SPECIFICATION FOR BOUNDARY WALL REPAIRS WITHIN TRANSNET ENGINEERING FOR UITENHAGE AND SWARTKOPS DEPOT.

Contents

1. Scope of Work

The Gqeberha and Kariega areas in the Eastern Cape has recently experienced severe adverse weather which has damaged civil structures at the following depots:

1. Uitenhage Main Centre:
    - Boundary Wall Collapse

2. Swartkops Locomotive Depot

   -Boundary Wall Collapse

This specification requirement covers all the requirements that will be needed to inform the supplier/vendor/manufacture/service provider to carry out what is expected from him/her:

This specification states the minimum requirements relating to the service and in no way absolves the contractor from responsibility for sound maintenance engineering practice. Any omissions or sub-standard requirements of this specification must be brought to the attention of Transnet Engineering Contract Manager at tender stage and optional prices for addressing such omissions must be provided.

2. Specific Requirements:

- Comply with the Occupational Health and Safety Act (Act85 of 1993), as amended.
- Adhere to the Construction Regulations of the Occupational Health and Safety Act (Act 85 of 1993), as amended.
- Comply with any Environmental Legislative requirements relating to the scope of work, namely National Environmental Management Act (NEMA), Act 107 of 1998.
- The contractor to have SHE INDUCTION and have valid permits when entering Transnet Engineering.
- The contractor to have a SHE FILE, SITE INSTRUCTION BOOK on site at all times.
- All measurements and amounts must be stipulated in quote.
- Contractor's name board will always be visible.
- A supervisor will always be on site.
- Baseline Risk Assessment assessing the potential risks associated with the scope of work to be provided as part of the SHE file.
- SHE Management Plan to be provided as part of the SHE file.

- The correct PPE for all hazards that the contractor's employers may be exposed to, must always be worn.
- Failure to comply will result in a non-conformance followed by a SHE Stop Certificate being issued, and the supplier will be required to leave the site until the situation is rectified.
- All scaffolding used to be SANS approved. (SANS 10085-1:2004)
- All employees who will be working at height to have medical fitness certificate to declare employee fit to work on heights, and proof of working at heights competency training thereof.
- Valid letter of good standing with Workman's Compensation.
- Comply with Transnet SHE Specification for contract work Version 02.

3. Technical Requirements:

All equipment and installation whether detailed in this specification or not shall comply with the requirements of the Occupational Health and Safety Act 85 of 1993 as amended. Sudden power losses will not have an adverse effect on equipment and shall not unduly delay return to operation after power is restored.

4. Specific Requirements:

	REQUIRED
	Specifications for Boundary Wall Repairs
	1. General Requirements **All work must comply with relevant South African National Standards (SANS) and local regulations.** The contractor must ensure that materials and workmanship conform to SANS 10400: The application of the National Building Regulations. Safety measures must be implemented to protect workers and the surrounding environment during the repair process. **2. Materials** **Concrete Slabs** Concrete: Compressive strength of 25 MPa at 28 days.

	REQUIRED
	Reinforcement: As per design specifications, typically using high-tensile steel rebar conforming to SANS 920. Standards: Must comply with SANS 10100-2: The structural use of concrete - Part 2: Materials and execution of work. **Bricks and Mortar** Bricks: Burnt clay bricks conforming to SANS 227: Burnt clay masonry units. Mortar: Mix ratio of 1 part cement to 4 parts sand (by volume), conforming to SANS 2001-CM1: Construction works - Part CM1: Masonry walling. Plaster: Mix ratio of 1 part cement to 5 parts sand (by volume), conforming to SANS 2001-EM1: Construction works - Part EM1: Cement plaster for walls. Cement: Ordinary Portland Cement conforming to SANS 50197. **3. Preparation** **Site Preparation** Clear debris from the collapsed walls. Ensure the foundation and surrounding area are stable and ready for reconstruction. **Foundation Inspection** Inspect the existing foundation for any damage or instability. Repair or reinforce the foundation as necessary to ensure it can support the new wall structure. **4. Repair of Concrete Slab Wall** **Reconstruction**

	REQUIRED
	Foundation: Ensure the foundation is level and capable of supporting the new wall. If necessary, cast a new concrete footing with proper reinforcement as per SANS 10100-2. Slab Installation: Erect new or salvaged concrete slabs, ensuring they are level and plumb. Secure slabs with appropriate anchors and reinforcing bars as needed. Reinforcement: Use steel reinforcing bars, conforming to SANS 920, to tie the slabs together and provide structural stability. **Joint Sealing** Sealing: Seal joints between slabs with a suitable flexible sealant conforming to SANS 10160: Basis of structural design and actions for buildings and industrial structures. **5. Repair of Brick and Mortar Wall** **Reconstruction** Foundation: Ensure the foundation is level and capable of supporting the new wall. If necessary, cast a new concrete footing with proper reinforcement as per SANS 10100-2. Bricklaying: Lay bricks in a stretcher bond pattern, ensuring proper alignment and level. Use a mortar mix conforming to SANS 2001-CM1. Reinforcement: Incorporate wall ties and reinforcing bars, especially at corners and junctions, as per SANS 10164: The structural use of masonry. **Plastering** Surface Preparation: Clean and dampen the brickwork before applying plaster. Plaster Application: Apply a base coat of plaster, followed by a finishing coat, ensuring a smooth and even surface. Plaster mix must conform to SANS 2001-EM1. **6. Finishing** **Curing** Ensure proper curing of concrete and mortar by keeping the surfaces moist for at least 7 days. Use curing compounds or cover with plastic sheeting to maintain moisture. **Surface Finishing** For concrete slabs, ensure smooth and even surfaces. For brick and mortar walls, ensure a uniform plaster finish without cracks or imperfections.

	REQUIRED
	Uitenhage Additional Scope – Boundary Wall
	1. Scope of Work This specification outlines the repair of a 50-meter-long concrete slab boundary wall, which has become unstable due to the water table. The scope includes the removal and reinstallation of all pillars, stabilization of the foundation, and vegetation clearing to allow access for repairs. All work shall comply with relevant South African National Standards (SANS). **2. Description of Works** **Site Preparation** The contractor shall clear all vegetation obstructing access to the wall. Vegetation clearance must be performed in a manner that minimizes environmental impact. **Removal of Existing Structures** Carefully remove all existing pillars along the wall without damaging the adjoining concrete slabs. Mark and safely store all reusable materials or dispose of damaged materials as per environmental regulations. **Foundation Works** Excavate to a depth sufficient to mitigate issues arising from the high water table. Stabilize the foundation using a suitable method, such as the installation of a drainage system or compacted stone layers, in compliance with SANS 10400-H (Foundations). **Reinstallation of Pillars** Reinstall all pillars, ensuring proper alignment and structural stability. Use high-strength concrete as per SANS 10100-2 (Structural Use of Concrete). Ensure appropriate reinforcement in pillars per SANS 920 (Steel Bars for Concrete Reinforcement). **Reassembly of Concrete Slabs** Reattach the concrete slabs securely to the reinstalled pillars. Use corrosion-resistant fasteners in compliance with SANS 1700.

	REQUIRED
	Drainage Improvement If necessary, install a drainage system along the wall to divert water and reduce hydrostatic pressure. **Finishing** Refinish the wall surface to its original appearance. Ensure any coatings or paints comply with SANS 1090 (Protective Coatings).
	3. Standards Compliance The contractor must comply with the following South African National Standards (SANS): 1. SANS 10400-H - Foundations 2. SANS 10100-2 - Structural Use of Concrete 3. SANS 920 - Steel Bars for Concrete Reinforcement 4. SANS 1700 - Mechanical Fasteners 5. SANS 1090 - Protective Coatings 6. SANS 1921 - Construction and Management Requirements for Works Contracts
	4. Contractor's Responsibilities ▪ Site Safety: Ensure compliance with the Occupational Health and Safety Act (OHSA). ▪ Waste Management: Properly dispose of debris, vegetation, and non-reusable materials. ▪ Equipment and Materials: Supply all equipment, tools, and materials necessary for the repair. ▪ Inspections and Testing: Conduct inspections and material tests per SANS requirements, providing test reports for approval.
	5. Quality Assurance All materials and workmanship shall comply with the relevant SANS standards.

	REQUIRED
	Submit detailed method statements and quality control plans for approval before commencing work. Perform post-repair stability testing of the wall to demonstrate compliance with structural requirements. **6. Environmental and Legal Compliance** Vegetation clearing and waste disposal must comply with local environmental regulations and the National Environmental Management Act (NEMA). The contractor shall obtain necessary permits for working near sensitive water table areas.
1.	**Safety, Health, Environment, Risk, Quality (SHERQ) and Responsibility**
6.1	The contractor will be required to provide an issue-based Risk Assessment depending on the nature of activities to be undertaken on site within Transnet premises.
6.2	The contractor accepts full responsibility for its staff's actions and will ensure that such actions at no time place the staff or property of Transnet Engineering at risk.
6.3	Should the contractor's workers participate in strikes, marches, riots or any other actions which fall outside their duties, it is the contractor's responsibility to control its personnel, restore order or, if necessary, to remove them from Transnet Engineering premises.
6.4	The contractor must discourage its workers from participating in any actions, such as mentioned above, whether these are initiated by staff of the institution concerned, or by any other outside body. In the event of actions such as mentioned above, it is the responsibility of the contractor to calculate revised invoices and present them for payment at the end of the month in which only partial service was rendered.
6.5	The contractor accepts to provide Business Continuity Plans in an event of any disruptions which might impact providing the required service to Transnet.
6.6	The contractor accepts responsibility for any losses, which occur during the service in Transnet Engineering premises.
6.7	Where keys for access to areas of the site are required and keys are given to the contractor, the necessary care and responsibility for their safekeeping will be observed. The contractor must ensure that keys are not misused or used to allow access by unauthorized persons.