



REPAIR OF TRACK SLAB AT DENVER AND TOORONGA STATIONS



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1. NATURE OF WORK

1.1 Scope of work

The work that is to be carried out under the contract is as provided for in the Schedule of Quantities. This specification covers the repair of the damaged concrete track slab and replacement of fastenings at Denver and Tooronga stations. The Contractor shall do the work as directed by the Engineer or his representative and in accordance with the specifications set out in this tender/contract document.

Metrorail Gauteng Perway intends to repair some sections of the damaged in-situ concrete track slab, and replace missing fastenings at the following stations:

- Denver station, Platform 1 to 4
- Tooronga station, Platform 1 to 4

The work to be undertaken by the Contractor shall include the following:

1.1.1 Trackwork

- Replacement of rail fasteners (T11, T17 GPI's and E2006 clips).
- Align tampered gauge bars during theft and weld back to original position.

1.1.2 Concrete slab repairs

- Clearing of concrete rubble in-between rail tracks and cleaning out of all hydraulic structures including existing side drains and culverts.
- Saw cut the perimeter of the affected area around the holes 200mm deep and remove material within the saw-cut to sound concrete using a light jackhammer or chisel.
- Only light (handheld) mechanical equipment /light jackhammer or hand chisel shall be used to avoid damage to surrounding concrete. Care shall also be taken not to damage any exposed rebar. If reinforcement is fully exposed ensure concrete is removed at least 20mm behind.
- Excavate by hand below concrete slab to the bottom of each hole for soil sampling and testing of foundation structural layer.
- Remove all unsuitable material and replace with selected quality material in excavations for casting of concrete slab and dispose all rubble to a registered dumping site.
- Compact the in-situ layer on the box cut of each hole.
- Fill the rest of excavation with new G5 material, not exceeding 150mm at a time and compact to specification.
- First layer (200mm) compacted to 93% MODAASHTO (includes Geo-web)
- Second layer (200mm) compacted to 95% MODAASHTO
- Third layer (200mm) compacted to 98% MODAASHTO
- Repairs to the broken sections of in-situ concrete centre drains.
- Repairs to the damaged concrete slab by casting reinforced concrete and reinstate centre line drain concrete screed, ensure the slab is V-shaped and slopes to the end of both platform end for drainage purposes.



1.2 Prasa Rail has the right to adjust quantities/reduce scope of work to conform to any budget constraints.

2. SITE CAMP

The provision of services for the site camp is the responsibility of the Contractor to provide. The contractor should identify a suitable location for a site camp and propose this to the engineer on commencement of the works. The contractor should make due allowance for ensuring that suitable access is achievable especially for the transport of material to the site. Access to the site is by public roads. The Contractor must acquaint himself with the available access to the site and the condition of the roads during the site inspection. No housing of employees of the Contractor will be allowed on the property of PRASA, and the Contractor shall make his own arrangements for the housing of his employees.

3. SITE SERVICES

The Contractor shall make his own arrangements for the supply of water (for all purposes), light, power, sanitation and telephones, as required on the site

4. UNDERGROUND SERVICES

Various types of services, both overhead and underground, exist within the boundaries of the site.

4.1 Before work start on a section the Contractor must ascertain himself about services such as:

- a) Electrical underground cables
- b) Telecoms underground cables
- c) Underground Signalling cables
- d) Water pipes.

4.2 Before any excavations take place, the Contractor must contact the relevant department(s) to ensure their presence on site while excavating anywhere near the underground services.

4.3 The Contractor will be held responsible for the repair of any damage to all known services and assets.

5. CONSTRUCTION IN CONFINED AREAS

5.1 It may be necessary for the Contractor to work within confined areas and no additional payment will be made for work done in restricted areas. The method of construction in these confined areas will depend largely on the contractor's construction plan.

5.2 The tendered rates and amounts shall include full compensation for all special equipment and construction methods and for all difficulties encountered during working in confined areas and narrow widths, and at, around or through obstructions, and that no extra payment will be made nor will any claim for additional payment be considered in such cases.



The contractor will be held responsible when working in confined areas for the repair, at his own cost, of damage caused by him to any asset or service indicated to him.

6. FEATURES REQUIRING SPECIAL ATTENTION

6.1 Railway overhead powerlines

Overhead powerlines are present within the boundaries of the site. To perform certain works the contractor may require these to be switched off for a certain period, termed occupation. An application to this effect must be made to the client. Refer to project specification Occupation clause.

Only one line may be switched off at any time on any given route to allow trains to still use the remaining lines.

6.2 Existing Services

Various types of services, both overhead and underground, exist within the boundaries of the site. It is envisaged that it will be necessary for the Contractor to arrange for the removal, relocation or protection of existing services. Should any work become necessary then all work shall be done strictly in accordance with the requirements of the relevant service owner and in accordance with the requirements of these Works Specifications.

The procedures for the protection and/or relocation of such services are outlined in SPK7/1 specifications.

6.3 Construction in confined areas

It will be necessary for the Contractor to work within confined and restricted areas. No additional payment will be made for work done in such areas, despite indications to the contrary in the Standard Specifications.

6.4 Water for construction purposes

The Contractor must make adequate provision in their tender for all negotiations and procurement of water for construction activities and all related costs will be deemed to be included in his tendered rates.

6.5 Weatherproof Protection for Workers

All staff required to continue working during rain shall be provided with oilskins and rubber knee boots, or other approved protective clothing and footwear.

6.6 Night Work and Work on Public Holidays

Where the Contractor requires staff to do shift work, the contractor shall make the necessary arrangements with the Engineer and obtain written approval from the Engineer. The Contractor shall bear the cost of his overtime work.



6.7 Environmental Requirements

The Contractor shall perform the works in accordance with current environmental legislation. Any queries regarding this to be directed to the engineer.

Personnel and plant shall not enter property beyond the railway reserve boundary irrespective of whether or not the boundary is fenced.

The Contractor shall take every precaution to avoid damage to landscape plants within that area of the railway reserve which falls outside the designated work area. Any damage caused is to be repaired at the Contractor's expense.

Storage and stockpiling of materials within the railway reserve will not be permitted without the written consent of the Engineer. Excess material from excavations and waste material shall be spoiled off site at suitable locations.

6.8 Concrete

All concrete used on this contract shall be properly gauged and will be of a minimum 30mpa, and mixed using an approved mechanical concrete mixer, potable water, and clean materials. Concrete mixed by hand and concrete mixed using a backhoe-loader-tractor ("digger-loader"), will not be permitted. The engineer reserves the right to take test cubes of any concrete used on the contract. The Contractor shall remove any non-conforming concrete at his own cost and shall replace it with concrete conforming to the specifications. All concrete waste, material, rubble, scrap and rubbish arising from the contractor's presence on site/or the execution of work shall be disposed to a disposal site identified by the contractor and approved by the Engineer.

7. PROTECTION OF WORKPLACES AND SECURITY ON SITE

- 7.1. Protection of the workplace will be done by flagmen supplied by the contractor and all liaisons with Train Services shall be done by the contractor's supervisor or PRASA RAIL Track master.
- 7.2. It is the responsibility of the contractor to provide security on site for equipment, material, and personnel for the duration of the contract. Including security for site office and PRASA Infrastructure Assets within the envelope along the boundary limits)

8. REMOVAL OF SPOIL

No indiscriminate spoil of material is permitted. The tendered rate must include the removal of surplus or unsuitable materials to be spoiled at a site provided by the Contractor, away from the rail as to prevent further contamination of ballast and ensure adequate drainage. The local authority in whose area it is located shall approve the site, and the spoiling shall comply with the applicable statutory and municipal regulations. No material shall be disposed onto the platform and adjacent line.



9. LABOUR REQUIREMENTS

9.1. Use of local labour

Where feasible and practical, work opportunities on the contract should be provided for Local Labourers within the local communities residing close to the site of the Works. Labourers and workers of the local communities required by the Contractor shall be recruited and appointed for work. The Contractor shall provide for suitable means of transport of workers from local communities to and from the site of the works. The contractor shall make provision for appointment of Community Liaison Officer from the ward within the boundary limits of the project site

10. CONTRACT AREA

The contract area will be within the Gauteng Province.

11. SUFFICIENCY OF TENDER

- 11.1. The contract will only be awarded to a tenderer who has a proven record of wide experience in rail track rehabilitation works in South Africa.
- 11.2. The Contractor shall inspect and examine the site and its surroundings and shall satisfy himself with measurements, etc. before submitting his tender as to the form and nature of the site, the quantities and nature of the work, and material necessary for completion of the works, the means of access to the site, shall consider and consider any security and risks, contingencies and other circumstances that may influence, or affect his tender.

12. DURATION OF CONTRACT

The projected duration of the contract is 12 (Twelve) months on a fixed contract.

13. COMPLIANCE WITH STATUTES

The Contractor's procedures shall comply with all applicable legislation, Codes of Practice and Local, Regional or Provincial Authorities.

14. TO BE PROVIDED BY PRASA RAIL

The following services to be provided free of charge by PRASA RAIL where required:



- 14.1. PRASA RAIL will make available old, rejected ballast material where available next to the track that can be used in the base layer. The extraction and transport of the material shall be undertaken by the Contractor and the cost thereof shall be included in the rates.
- 14.2. A Site Access certificate. The Contractor will not be allowed to start with any part of the contract on site before a signed certificate has been issued.

15. TO BE PROVIDED BY THE CONTRACTOR

- 15.1. In addition to all labour, materials, plant, equipment and incidentals needed to complete the work, the Contractor shall provide all accommodation and toilet facilities for his employees.
- 15.2. The Contractor shall provide at his own cost any security measures he may deem necessary for safe and effective execution of the work within the contract area for the duration of the contract.
- 15.3. The Contractor shall provide at his own cost a Site Instruction Book, a Site Dairy and a Safety File to be handed to the Technical Officer at the award of the contract. Work will not be allowed to commence without proof that the Safety File was approved by the PRASA Risk department.
- 15.4. A work program shall be submitted to the Technical Officer within 1 week from the date of the acceptance of the tender in the form of bar chart with sufficient detail to show clearly how the works will be performed.
- 15.5. The contractor is responsible to appoint the safety officer fulltime on site whose sole responsibility will be to manage and monitor safety related issues on site.
- 15.6. It is the responsibility of the contractor to provide security on site for equipment, material, and personnel for the duration of the contract.

16. STANDARD SPECIFICATIONS

The following specifications, instructions and documents shall, inter alia, form part of this contract:

- (i) The project specification
- (ii) The schedule of quantities
- (iii) Specification for safety arrangements and procedural compliance with the Occupational Health and Safety Act: Act 85 of 1993 and Regulations E.4E
- (iv) General conditions of contract, SPK 5(SEPT 2008) (September 2008).
- (v) Specification for Works on, over, under or adjacent to Railway lines and near High Voltage Equipment, SPK7/1 (September, 1999).
- (vi) Manual for Track Maintenance 2000
- (vii) E10 Specification for Trackwork
- (viii) S410 Specification for Railway Earthworks
- (ix) S406 Specification for supply of ballast stone

The following relevant standardized specifications, as listed below, shall form the Standard



Specifications, and apply to this contract

- SABS 1200 A
- SABS 1200 D
- SABS 1200 G

17. METHOD STATEMENT

Contractor is requested to submit with their tender a method statement, in it the following should be outlined in detail:

- 17.1. Procedure in carrying out the work (construction methods)
- 17.2. Technical and Engineering capability (Certificates of Engineering staff)
- 17.3. All Resources (Labour, Plant, Equipment, Support and Outside Services) that the contractor proposes to use in the execution of the works

18. SAMPLES AND TESTING

The Contractor shall make available, free of charge, a sufficient quantity of material supplied by him, which are to be used for the WORKS, for quality verification by the engineer. Soil samples for foundation structural layers to be sent to a soil materials laboratory (SANAS approved) for testing as requested by the Engineer.

19. SITE MEETINGS

Site liaison meetings will be arranged by the Engineer as necessary. The Contractor or his duly authorized representative shall be available when called upon to attend site meetings with the Engineer or his representative.

20. SITE INSTRUCTION BOOK AND SITE DIARY

The contractor to provide a site instruction book for any instructions that need to be issued on site. The Contractor will have to sign for all instructions issued and will be issued with copies of the instructions.

The contractor will be responsible for keeping a site diary with all information related to the contract. This diary will have to be kept to make record of rain delays, production for the day, visitors to the site, expected date of material delivery, material delivered daily, labour and plant on site each day, etc. This will have to be filled in daily.

21. HOURS OF WORK AND DAYS OF DUTY



- 21.1. Work shall proceed during weekdays from 07h00 to 16h30 and or over weekends from 07h00 to 17h00. Most of work will be done during the week and over-time, work on public paid holidays, Saturdays and Sundays shall only be required in exceptional cases.
- 21.2. Work outside of normal working hours shall not be paid against overtime rates unless:
- 21.3. Agreed upon by the Project Manager in writing before the start of the any project task.
- 21.4. The contractor can prove PRASA Rail's accountability for delays resulting in overtime being required.

22. OCCUPATIONS AND WORK PERMITS

Between trains occupations and work permits will be granted for the repair of track. The maximum duration of occupations/work permits will normally not exceed six hours nor be less than three hours. Occupations/work permits will normally be granted from 09:00 to 15:00 on weekdays. The Contractor shall apply for occupations/work permits, or "work between trains permits" 28 days in advance. Late applications will not be considered. Penalties for late completion will not be waived should the contractor not apply for occupations in time.

23. QUALITY ASSURANCE

The contractor must provide the Technical Officer with the results of compaction tests (soil material) and concrete cube tests (7&28 days) as randomly selected / required by the Technical Officer during the construction process. Work not approved as a result of non-compliance will have to be rectified by the contractor on his account

24. PERFORMANCE MONITORING AND EVALUATION

- 24.1. The Contractor shall at all times be responsible for supervision of the work and for follow-up instructions to monitor that the work is being done to specification. He shall immediately take appropriate remedial action, in areas where the specified standards are not achieved.
- 24.2. The Technical Officer shall at any time during the contract period carry out inspections of the Contractor's performance methods and procedures.
- 24.3. During these inspections' conformance to the standards of workmanship shall be evaluated.
Work that does not comply with the specified standards will be recorded as "rejected work" and will be subject to remedial action. The rejected work can only be contested by the Contractor at the time and place of rejection.



25. REMEDIAL WORK AND NON-PERFORMANCE

- 25.1. The Contractor shall implement immediate remedial action of rejected work.
- 25.2. In the case of inaction or non-conformance by the Contractor, PRASA RAIL reserves the right to implement remedial action and recover the cost from the Contractor.
- 25.3. In the case of failure by the Contractor to execute the work in accordance with the contract document, PRASA RAIL shall reserve the right to cancel the contract with immediate effect. Monies owed to the Contractor for work done and accepted up to the time of cancellation shall first and foremost be applied by PRASA RAIL to remedy the non-performance of the Contractor in terms of the contract for purpose of limiting damages to PRASA.

26. INFORMATION TO BE PROVIDED WITH TENDER

The Tenderer shall submit the following information at the time of tendering:

- 26.1. Full description of the plant and work methods to be used for all aspects of the work required ensuring performance as specified.
- 26.2. Whether the tenderer intends to work on Saturdays, Sundays or Statutory holidays or is prepared to work on such days if required to do so by PRASA.
- 26.3. The Schedule of Quantities and Prices must be completed in full.
- 26.4. An undertaking that all equipment will be ready for operation and that the work can commence timeously, to comply with requirements of the contract.
- 26.5. A detailed construction program shall be submitted with the tender.

27. MEASUREMENT AND PAYMENT

Claims for payment will be made on a monthly basis.

Any rejected or uncompleted work will not be paid.



All rates in the schedule of quantities must be made per unit as requested and should be all inclusive through rate, converting all the items described under "Measurement and Payments".

The rate quoted by the Tenderer(s) and accepted by PRASA Rail must hold good till the completion of the work and shall not subject to any escalation due to increase in the local market rates for materials & labour. No claim on this account whatsoever shall be entertained at any stage including the extended period, if any

Payment will be made in accordance with the rates tendered in the schedule of prices and as follows:

27.1. Site establishment..... Unit: Sum

A fixed rate for the Site Establishment, including the management and site supervision will be made in accordance with the relevant pay item under ITEM of the BOQ.

The Contractor shall allow in this rate for the work, travelling and effort associated with pre-inspection of site in order to quantify and identify the exact point of installation and associated materials required, discuss and confirm with the depot staff the extend of preparation required of PRASA Rail for each site.

27.2. Security on site..... Unit: Sum

The contractor shall make provision in this item to allow for security personnel on site. Minimum of three security officers (Including security for site office and PRASA Infrastructure Assets between the boundary limits)

27.3. Community Liaison Officer..... Unit: Sum

The contractor shall make provision in this item for appointment of Community Liaison Officer from the ward within the boundary limits of the project site.

27.4. Supply and install e2006 PS Clips..... Unit: Each

Each fastening installed and/or maintained will be counted

The rates tendered shall include the following:

- a) Removing damaged fastenings and replace missing fastenings with new fastenings.

27.5. Supply and install T11 GPI Insulator gauge plates.....Unit: Each

Each insulator gauge plate replaced will be counted

The rates tendered shall include the following:

- a) Removing damaged and replace missing insulator gauges with new insulator gauges.

27.6. Supply and install T17 GPI Insulator gauge plates..... Unit: Each

Each insulator gauge plate replaced will be counted



The rates tendered shall include the following:

- a) Removing damaged or missing insulator gauges and replacing with new insulator gauges.

27.7. Weld gauge bars Unit: Each

Each gauge bar welded will be counted

The rates tendered shall include the following:

- a) Fixing of misaligned gauge bars.

27.8. Clearing and cleaning of all hydraulic structures Unit: M³

- a) Soft material

The tender rate shall include full compensation for all labour, equipment, tools and transport required for clearing of vegetation, shaping and cleaning of existing open drains and disposal of the material to approved sites.

27.9. Demolish, removal and disposal off site of reinforced concrete..... Unit: M³

Saw cutting and trimming to all concrete slab affected areas for 200mm deep. Excavation and backfilling will be measured separately.

The rates tendered shall include the following:

- a) Removal of all rubble and disposing away from site to designated spoils area.
- b) Full compensation for all materials, labour plant, tools, equipment and for all work necessary for and incidental to the demolition of the structures.
- c) Full compensation for the disposal of all material in an approved disposal site within a freehaul distance of up to 1 kilometre.

27.10. Compaction of in-situ level..... Unit: M³

Compaction shall be done to the existing structural foundation in-situ layer.

The rates tendered shall include the following:

- a) The thickness, width and length of the compaction done.

27.11. Fill up excavated area with G5 Material..... Unit: M³

- a) Material in compacted layer thickness of 150mm or less:

- (iii) Compaction requirements, minimum in-situ dry density



All excavated formations shall be filled with a supplied G5 material in compacted layer thickness of 150 mm or less, compacted to 98% of modified AASHTO density unless otherwise specified by the engineer.

The tendered rate shall include full compensation for procuring and furnishing approved material from commercial suppliers, including the cost of transporting the material to the required location on the site, placing and compacting the material, and the protection and maintenance of the layer and the conducting of control tests, all as specified. No additional payment shall be made for the removal or disposal of oversize material, regardless of the volume of oversize material.

27.12. Compaction Tests.....

Unit: Each

Payment will be done for each compaction test done on completed work when asked to be done by the Technical Officer. Payment will only be done on tests that are equal to or above the specified MOD.AASHTO.

27.13. Steel reinforcement.....

Unit: Tons

Payment will be done for each reinforcement work including preparation, when asked to be done by the Technical officer.

27.14. Cast concrete to excavated formations.....

Unit: M³

Concrete shall be cast to all excavated formations after being filled with G5 Material. Concrete of 30mpa in strength and precast (No hand mixed concrete shall be allowed). The contractor shall allow in the rate the transport of concrete to the required site and casting of concrete.

The rates tendered shall include the following:

- a) The type of concrete supplied, quantity of the concrete filled and the concrete strength.

27.15. Cube Tests.....

Unit: Each

Payment will be done for each cube test done on completed work when asked to be done by the Technical Officer. Payment will only be done on tests that are equal to or above the specified MOD.AASHTO.

27.16. Installation of a new fibre grout screed.....

Unit: M³

Installation of a new fibre grout screed shall be done to top of centre slab and around/along the track. The screed to be V-Shaped and to flow to both ends of platform ends to allow for drainage purposes.

The rates tendered shall include the following:

- a) The length and width of the screed.



28. SAFETY

- 28.1. All work in this contract shall comply with the Occupational Safety Act No 85 of 1993, National Environmental management Act 107 of 1997 Act and construction regulation 2014. These items shall all be included in the tendered rates.
- 28.2. A copy of the act as well as an approved safety file shall be kept on site for the duration of the project.
- 28.3. The Contractor shall comply with all applicable legislation and PRASA's safety requirements adopted from time to time and instructed by the Project Manager. Such compliance shall be entirely at the contractor's cost and shall be deemed to have been allowed for in the rates or total prices in the contract.
- 28.4. The Contractor shall report all incidents in writing to the Project Manager. Any incident resulting in the death of or injury to any person on the works shall be reported within 1 hour of its occurrence and any other incident shall be reported within 24 hours of its occurrence.
- 28.5. All personnel employed by the Contractor shall have undergone a Health and Safety Induction.
- 28.6. Permits to work (in line with Covid-19 regulations) shall be issued at the cost of the contractor to all personnel on that shall be signed and stamped by the authorized PRASA Official responsible for Risk Management.
- 28.7. The contractor shall ensure that all COVID - 19 protocols are adhered to.
- 28.8. The Contractor shall make necessary arrangements for sanitation, water and electricity at these relevant sites during the installation of the equipment.
- 28.9. The safety file will be approved only after all the requirements on the checklist are met. WITS_LIB/RISK_MGT/SHE File Checklist (version 3) is attached in this regard.
- 28.10. All work shall always comply with the E7/1 Specification attached hereto.
- 28.11. Normal protection measures in accordance with the Protection Manual shall apply.
- 28.12. An effective safety procedure to be followed by all personnel on any work site in the case of approaching rail traffic shall be compiled by the Contractor and implemented before any work commences. This procedure shall be updated



whenever the need arises, and any changes shall be communicated to all employees on a works site before work proceeds.

28.13. The Contractor shall be responsible for the safety of personnel on site.

The following shall also form part of the safety plan:

- Transportation of equipment and personnel.
- Transportation, storage, and handling of hazardous equipment
- The site access certificate shall only be issued (to the successful bidder) after the evaluation and approval of the safety file.

28.14. It is the requirement of this contract that the contractor should provide PRASA with a detailed safety plan prior to being issued with a site access certificate, in accordance with the latest version of the OHS Act and the SPK7 and the E4E.

29. GENERAL

29.1. The Contractor shall ensure that all staff working on or with the contract are adequately trained, so as to comply with any relevant safety and quality requirements.

29.2. Flagman must be officially trained, evaluated and certified competent, (TETA - ASSR 463972 (Accreditation no: TETA 1186) and Transnet 407 – Item Number 37/270451 - "Certificate of Competency") by a designated competent person, before being used on protection duties. This certificate of competency shall remain valid for two (2) years only after, which re-testing and re-certification of competency will be required.

29.3. PRASA RAIL shall assist the contractor with the training of flagman.

29.4. Flagmen that are already qualified will be tested by PRASA representative and if found not competent will not be allowed to form part of the contractor's team.

29.5. PRASA Rail Regional Engineer remains ultimately responsible in terms of the requirements of Act 85 for the safe working environment of his/her own



personnel as well as contractor's personnel within the track maintenance environment on his/her depot.

- 29.6. The Regional Engineer is therefore also responsible for ensuring that any changes in the Protection Procedures that may occur over time are effectively communicated to any flagmen prior to them being used for Protection Duties.

30. PAYMENT CERTIFICATE

- 30.1.1. On or after the assessment date, the Supervisor and the Contractor will together assess the quantities of the progress on each item in the Bill of Quantities and complete the Progress Assessment Detail form, where after the Progress Assessment Certificate will be issued.
- 30.1.2. The Contractor shall then submit a VAT invoice and attach the above Progress Certificate for payment by the Employer.
- 30.1.3. Claims for payment will only be made on a monthly basis and payments will be made within 30 days of approved invoices.
- 30.1.4. Contractor to provide the Employer with the necessary details regarding banking details to enable the Employer to make electronic payments.

31. PRICING THE WORKS

- 31.1.1. The contractor is required to provide firm prices/ rates for material and labor for the duration of the contract.
- 31.1.2. The contract period shall be inclusive of the rehabilitation of service roads in the Gauteng Region on an "as and when" required basis for a period of 36 months.
- 31.1.3. The Contractor is advised to study the requirements of the SPK 7/1 and ensure that all works can be completed in accordance with these requirements.
- 31.1.4. The contract offer shall be based on the rates as indicated in the bill of quantities. The quantities shall be agreed during construction per section.



32. PENALTIES

- 32.1.1. If the Contractor fails to complete the Services within the time stipulated in this Contract for completion of Services or a part or portion of Services, the Contractor shall be liable to the Employer for an amount calculated at 0.05% of the Contract Price per delayed Day per order, which shall be paid for every day which shall elapse between the time for due completion and completion of the relevant Services. However, the total amount due under this sub-clause shall not exceed the maximum of 10% of the Contract Price.
- 32.1.2. The imposition of such penalty shall not relieve the Contractor from its obligation to complete Services or from any of its obligations and liabilities under the Contract,
- 32.1.3. PRASA may set off or deduct from the fees due to the Contractor any penalty amounts due and owing by the Contractor in terms of clause 32.1.1

33. CONSTRUCTION RELATED SECURITY

33.1. MANDATORY SECURITY REQUIREMENTS

- 33.1.1. All security companies used by the Contractor shall be PSIRA registered with valid letter of good standing.
- 33.1.2. Security personnel shall all be PSIRA registered with a clear criminal record no criminal pending cases and preferably be sourced from the local community.
- 33.1.3. All security officials utilised in this project shall be South African Citizens.
- 33.1.4. All personnel employed by the Contractor including sub-contractors shall have undergone a Health and Safety Induction.
- 33.1.5. Permits to work (in line with Covid-19 regulations) shall be issued at the cost of the contractor to all personnel on that shall be signed and stamped by the authorized PRASA Official responsible for Risk Management.
- 33.1.6. The security to be provided by the contractor shall be responsible for both the appointed contractor's assets and PRASA's assets on site until the site is handed over to PRASA. A list of all functioning equipment that do not form part of this scope of work will be shared with the successful bidder and shall be signed off by both the successful bidder and PRASA's representative.



33.1.7. PRASA assets that shall be guarded by the contracted security includes Permanent way assets, All Train Authorisation on track elements, all train stations (with all assets included) along the section and all functioning equipment along the corridor.

33.1.8. Any lost or stolen material shall be replaced by the contractor at his own cost.

33.1.9. The contractor shall provide on-site security for personnel and material stock and should ensure that patrols are in place at the section handed over to the contractor and until the completed work is handed over to PRASA. No claims of material or losses shall be lodged with the client for stolen goods during the construction before the completed work is handed over to PRASA.

33.1.10. Furthermore, it is the contractor's responsibility to ensure that valuable metal i.e. copper is adequately protected while in transit to and from site.

33.1.11. The contractor shall make sure that all material removed from site is quantified, counted, logged in the site diary and that it is co-signed by a PRASA representative on site before it is removed from site.

33.1.12. Scrap metal removed from the section shall be adequately protected until it is delivered to PRASA's stores.

33.1.13. PRASA reserves the right to conduct ad-hoc inspections to ensure Compliance

33.2. Risks

33.2.1. Tabulated below are the associated security Risks and proposed mitigation measures. It should be noted that this are minimum risks identified and bidders shall be responsible for conducting their own risk assessment that will influence their quotations.

Risk	Probability	Mitigation
Project Hi-jacking – Regulation 9 30% Subcontracting. This includes the provision of security.	High	Social Facilitation to ensure community involvement and buy in. PRASA recommends an approach that involves the local community. Failure to ensure local involvement can result in serious work stoppages.



Theft of Installed equipment	High	Fit for purpose security with an integrated plan for assets installed and physical security at site office. Ensure protective measures for site with an access gate.
Hi-jacking of site personnel vehicles	High	Armed Escorts to and from the site
Armed Robbery of personnel on site and Storage Facility at site	High	Armed Guarding at site and site office with an armed response for mobilisation

33.2.2. PROPOSED INTERVENTIONS

33.2.2.1. Minimum of 2 vehicles with armed response officers (2-4) per vehicle strategically deployed within the site. To supplement the vehicles, a suitable number of day and night visible officers on foot patrol is required.

33.2.2.2. Requisite equipment:

- Bullet proof vests;
- Spotlight;
- Night vision equipment;
- Torches;
- Tactical Radios (PTT with GPS and Panic Button). This should be the primary communication for all personnel on site.
- Handcuffs (disposable type) and other standard equipment;
- Firearms with extra magazine; and
- Any other equipment identified through the risk assessment.

34. OVERALL STAFFING AND KEY RELATED PROFESSIONAL STAFF

34.1. The contractor shall provide qualified and experienced professional staff with the following key professional expertise.

- Civil Engineering Technician
- Track Master / Track Inspector



- Construction Health and Safety Officer

34.2. MINIMUM QUALIFICATION OF KEY PROFESSIONAL STAFF

Civil Engineering Technician

- Fully qualified Engineering Technician registered with professional body (ECSA).
- Minimum 3 years' experience as a qualified Engineering Technician.

Track Master / Track Inspector

- All work shall be supervised by a fully qualified Trackmaster in possession of a valid Trackmaster certificate.
- Minimum 3 years' experience as a qualified Trackmaster.
- Minimum 3 years' experience in the Perway and Track work.

Flagman

- Qualified flagmen for the protection of the work site with valid flagman certificates.
- A minimum of three qualified flagmen shall be deployed for each occupied section.

Health and Safety Officer

The desired minimum qualifications for the Construction Health and Safety Officer are as follows:

- Registered with professional body (SACPCMP)
- Minimum of 3 years industry experience as a health and safety officer.

General labours

- All general labour must be medical fit.

35. APPLICABLE SPECIFICATIONS



The documents forming the contract are to be taken as complimentary to each other. In case of any discrepancy or inconsistency between contract documents, the order of precedence will be:

- a) SANS 3000-1 to 2, Railway Safety Management.
- b) SABS 1200NB Railway Sidings (Track work).
- c) EN13674-1, UIC 860-0, UIC 8610-1 or the latest equivalent standard.
- d) EN13848 - Railway applications – Track geometry quality or the latest equivalent standard.
- e) Standard specifications E7/1.
- f) Safety Arrangements and Procedural Compliance with the Occupational Health and Safety Act (Act 85 of 1993) and Applicable Regulations (E4E); including any subsequent amendments.
- g) E10: General Specifications for Railway Track work.
- h) E10/1: Laying of Rails.
- i) E10/2: Laying of sleepers.
- j) E10/4: Ballasting and alignment.
- k) Manual for Track Maintenance (2000); and
- l) Railway Safety Regulator Act (Act 16 of 2004)
- m) Infrastructure Perway Technical Specification for Rails
- n) S410 Specification for Railway Earthworks
- o) S406 Specification for supply of ballast stone

36. Is this a CIDB GRADING, (Yes/No)

Yes.

If YES, What is the applicable Class of Work & Grade?

Class of Work: CE
Minimum Grade: 4



37. PROJECT SPECIFIC SAFETY RELATED REGULATIONS

- 37.1. The supplier shall comply with requirements of safety legislations and regulations in all respects.
- 37.2. All drivers shall be in possession of valid driver's licenses and Public Drivers Permits (PDP) where applicable. Crane operators will be required to have a valid Crane Operator's certificate. All vehicles shall be road worthy.
- 37.3. The supplier shall be responsible for all protective clothing and –equipment for his employees. All employees required to climb structures shall be issued with suitable harnesses.
- 37.4. All work shall at all times comply with the E7/1 Specification attached hereto.
- 37.5. Normal protection measures in accordance with the Protection Manual shall apply.
- 37.6. An effective safety procedure to be followed by all personnel on any work site in the case of approaching rail traffic shall be compiled by the Contractor and implemented before any work commences. This procedure shall be updated whenever the need arises, and any changes shall be communicated to all employees on a works site before work proceeds.
- 37.7. It is the requirement of this contract that the contractor should provide PRASA with a detailed safety plan prior to being issued with a site access certificate, in accordance with the latest version of the OHS Act and the SPK7 and the E4E.
- 37.8. Occupational Safety Act, 1993 (Act No: 85 of 1993)
- 37.9. National Environmental Management Act 107 of 1997
- 37.10. Construction regulation 2014
- 37.11. The contractor shall ensure that all Covid 19 protocols are adhered to.
- 37.12. The Contractor shall make necessary arrangements for sanitation, water, and electricity at these relevant sites during the installation of the equipment.
- 37.13. The safety file will be approved only after all the requirements on the checklist are met. **WITS_LIB/RISK_MGT/SHE** File Checklist (version 3) is attached in this regard.



- 37.14. The contractor shall be responsible for the safety of personnel on site. The following shall also form part of the safety plan:
- 37.15. Transportation of equipment and personnel.
- 37.16. Transportation, storage and handling of hazardous equipment
- 37.17. The site access certificate shall only be issued (to the successful bidder) after the evaluation and approval of the safety file.

42.2 STAGE 2: TECHNICAL / FUNCTIONALITY REQUIREMENTS

Qualifying bidders shall then be evaluated on functionality after meeting all compliance requirements outlined above. The minimum threshold for the technical/functionality requirements is 70% as per the standard Evaluation Criteria presented in table 42.1 above. Bidders who score below this minimum requirement shall not be considered for further evaluation in stage 3.

Details of the technical/functional requirements are presented in the table below.

Table 42.5: Technical Evaluation Criteria

Item	Criteria	Weight
1	Organizational Experience	40
2	Experience of key personal	30
3	Project work plan	10
4	Project approach and methodology	20
	TOTAL	100

Table 42.6: Technical evaluation criteria

Evaluation Area	Weight	Technical/Functional Criteria and Scoring
Organizational Experience <i>(N.B. Provide for each successfully completed project/s in the following sequence; Copy of an appointment letter/s(on a company letterhead), description of the project,</i>	40	Score will be based on successfully completed similar projects in the track rehabilitation works. 0: No submission/Non-compliance = 0 points 1 : 0 - 1 similar project = 8 points 2 : 2 similar projects = 16 points 3 : 3 similar projects = 24 points 4 : 4 similar projects = 32 points 5 : 5 and more similar projects = 40



Evaluation Area	Weight	Technical/Functional Criteria and Scoring
<p><i>Client name, Client contact (i.e. email and office number), Project start date, project end date, extension of time where applicable, contract value inclusive of VAT. Furthermore, attach completion certificates signed by client indicating the value and type of work performed or letter with on a company letter head indicating that they are new on the field.</i></p>		points
<p>Experience of key personnel (based on CVs submitted)</p> <ul style="list-style-type: none"> • <i>Civil Engineering Technician</i> • <i>Track Master/Track Inspector</i> <p><i>(N.B. Provide copies of original qualifications and certificates of professional bodies. The copies must be certified by commissioner of oath. The</i></p>	30	<p>Score will be allocated as follows:</p> <p>0: No submission/Non-compliance = 0 points</p> <p>1: Listed key staff members have minimum 1 but less than 2 years' related experience = 6 points</p> <p>2: Listed key staff members have 2 but less than 3 years' related experience = 12 points</p> <p>3: Listed key staff members have 3 but less than 4 years' related experience = 18 points</p> <p>4: Listed key staff members have 4 but less than 5 years' related experience = 24 points</p>



Evaluation Area	Weight	Technical/Functional Criteria and Scoring
<i>date on the stamp shall be three months or less old, before the closing date of the tender. If the qualification has been awarded in other language either than English, please provide translation in English)</i>		5: Listed key staff members have 5 years' related experience and above = 30 points
Project Program (Work plan) <i>(N.B. Provide project schedule in MS projects that meets the client's timeline requirements and the schedule to cover the following key Milestones:</i> <ul style="list-style-type: none"> • Site Establishment • Procurement of material and all services • Actual construction activities. • Practical completion • Final works completion • Maximum project duration of six (6) Months 	10	Score will be allocated for MS Project Schedule provided 0: No submission/Non-compliance = 0 points 1: Inadequate/ unrelated project schedule provided = 2 points 2: Project schedule provided but no detailed activities indicated = 4 points 3: Project schedule provided with activities indicated on the program aligned with the preferred duration of the project; = 6 points 4: Project schedule provided with activities indicated on the program aligned with preferred duration of the project, showing the sequence of activities (i.e., Baseline and critical path) = 8 points 5: Project schedule provided with activities indicated on the program aligned with the preferred duration of the project, showing the sequence of activities (i.e., Baseline and critical path), clear understanding of the scope of work and site challenges addressed = 10 points



Evaluation Area	Weight	Technical/Functional Criteria and Scoring
Project Approach and methodology <i>(N.B. The project methodology must be in line with the scope of work. Identify the risks associated with the project activities and mitigation measures. Furthermore, clearly show risks and mitigation measures of working on the railway environment)</i> <i>Elements: Identification of risks and mitigation, Work breakdown of activities, measurements, assessment, Pre-handover quality inspection, Quality assurance, Contingency storage process, Hand tools, Transportation and Post quality inspection.</i>	20	The points for the project approach and methodology will be allocated as follows: 0: No approach and methodology provided/Non-compliance = 0 points 1: Methodology detailing less than 5 elements relating to the methodology = 4 points 2: Methodology detailing 5-6 elements relating to the methodology = 8 points 3: Methodology detailing 7-8 elements relating to the methodology = 12 points 4: Methodology detailing 9-10 elements relating to the methodology = 16 points 5: Methodology detailing more than 10 elements relating to the methodology = 20 points
Total	100	

NB: Bidders that fail to achieve the minimum overall qualifying score of 70% on functionality/technical requirements.

