-use inspections. Verified competency training for any person operating electrically driven tools and equipment with proof of competency testing against the relevant unit standard. Task specific risk assessment to be in place and communicated. All tools to be inspected and checked before use, including use of correct cutting disk and backing plates. Grinders may only be used on solid surface, no working from ladders allowed. All electrically driven tools must be double insulated and must have a dead man switch fitted, it must not be possible to lock the equipment in the on position	**Unlikely**	**Moderate**	**Medium**
	Working in windy conditions	Fatality Injury relating in permanent disabilities	Employee must not work in hazardous windy/inclement weather. Calibrated wind meter must be on site.	**Possible**	**Major**	**High**

Hazardous chemical Substances	Handling of refrigerant and decommissioning of redundant equipment. (Removing old air conditioning equipment)	Fatality Serious occupational health incident	Safe work procedure for handling HCS. Training employees on the Material safety data sheet Procedure for Hazardous waste management. Provide and implement the Use of Personal Protective Equipment.	**Possible**	**Major**	**High**
	Flammable substances	Lost time injuries Fires and or explosions Serious occupational health incident	Safe work procedure for handling HCS. Training employees on the Material safety data sheet Procedure for Hazardous waste management. Provide and implement the Use of Personal Protective Equipment.	**Possible**	**Major**	**High**
	Handling of paint/sealant/solvents or abrasives	Fatality Serious occupational health incident	Safe work procedure for handling HCS. Training employees on the Material safety data sheet Procedure for Hazardous waste management. Provide and implement the Use of Personal Protective Equipment.	**Possible**	**Major**	**High**
	Cement and grout (HCS)	Occupational health incident	Safe work procedure for handling HCS. Training employees on the Material safety data sheet Procedure for Hazardous waste management. Provide and implement the Use of Personal Protective Equipment.	**Possible**	**Minor**	**Medium**

Access Scaffolding erecting, modifications and dismantling	Incompetent Scaffold Erectors and Inspectors	Fatality Injury relating in permanent disabilities	Only Appointed and competent Scaffold Erectors to build scaffolding. Ensure Scaffold Supervisors, Erectors and Inspectors are competent - competency certificate available	**Unlikely**	**Critical**	**High**
	Substandard Scaffolding Structures	Multiple fatalities	Scaffolding only erected and dismantled by competent personnel. Scaffolding erected under supervision of trained and competent scaffold supervisor. Scaffolding to comply with SANS 085 Standard.	**Unlikely**	**Critical**	**High**
	Objects, Tools and Equipment falling from heights	Lost Time Injury	All tools and equipment to be fitted with lanyards when working at heights. Area below overhead work barricaded. Staggered personnel during passing of material to higher levels. Work supervised by competent and appointed supervisor. All tools being used in elevated positions to be fitted with Lanyards	**Possible**	**Moderate**	**High**
	Personnel falling from heights	Fatality Injury relating in permanent disabilities	Personnel performing elevated work trained in use of fall protection systems. Fall Protection Plan implemented.	**Possible**	**Critical**	**High**

			Attachment points must be clearly identified on the construction site, 100% attached at all time when working at heights. Medical screening to include check for epilepsy or any other condition that could place employee at risk. Employer to define and declare job descriptions before medicals - part of the employee dossiers. Planned Task Observations conducted on personnel working at heights. Employees to wear/use Safety Harnesses.			
Use of Portable Electrical Hand Tools	Unsafe and defective equipment (no machine guards, exposed conductor, broken switches or plugs)	Electrocution, electrical shock, fire and or explosion. Fatal injuries and damage to equipment	Provide safe and sound PET (Portable Electrical Tools) to employees. Competent person must inspect all tools monthly. Conduct pre inspection before use and keep record of the inspection. Report deviations and lock out deviated tools. Follow Safe Work Procedure for all PET. Do not work in hazardous environment with regards to Electrical equipment.	**Unlikely**	**Moderate**	**Medium**
	Untrained employees using portable electrical tools.	Electrocution, electrical shock, fire and or explosion. Fatal injuries and damage to equipment	Provide competent employees to operate portable electrical equipment.	**Unlikely**	**Moderate**	**Medium,**

			Conduct Planned Task observation on employees.			
	Working in hazardous areas.	Fire, explosion. Fatal injuries and damage to equipment.	Task risk assessment must be done prior to use of electrical equipment. SAP for PET operation and hazardous areas.	**Rare**	**Major**	**Low**
	Exposed Moving parts (nip and pinch points)	Loose clothing, fingers and or PPE can get caught by moving parts. Fatal injuries, Amputation and or serious injuries.	Daily safety task instruction must be done prior to all works. Ensure that no loose cloying, jewellery and or PPE is used while operating PET.	**Unlikely**	**Major**	**Medium**
	Hot parts during and after use.	Burns.	Provide SWP for PET. Communicate SWP with employees operating PET. Conduct Planned Task observation on employees.	**Possible**	**Minor**	**Medium**
	Debris, shavings coming from material being worked on.	Debris can get lodged in one's eye. Fires from hot shavings and or grinding sparks. Serious injuries, Damage to materials and or equipment.	Provide SWP for PET. Communicate SWP with employees operating PET. Conduct Planned Task observation on employees. Use Apron, safety spectacles, gloves and safety shoes when working with PET.	**Possible**	**Major**	**High**
	Noise	Noise induced hearing loss, affecting 3rd party	Identify Noise zones. Implement and provide the use of hearing protection.	**Possible**	**Minor**	**Medium**
	Vibration. (Hand arm)	Irreversible neurological disease and or medical treatment cases.	Conduct and ergonomic Risk assessment for the activity. Provide SWP for PET. Communicate SWP with employees operating PET.	**Possible**	**Moderate**	**High**

			Conduct Planned Task observation on employees.			
Construction vehicle and mobile plant (CVMP) operations	Limited operation space	Fatal incidents	Construction site specific traffic management plan must be developed and implemented.	**Possible**	**Major**	**High**
	Man machine interface	Fatal incidents	Construction site specific traffic management plan must be developed and implemented. Designated walkways for employees only.	**Possible**	**Major**	**High**
	Deviated/defective mobile plant	Fatal incidents	Pre mobilisation inspection must be done before plant arrives on site. Continual inspection and maintenance to be done on all CVMP	**Possible**	**Major**	**High**
	Incompetent operator and or driver	Fatal incidents	Only competent operators must be used for CVMP operations on site and for delivery and transportation.	**Possible**	**Major**	**High**
INHERIT HAZARDS AND RISK WITHIN THE WORKING ENVIRONMENT.						
Services in the area.	Unknown services in the vicinity (water and or electrical cables in the wall)	Fatality Damage to property.	Stakeholder engagement. Survey area for services Excavate cautiously where services are known.	**Unlikely**	**Major**	**Medium**
Adverse weather – cold and wet working conditions	HYPOTHERMIA – could require admission to hospital. Could increase the risks of accidents	HYPOTHERMIA – could require admission to hospital. Could increase the risks of accident	Ensure the provision of suitable welfare facilities that comply with the Construction Environmental Regulations. This will be Supplied by Principle contractor. Observe personnel and act when appropriate.	**Unlikely**	**Unlikely**	**Medium**

			In cold or wet conditions include this as a pre-briefing and a Tool Box Talk item.			
Transnet occupancy and or external occupants	Various Construction activities impacting the occupants of the building	Serious injuries	Stakeholder engagement.	**Possible**	**Unlikely**	**High**
COVID -19 HAZARDS AND RISK WITHIN THE WORKING ENVIRONMENT						
Work Place interactions	Health hazard-COVID-19	Contracting COVID-19 person to person transmission	Do not share tools / equipment, crockery/cutlery/towels/bedding or anything that can facilitate the spread of the virus. Masks have not been proven to definitively protect against every contagion. However, masks prevent a person from unconsciously touching their eyes, nose and mouth, so they may offer a measure of protection. Masks are for single use only, not to be worn two days in a row. Avoid touching your eyes, nose, and mouth and shaking hands with others. Cough or sneeze into a tissue and dispose thereof safely into a bin provided. Wash your hands frequently with soap and running water for no less than 20 seconds. If you have none available use a hand sanitizer with at least 70% alcohol. Apply social distancing principles, stay at least 1.5m away from people/employees were possible.	**Possible**	**Major**	**High**

			Avoid crowds and gatherings. Clean frequently touched objects/surfaces. The following cleaning products can be used: Hypochlorite (e.g. Household Bleach) Alcohol (70%) Hydrogen Peroxide Phenolic Compounds Quaternary Ammonium Compounds			
	Occupational Health (Ill health and COVID 19 infection)	Older workers 60+ workers with underlying auto-immune or chronic diseases (note that workers may be symptom free but infected with Covid-19) Not declaring chronic illness as per Transnet Guidelines for Employees with Chronic Illness	Testing using Thermometers prior to going to site Informing line Manager if there are any symptoms Screening and valid certificate of fitness on return to work Daily completion of screening /return to work questionnaire. Symptomatic employees to be isolated and sent for testing. Declaration of Chronic illness as per Transnet Guidelines for Employees with Chronic illness	**Possible**	**Critical**	**High**
	Contaminated facilities (e.g. door handles, counters, etc.)	Contracting COVID-19 person to person transmission	Wearing of masks at all times to prevent touching of eyes, nose and mouth Wearing of gloves at all times Utilization of sanitizers with at 70% alcohol Washing of hands frequently with soap and water for at least 20 min Cleaning and Disinfecting the vehicle prior to boarding	**Likely**	**Major**	**High**

	Using public sanitary facilities	Contracting COVID-19 person to person transmission	Wearing of masks at all times to prevent touching of eyes, nose and mouth Wearing of gloves at all times Utilization of sanitizers with at 70% alcohol Washing of hands frequently with soap and water for at least 20 min	**Likely**	**Major**	**High**
Travelling to site by Road	Be in contact with someone who is visibly coughing, sneezing, sick person	Occupational Health (Ill health and COVID 19 infection)	Wearing of masks at all times to prevent touching of eyes, nose and mouth Utilisation of sanitizers with at 70% alcohol.	**Possible**	**Major**	**High**
	No compliance to government gazetted regulation on transport (i.e. maximum allowable capacity exceeded	Occupational Health (Ill health and COVID 19 infection)	Keeping a social distance of at least 1.5m Avoid shaking hand, hugs and kissing Washing of hands frequently with soap and water for 20 min Cough, sneeze in a tissue and throw away to a provided bin Adherence to vehicle 70% or less capacity Vehicles sanitised between trips; hand sanitiser provided for Passengers.	**Possible**	**Major**	**High**
Utilisation of Public Transport	Maximum allowed capacity exceeded; No facilities for sanitising vehicles and passengers; No additional protective measures available, e.g. face masks; Unlicensed drivers and operators	Spreading of virus and contact with virus causing infection	Selection and provision of transport services compliant with gazette requirements Policy and procedures and rules for travel Where possible to limit the use of public transport, or to arrange selective methods of transport Ongoing toolbox talks	**Possible**	**Major**	**High**

			Supply of cloth masks to be worn when travelling or moving on and off site Vehicles sanitised between trips Provision Hand sanitisers			
Sleeping at the hotel, bed and breakfast	Be in contact with someone who is visibly coughing, sneezing, sick person Contaminated facilities and surfaces (e.g. door handles, counters, etc.) Using sanitary facilities	Spreading of virus and contact with virus causing infection	Do not share crockery, cutlery, towels, bedding, or anything that can facilitate the spread of the virus. Utilisation of sanitizers with at 70% alcohol Keeping a social distance of at least 2m Washing of hands frequently with soap and water Throwing away used tissues	**Possible**	**Major**	**High**
Site preparation	Not trained on COVID 19 Post lockdown Construction Health and Safety Guidelines COVID 19 Compliance Officer not appointed	Spreading of virus and contact with virus causing infection Ill health and COVID 19 infection	Daily COVID 19 topic Tool box talk Induction/Awareness Inspection to assess condition Revised policies Revised Method Statements Revised Risk Assessments Decontaminate the site, in affected areas; Ensure the availability of hand washing facilities and sanitizers, throughout the site, and at entrances. Appointment of the COVID 19 Compliance Officer	**Possible**	**Major**	**High**
	Contaminated facilities and surfaces (e.g. door handles, counters, etc.)	Spreading of virus and contact with virus causing infection Ill health and COVID 19 infection	Inspection to assess condition Utilisation of sanitizers with at 70% alcohol Washing of hands frequently with soap and water for at least 20 min Ensuring that the room is clean and Disinfected prior to use	**Possible**	**Major**	**High**

Waste Management	Not discarding waste properly and or regularly	Spreading of virus and contact with virus causing infection Ill health and COVID 19 infection	Provide waste management plan that includes Bio hazardous waste (Regulations of Biological agents) Keep record of waste disposal. Provide separate waste containers with closable secure lids. Ensure that waste areas are clearly demarcated. Training and waste management awareness.	**Unlikely**	**Major**	**Medium**
Performance of construction activities on site	No access control	Ill health and COVID 19 infection	Monitoring of access and egress Body Temperature testing using Thermometer Alcohol testing using cleaned and disinfected disposable mouthpiece straws	**Unlikely**	**Major**	**Medium**
	Visitors visiting site unannounced or non-essential visitors	Ill health and COVID 19 infection	Non-essential visitors are not allowed Visitors to be informed in advanced of site screening tests Required and adequate PPE to be worn prior to entering the site Visitors to bring their own PPE Visitors to be accompanied by the Site Supervisor	**Unlikely**	**Major**	**Medium**
	Sharing of tools and equipment	Ill health and COVID 19 infection	Planning of work to minimise contact Employees to be issued with own tools and/ or equipment, no sharing is allowed Wearing of masks at all times to prevent touching of eyes, nose and mouth Wearing of gloves at all times Utilisation of sanitizers with at 70% alcohol	**Possible**	**Major**	**High**

			Washing of hands frequently with soap and water for at least 20 min			
	Conducting meetings traditionally	Ill health and COVID 19 infection	Wearing of masks at all times to prevent touching of eyes, nose and mouth Wearing of gloves at all times Utilisation of sanitizers with at 70% alcohol Washing of hands frequently with soap and water for at least 20 min Keeping a social distance of at least 1.5metres Avoid shaking hand, hugs and kissing Cleaning and disinfecting area prior to utilising Use of teleconferencing Holding meetings in an open area (if possible)	**Likely**	**Major**	**High**
	Not adhering to social distancing protocol	Ill health and COVID 19 infection	Keeping a social distance of at least 1.5metres, **where not possible**, Demarcation and spacing of queueing areas; segregation of queueing areas and public outside site perimeters; Meeting/eating areas to be large, enough to maintain 2m distance at maximum occupancy Intense monitoring	**Possible**	**Major**	**High**
	Absence of Signage (Unauthorized entry to site and work areas). Acts and behavior that compromises worker)	Compromising workers health (contamination) leading to infection with COVID 19	Installation of posters and signage with the site rules and protocols that need to be maintained at strategic points. Intense	**Unlikely**	**Major**	**Medium**

			Supervision and adequate awareness training required. Disciplinary steps will be taken against transgressors.			
	Use, Maintenance and Disposing of Personal Protective Equipment (PPE)	Training not provided on using or wearing PPE; Non-maintenance of PPE; and Incorrect disposing off PPE Ill health and COVID 19 infection.	No employees are allowed to come to site without wearing PPE or wearing inadequate/inappropriate PPE Issuing of re-usable masks Cloth masks must be wash and ironed Adequate training must be provided in the correct use and disposal of cloth masks Masks to be worn for the entire duration on site Single use must be disposed properly Provision of sealable disposal containers/bags through appropriate waste removal company Where possible face shields should be used to protect mouth, nose and eyes. Regular cleaning of face shields required. No sharing of PPE is permitted. Adequate supervision COVID PPE does not replace conventional PPE	**Unlikely**	**Major**	**Medium**

6. Implement the Additional Risk Controls Identified		
If no Preventive Action was raised, indicate briefly what additional risk controls from Step 6 above were implemented, when and by whom.		
Risk control:	Date:	Implemented by:
Risk control:	Date:	Implemented by:

7. Monitor and Review the Risk Controls		
It is important to monitor risk controls and review risk assessments regularly. Review is required when there is a change in the process, relevant legal changes, and where a cause for concern has arisen. Reviews could be scheduled on an annual basis. If the risk assessment has substantially changed a new risk assessment is warranted.		
Review date:	Reviewed by:	Authorised by:
Review date:	Reviewed by:	Authorised by:

8. Documentation
See Legal Register for all applicable legislations, regulations, codes of practices & guidelines.

9. Annexure 1 – Risk Matrix

Likelihood	Consequence				
	Insignificant	Minor	Moderate	Major	Critical
Almost Certain	Medium	Medium	High	Extreme	Extreme
Likely	Low	Medium	High	High	Extreme
Possible	Low	Medium	High	High	High
Unlikely	Low	Low	Medium	Medium	High
Rare	Low	Low	Low	Low	Medium

Assessed Risk Level	Description of Risk Level	Action Required
Low	If an incident were to occur, there would be little likelihood that an injury would result	Undertake the activity with the existing controls in place
Medium	If an incident were to occur, there would be some chance that an injury requiring First Aid would result	Additional controls may be needed
High	If an incident were to occur, it will be likely that an injury requiring medical treatment would result	Controls will need to be in place before the activity is undertaken
Extreme	If an incident were to occur it, it would be likely that a permanent or death would result	Consider alternatives to doing the activity. Significant control measures will need to be implemented to ensure safety

Likelihood	Desciption of Likelihood		Consequence	Description of Consequence
1. Rare	Will only occur in exceptional circumstances		1. Insignificant	No treatment required
2. Unlikely	Not likely to occur within the foreseeable future, or withing the project lifecycle		2. Minor	Minor injury requiring First Aid treatment (e.g. minor cuts, bruises, bumps)
3. Possible	May occur within the foreseeable future, or within the project lifecycle		3. Moderate	Injury requiring medical treatment or lost time
4. Likely	Likely to occur within the foreseeable future, or within the project lifecycle		4. Major	Serious injury (injuries) requiring specialist medical treatment or hospitalisation
5. Almost Certain	Almost certain to occur within the foreseeavle future or within the project lifecycle		5. Critical	Loss of life, permanent disability or multiple serious injuries

Annexure F: Question & Answer Sheet

_____ hereby acknowledge receipt of ***The Question & Answer Sheet to be utlized as a standard platform for Questions & Answers,*** *Answers will be shared with Prospective Tenderers as follows;*

1) 3 Days after the Compulsory Brieing Session
2) On a 3 Business Day interval after the **First set of Q&A's**

Tenderers are requested to note that the cut off date for questions is ***6 Business Days before for closing date****, to afford Transnet the Three (3) Days required to respond.*

TRANSNET NATIONAL PORTS AUTHORITY TENDER NUMBER: TNPA/2024/06/0007/67960/RFP DESCRIPTION OF THE WORKS: PROVISION OF SERVICES TO UPGRADE THE EXISTING TRANSNET NATIONAL PORTS AUTHORITY (TNPA) NATIONAL FIRE SERVICE INFRASTRUCTURE AND EQUIPMENT PROJECT (PHASE 2A) IN THE PORT OF CAPE TOWN FOR A PERIOD OF 1 (ONE) YEAR	TRANSNET

Provision of services to upgrade the existing Transnet national ports authority (TNPA) national fire service infrastructure and equipment project (phase 2a) in the Port of cape town for a period of 1 (one) year	
QUESTION AND ANSWER SHEET	
Q1	
A1	