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Production Offices

REFERENCE No.: PEMM_SD_SPEC_004

TRANSNET ENGINEERING

(SOUTH DUNES WAGONS)

SCOPE OF WORKS FOR UNDERPINNING,
SPLITTING OF FOUNDATIONS & ROOFS
JOINTS INCLUDING STRENGTHENING
OF THE MAIN WORKSHOP & OFFICES
WITHIN TRANSNET ENGINEERING



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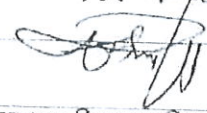
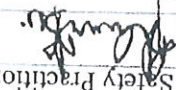


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Signature of Bidder/s: _____

Date: _____

Signature of Bidders/:

Date:

PEMM	Departments
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Engineering Technician	Designation
 Stanley Mchunu	Signature
29/03/2022	Reviewed by
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Maintenance Manager	Reviewed by
 Lindo Ngcobo	Signature
PEMM: Act Plant Engineer	Approved by
 Bongiwe Ngcobo	Designation
29/03/2022	Signature

Document Authorities

1. INTRODUCTION / SCOPE OF WORK

This specification is for the:

#	TASK	
1	Design	✓
2	Installation	✓
3	Documentation	✓
4	Testing	✓
5	Training	✓
6	Commissioning	✓

of the specified:

#	ITEM	REQUIRED
1	SCOPE OF WORKS FOR UNDERPINNING, SPLITTING OF FOUNDATIONS & ROOFS JOINTS INCLUDING STRENGTHENING OF THE MAIN WORKSHOP & OFFICES WITHIN TRANSNET ENGINEERING	✓

- Materials (scrap metal e.g., old lockers, frames, etc.) from the alterations and debris shall be carried away and site left unencumbered.
- The contractor shall notify the Project Manager every time when there is metal waste (scrap metal) ready to be disposed of.
- It is the responsibility of the contractor to transport the metal waste to a metal waste dumping site.
- Items described as "removed" shall mean removed from site.
- All the approximate measurements given by Transnet shall be verified by the tendering contractors on site visit or through consultation with the project manager.
- Bill of quantities is supplied; tenderers shall arrange with the projects manager to come and verify quantities on their own should they need.
- THE CONTRACTOR TO NOTE THAT THE FOLLOWING MATERIALS SHALL NOT BE REMOVED FROM TRANSNET ENGINEERING PREMISES DURING AND AFTER THE IMPLEMENTATION OF THIS PROJECT: COPPER, BRASS, ALUMINIUM, STAINLESS STEEL, CABLING, CABLING CUT-OFFS, BUSSBARS, TAP OFF BOXES, MOTORS, GEAR BOXES, CONTROL BOXES, TRANSFORMERS, TRANSFORMER AND MOTOR WINDINGS AND ALL OTHER METALS.

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2. SITE INSPECTION

2.1 All prospective contractors shall be required to undertake a compulsory site inspection to fully acquaint themselves with all aspects involved.

2.2 Arrangements to visit the site and confirmation of the date and time of the site inspection shall be made with Transnet Engineering Contract Manager.

2.3 The site inspection certificate shall be completed and countersigned by the Contract Manager on the day of the visit and must be submitted with the tender documents.

3. INFORMATION REQUIRED

3.1 Offers will not be considered unless full particulars and sufficient literature are provided at the tendering stage to enable Transnet Engineering Technical Officers the opportunity to assess each technical offer properly.

3.2 Prospective Contractors will complete the relevant questionnaire in full and must indicate whether their offer complies with each item of the specification

3.3 Should there be insufficient space for furnishing full details, contractors shall provide the additional details in their covering letter. The additional details shall be numbered in accordance with the applicable clause specified in the specification.

3.4 As prospective contractors are experts in their field, they are obliged to identify any shortcomings, such as omissions or sub-standard requirements, to the completeness of this specification. These must be brought to the attention of Transnet Engineering at tender stage with alternatives to address these shortcomings. However, each offer shall be quoted for separately.

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4. TECHNICAL REQUIREMENTS

The product shall be completed to the following scope of works and standards

- The building upgrades/modification: supply and delivery of materials, strengthening buildings, underpinning structures, pilling of foundations with its complete, testing and commissioning.
- This guide covers the erecting, altering, and dismantling of prefabricated frame modular scaffolding founded on the ground or another solid surface.
- Fully decked scaffolds over 25 m in height may exceed the design strength of the system and the design should be verified by an engineer competent in scaffold design.
- There may be prefabricated modular steel scaffolding designs (component or site-specific configuration) that require specific erection methods.
- ✓ For example:
 - scaffolds that require specific engineering designs, such as hung scaffolds, cantilevered scaffolds, loading platforms, birdcage scaffolds or scaffolds where the loads from one bay are transferred to the adjoining standards, e.g., spur scaffolds or scaffolds incorporating an access opening

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5. SPECIFIC REQUIREMENTS

Any person with the intention of tendering shall ensure that the information below is complied with. The requirements are binding.

5.1 DESIGN CRITERIA FOR ERECTION PLATFORMS

Erection platforms should comply with the criteria given below

TYPE OF ERECTION PLATFORM	CRITERIA	Compliance Yes (If complying) No (if not complying)
Ladder-based erection platforms (for scaffolding platform max 2m in height)	Load rating: minimum 120 kg. Stiles: minimum spacing 350 mm. Platform area: minimum 350 mm wide x 300 mm deep, including the ladder rung if it is at the same level as the platform. For erection platforms up to 1.2 m in height, incorporate a built-in mid-rail on the three non-access sides. For single ladder types the continuing stiles are considered as mid-rails. For erection platforms between 1.2 m and 2 m in height, incorporate guardrails on the three non-access sides.	
Erection platforms supported on ledgers/ guardrails (suitable for scaffolding platform spacing of up to 2 m)	Load rating: minimum 120 kg. Erection platform area: minimum 500 mm x 600 mm. On scaffolding edge sides, incorporate a built-in mid-rail.	
Scaffold planks supported on temporary transoms (suitable for scaffolding platform spacing of up to 2 m)	Platform area: minimum 2 x 225 mm wide scaffold planks.	

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5.2 GENERIC WORK SEQUENCE – SCAFFOLD ERECTING AND DISMANTLING

TASK: BREAK THE JOB DOWN INTO STEPS		ACTIVITY – ERECTION OF SCAFFOLD		Compliance Yes (If complying) No (if not complying)
Base out scaffold and erect base lift and first lift		<ul style="list-style-type: none">Prevent unauthorised access to scaffold area.One scaffold holds standards, while another places transoms and ledgers.Adjust screw jacks to level the scaffold.Erect transoms and ledgers for the first lift.Erect planks from below for the first lift.		
Complete first lift		<ul style="list-style-type: none">Install access stairway or ladder to platform for the first lift.If access is by stairway, ensure the stair access bay is erected with the run of the scaffold.Install edge protection comprising guardrail, mid-rail and toeboard or mesh panels to first lift.	Working from a fully planked platform on the first lift, install standards (where the standard joint is 1 to 1.5 m above the platform level), transoms, ledgers and hop-ups for the next lift above.	
Erect next lift from a platform			<p>Where using erection platforms</p> <ul style="list-style-type: none">Place an erection platform on the scaffoldWorking from the erection platform, erect standards (where the standard joint is 1 to 1.5 m above the erection platform level), mid-rails and guardrails for the lift above.	

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Signature of Bidders:	Date:
Dismantle scaffold	<ul style="list-style-type: none"> • Access the scaffold platform from a General precautions • Repeat erection sequence as per previous task. • Secure objects or remove unsecured objects from the scaffold. • Do not allow a scaffold to free stand more than 4 m above the ground or a row of ties. • Unless a specific engineering design is provided, fix the first row of ties no more than 4 m above the ground.
Erect next lifts	<p>Where using temporary edge protection</p> <ul style="list-style-type: none"> – Standing on the working platform (or an erection platform for lifts of 2.5 to 3 m), place planks within the transoms to form the above working platform. – Install ladder or stairway access to working platform above. – Access the above working platform. – Install next standards, guardrails and mid-rails. – Install toe boards (or other systems to prevent objects falling). – Install transoms and ledgers for platform above. – Standing on the working platform (or an erection platform for lifts of 2.5 to 3 m), place planks within the transoms to form the above working platform. – Install ladder or stairway access to working platform above. – Access the above working platform. – Install toe boards (or other systems to prevent objects falling). <p>Where using temporary edge protection</p> <ul style="list-style-type: none"> – Standing on the working platform (or an erection platform for lifts of 2.5 to 3 m), place planks within the transoms to form the above working platform. – Install ladder or stairway access to working platform above. – Access the above working platform. – Install next standards, guardrails and mid-rails. – Install toe boards (or other systems to prevent objects falling). – Unless a specific engineering design is provided, fix the first row of ties no more than 4 m above the ground. • Do not allow a scaffold to free stand more than 4 m above the ground or a row of ties. • Secure objects or remove unsecured objects from the scaffold. • Repeat erection sequence as per previous task. • Access the scaffold platform from a General precautions

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	<p>ladder or stair access – do not climb the standards, ledgers, and transoms.</p> <ul style="list-style-type: none"> • Maintain a tidy work area. • Do not overload the scaffold bays – progressively remove scaffolding equipment from platforms and stack it neatly on the ground. • Do not leave loose materials on platforms. • Do not throw down any materials or scaffolding equipment. • Remove chain wire mesh and shade cloth while working from a fully planked platform. • Work with a guardrail in place when removing and passing mesh panels down. • Work from a fully planked platform below when dismantling hop-up brackets, tie bars and planks. • Do not allow an unsheathed scaffold to free stand more than 4 m or a sheeted scaffold more than 2 m above the highest tie remaining in place. • Before lifting a toeboard, ensure the adjacent plank is held in place. <p>Dismantling sequence</p> <p>Note: Follow the below dismantling sequence if you are using erection platforms. If you are using temporary edge protection system, modify the dismantling sequence to suit.</p> <ul style="list-style-type: none"> • Access the top platform by stairway or ladder. • Start dismantling from an end bay. • Remove chain wire mesh and shade cloth, or mesh panels, from the level to be dismantled or from the whole scaffold if not required during the dismantling process. • Move down to the platform below. • Dismantle top platform planks.
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Signature of Bidder/s: _____

Date: _____

Items	Task	Compliance Yes (If complying) No (if not complying)
5.3.1	This specification covers the minimum requirements for building upgrades: supply and delivery of materials, strengthening buildings, underpinning structures, pilling of foundations with its complete, testing and commissioning.	
5.3.2	Design new bases for the modification of foundations	
5.3.3	Construct support columns to the existing structure	

5.3 STRUCTURAL AND CIVIL WORKS

<p>• Working from an erection platform on the fully planked platform, dismantle guardrails, mid-rails, ledgers, transoms and standards from the level above.</p> <p>• Step off the erection platform.</p> <p>• Dismantle the hop-up platform above, if in place.</p> <p>• Remove not more than three planks (ensure at least two planks remain) to enable the dismantled materials to be passed down to the next level (where they are to be temporarily stacked or removed from the scaffold).</p> <p>• If removing dismantled materials progressively down through the scaffold, ensure that the gaps created are not directly below each other and that planks are replaced when a gap is not being used to lower materials.</p> <p>• Remove ties progressively as the scaffold is dismantled.</p> <p>Progressively repeat this procedure until dismantling can be completed from the ground</p>	
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7.1 This specification states the minimum requirements relating to the work and in practice. Any omissions or sub-standard requirements of this specification must be brought to the attention of Transnet Engineering at tender stage and optional prices for addressing such omissions must be provided.

7. OTHER INFORMATION RELATED TO THE SCOPE

The Tenderers to be appointed under this Project must be registered with the CIDB Grading of 3CEPE or HIGHER registration, Potential suppliers can also tender to this project. TRANSNET ENGINEERING Durban does not award Projects to any company without proof of this registration.

6. CONSTRUCTION INDUSTRY DEVELOPMENT BOARD (CIDB) REGISTRATION

Note: All work to be completed in each respect by suitably qualified person.

- 5.5 Warranty
 - All parts and work must come with minimum 12 months warranty.
- 5.4 Testing
 - All installed scaffolding will be tested, and a certificate will need to be issued for use
- f. Working at height
- b. Slips, trips, and falls
- c. Manual handling
- d. Electrocution
- e. Cuts and bruises
- f. Wearing of safety harness

Because of the nature of work some risks will always be prevalent, these are:

5.3.4	Piling of the foundations	Underpin the foundation as per engineer's recommendations
5.3.5	Split and separate the roof structure joints as recommended by engineer	
5.3.7	Cast and split rear foundations and construct new joints	
5.3.8	Overall strengthening the main workshop and production offices	

Signature of Bidder/s: _____

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Prior to commencement of contract, the contractor shall be issued with a SHE specification in order to compile a SHE file in line with TE requirements. Prior to establishing on site, it is an explicit requirement of this contract that all of the Contractor's personnel directly involved with this contract, including those of sub-contractors, attend a Safety induction course. Transnet will provide the course free of charge and attendance is compulsory for all personnel under the control of the Contractor who, during the duration of the contract, will be present on site whether on a full time or adhoc basis. The contractor must allow for all additional charges because of these requirements as no claims for extras will be accepted in connection with the foregoing.

8.3 SHE SPECIFICATION

8.2 All the necessary safety equipment such as guards over rotating equipment shall be supplied and the equipment shall comply fully with all the requirements of the South African Occupational Health and Safety Act, Act 85 of 1993 and all other applicable legislation including specific set of regulations and local authority bylaws where applicable. At all times during the manufacture, assembly and testing of the equipment the contractor will be responsible for the safety of all persons on site and the equipment.

8.1 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 and all other applicable legislation including specific set of regulations and local authority bylaws where applicable. All equipment shall be designed to be fail safe.

8. HEALTH AND SAFETY REQUIREMENTS

7.5 Tenders must allow for monthly progress and clarification meetings on site initially and after commissioning for defect meetings when required. A meeting will be held after issuing of the tender to establish the exact scope and magnitude of the contract. No tender will be considered unless it has this certificate signed by the Engineer or his representative.

7.4 The Technical Officer reserves the right to have the proposal checked independently by a third party.

7.3 All offers shall be completed in every respect with this specification. Only completed tenders shall be considered

7.2 Any matter relating to this work, which requires a decision from Transnet Engineering shall be presented to the Project Manager in charge.

8.4 As part of the legislative and TE SHE requirements.

The successful contractor is required to conduct a Risk assessment to ascertain all potential risks associated with this project. The completed risk assessment is to be formally submitted to the Risk department via the project manager at least two weeks prior to the commencement of the actual project. A safety file and associated documents will be required from a successful tenderer and such will be communicated by the Risk department.

9. SPECIALIST SUB-CONTRACTORS

9.1 Only specialist sub-contractors who have previously successfully completed work of the type and extent specified in this document should be engaged. The tenderer shall provide the technical officer with sufficient proof of having suitable experience regarding the design and manufacturing of similar equipment. To this end, complete and detailed reference list shall be submitted with the tender. Reference list shall include addresses as well as contact person who may be visited for inspection of the equipment during the adjudication period.

9.2 The tender shall submit a complete list of proposed sub-contractors and suppliers of major components with his tender.

9.3 The tenderer shall be prepared to commit themselves in writing to the technical officer with an adequate, experienced and stable project team for the duration of the contract.

9.4 Transnet Engineering will not consider any Tenderer's offer that, in the sole opinion of Transnet Engineering, does not have adequate experience in the design and manufacture of such equipment.

9.5 Contractors shall do the installation simultaneously with other contractors on-site busy with other work and shall plan work that it integrates with other work performed.

10. MATERIAL AND WORKMANSHIP

10.1 The materials or equipment shall be offered complete in all respects.

10.2 The equipment, as made and supplied, shall be complete in every respect, of modern design, using the most advanced proven technology extensively supported by reputable local companies, and be built to good engineering practices. Tenderers shall supply a list of the entire main

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 14.1 The contractor shall be solely responsible for safety of his staff and for providing security to safeguard his works and material on site, until such a

14. SITE ESTABLISHMENT

13.1 The successful tenderer will be subjected to a workshop inspection by Transnet Engineering, to ensure that the facilities are to the satisfaction of the Transnet Engineering in terms of the quality control and equipment capabilities for manufacturing such type of equipment.
 13.2 The tenderers shall guarantee that the rating and size etc. of the equipment Offered, is adequate in order to perform the duties required.

13. GENERAL

CLIENT
 TECHNICAL
 OFFICER
 CONTRACTOR
 SABS
 SANS
 Transnet Engineering Durban
 Project Manager, Transnet Engineering Durban
 Contractor appointed under this specification document
 South African Bureau of Standards
 South African National Standard

12. DEFINITIONS AND ABBREVIATIONS

11.1 Tenderers shall indicate clause-by-clause either that they comply in every respect with the specific requirements, or if not, exactly how it differs.

Altitude	Sea level
Ambient temperature	0°C to 45°C
Relative humidity	50% to 100%
Atmosphere	Heavy saline

11. GENERAL REQUIREMENTS

10.3 All parts and components shall be adequately protected against damage and corrosion during shipping, transport and storage.
 Should any of the items called for be standard equipment, then the words "Standard Equipment" shall appear against the item.
 components (mechanical, electrical etc.) proposed as well as the addresses of the local support companies

Date:

Date:

Date:

Date:

All prices **exclude** Vat and additional items listed (with prices) shall be clearly labelled as optional or essential.

15.1 Due to the deliveries.

14.3 The contractor will be responsible for any damages caused by his staff to the building and civil works on site.

14.2 The contractor shall be required to attend site meetings when convened by the Project Leader controlling the contract.

17. TENDER EVALUATION CRITERIA

Technical Threshold

No.	Pre-Qualification Criteria	TECHNICAL DESCRIPTION (The technical evaluation will be used as a threshold. All bidders who do not meet the minimum threshold of 80% will not proceed to the final stage of evaluation.)	Weightings
1	Reporting Structure: Organogram to be used for this contract must include below personnel. • Staff credentials, minimum qualifications & HRETD/NOSA Certification with (CV's) to be used for this contract = 25 points NB: Staff to include but not limited to (Construction Project Engineer/ Manager, Scaffolding Inspector/erectors with working at height certificates, Safety officer & Structural Engineer and Civil Engineer)	Detailed project plan and clear lead time in Microsoft project version	25%
2	<ul style="list-style-type: none"> 1 to 5 months = 5 points Above 5 months = 1 points 		5%
3	Compliance to Transnet Engineering Specification (marked "Yes")	on the specification pages (7 to 12 & 18) = 10 points	10%
4	Methodology & Approach paper which responds to the scope of works & outlines proposed approach and methodology, besides meeting the good rating, the important issues are approached in an innovative & efficient way, indicating that the tenderer has outstanding knowledge of state-of-the-art approaches. The approach paper details ways to improve the project outcomes & the quality of the outputs: 30 Points The technical approach and/ or methodology is poor/ is unlikely to satisfy project objectives or requirements. The tenderer has misunderstood certain aspects of the scope of works and does not deal with the critical aspects of the project: 1 Points No response/ no documents submitted: 0 Points		30%
5	Specific knowledge relating to projects of this nature: • Previous experience for underpinning and foundation strengthening including erection of scaffolding works, preferable buildings, and workshops. • The contactable references letters shall only be for completed projects in the past 5 years. • 5 or more letters of completed projects = 20 points • 3 to 4 letters of completed projects = 10 points • 1 to 2 letters of completed projects = 5 points • Nothing submitted = 0 points		20%
6	SHE plan and requirements: The bidder must provide their health and safety plan and their environmental management policy and standard Engineering specific SHE specification requirements. OSHA 85 of 1993 and Transnet Engineering specific SHE specification requirements. NB: Information must be specific to this contract not a generic document		10%
Total Weighting:			100%
Minimum qualifying score required:			80

Signature of Bidders/:

Date:

18. COMPLIANCE TO THE SPECIFICATION VERIFICATION

ITS IS MANDATORY FOR ALL THE SUPPLIERS/BIDDERS TO COMPLETE THIS FORM. AN INCOMPLETE FORM WILL RESULT IN DISQUALIFICATION.

No.	Heading/Subsection	Comply		Comment
		Yes	No	
1	Scope of Works			
5	Works <ul style="list-style-type: none"> • TECHNICAL REQUIREMENTS • SPECIFIC REQUIREMENTS • DESIGN CRITERIA AND SCOPE OF WORKS FOR ERECTION PLATFORMS • GENERIC WORK SEQUENCE- SCAFFOLD ERECTING AND DISMANTLING • CIVIL & STRUCTURAL WORKS 			
5.3	Risks			
5.4	Testing			
5.5	Warranty			
•	Understanding of scope of work			
•	Technical approach and methodologies			
•	Quality control and quality assurance methods			

TENDERS: PLEASE NOTE THAT YOUR TENDER WILL BE REJECTED IF ANY OF THE ABOVE ITEMS ARE OMITTED OR NOT FILLED.

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