



SCOPE OF WORK AND SPECIFICATIONS

Repairs of High Mast lights at Randfontein station and yard

1. COMPULSORY REQUIREMENTS:

The following schedules shall be returned with the tender document which shall be evaluated:

- *CIDB grading of 3 EP or higher*
- *Requirements as per the technical functionality*

2. SAFETY REQUIREMENTS:

All work in this contract shall comply with the Occupational Safety Act, 1993 (Act No: 85 of 1993). These items shall all be included in the tendered rates. A copy of the act as well as an approved safety file shall be kept on site for the duration of the project.

3. General

- The contractor is required to repair high mast lights at Randfontein station and yard

4. Subcontracting

- 4.1** The Contractor shall not make use of any sub-Contractor to perform the works or parts thereof without prior permission from the Project Manager.

5. Health and Safety

- 5.1** The contractor shall be responsible for the safety of personnel on site; a detailed safety plan shall therefore be submitted by the appointed contractor upon award. The safety file requirements are provided to assist the tenderers to cater for the safety aspects.

- 5.2** The site access certificate shall only be issued (to the successful bidder) after the evaluation and approval of the safety file.
- 5.3** The Contractor shall comply with all applicable legislation and Metrorail's safety requirements adopted from time to time and instructed by the Project Manager / Technical Officer. Such compliance shall be entirely at his own cost, and shall be deemed to have been allowed for in the rates and prices in the contract.
- 5.4** The Contractor shall ensure that a safety representative is always at site .
- 5.5** The Contractor shall report all incidents in writing to the Project Manager / Technical Officer. Any incident resulting in the death of or injury to any person on the works shall be reported within 24 hours of its occurrence and any other incident shall be reported within 48 hours of its occurrence.

6. Financial

- 6.1** Payments shall be made for fully functional equipment only, i.e, all work completed.
- 6.2** All prices quoted shall be fixed and firm for the duration of the contract
- 6.3** 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 0.3% 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.
- 6.4** 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.
- 6.5** Rates supplied in the BOQ shall be used to calculate the final payment for equipment.

7. Specifications and Scope of works

- 7.1** The contractor shall supply, install and commission high mast poles, foundations and flood lights as per the below specifications:

7.2 Mast Pole specification:

- 7.2.1** 25-meter mid-hinge high mast pole
- 7.2.2** Hot dip galvanized in accordance with ISO 1461
- 7.2.3** Design wind speed: 144km / h

- 7.2.4** No. of light fittings: 8
- 7.2.5** Orientation: 360°
- 7.2.6** Design weight load: 112 kg
- 7.2.7** Mass of each luminaire: 14 kg
- 7.2.8** The mast pole must have a control box, the control box shall have a trailing cable, distribution box and splitter box. The distribution box must have an integral day/night switch

7.3 Foundations:

- 7.3.1** Foundations shall be casted in accordance with specification CEE.0018.ISS.90, clause 10.

7.4 Flood light fittings:

- 7.4.1** Driving current: 700mA
- 7.4.2** Typical power: 215W
- 7.4.3** Luminous flux (Nominal): 32100
- 7.4.4** Luminous flux (Effective): 25700
- 7.4.5** Luminaire: High-pressure diecast LM6 aluminium finished with epoxy powder coating
- 7.4.6** Surge protection: 6 kV + 10kV / 10 + 10 kA
- 7.4.7** Termination: IP66
- 7.4.8** Power supply: 220V to 240V AC 50Hz
- 7.4.9** Clips and Fasteners 304 Grade stainless steel 316 Grade stainless steel
- 7.4.10** Power factor: 0.98
- 7.4.11** Diffuser: 4mm clear tempered glass
- 7.4.12** Insulation protection: Class 1
- 7.4.13** Weight: 14 kg
- 7.4.14** Colour Dark Grey (Standard)
- 7.4.15** Lifetime: Luminaire up to 20 years on luminaire body and up to 5 years on internal components
- 7.4.16** Mounting Options: Adjustable stirrup mounting system suitable for mounting on high mast and conventional building surfaces
- 7.4.17** Up to 5 years on internal components
- 7.4.18** Luminaire compliance standards: IEC 60598/1, 60598-2-5 and SANS 475

7.5LT cable

- 7.5.1** The contractor shall supply LT cable in accordance with specification CEE.0018.ISS.90, clause 16
- 7.5.2** The contractor shall install the cable in accordance with specification CEE.0023.ISS.2012

- 7.5.3** The cable shall be 25mm² 600/1000 4 core XLPE aluminium cable, contractors shall note clause 16.4 of CEE.0018.ISS.90 in this regard.

7.6 Scope of works

- 7.6.1** The contractor shall perform Geotech studies and produce a report for Randfontein yard and station. The study must be done by a certified Geotech Engineer. The Geotech testing shall be on soil.
- 7.6.2** Supply and install 25meter high mast pole complete, with all accessories
- 7.6.3** Supply and cast foundations
- 7.6.4** Supply and install light fittings
- 7.6.5** Provide an electrical certificate of compliance
- 7.6.6** Supply and install earthing complete for the high mast.
- 7.6.7** Supply and install lightning surge arrestors.
- 7.6.8** Supply and install portable hand winch
- 7.6.9** Supply and install vandal proof and spanner on mast opening to access the control box.

8. Care of the Site

- 8.1** From the date on which the Site is handed over to the Contractor to the date of the issue of a Certificate of Completion, the Contractor shall take full responsibility for the care of the Works and the Employer's Assets on the Site and of all Plant intended for incorporation into the Works and materials on the Site intended for incorporation into the Works.

9. Site Overall Staffing and Key Professional Staff

- 9.1** The contractor shall provide qualified and experienced professional staff for the following positions.

- Team Leader/Project Director
- Site Supervisor
- Construction Health and Safety Officer

9.1.1 TEAM Leader/Project Engineer

- Heavy Current Electrical qualification (Degree or National Diploma)

9.1.2 Site Supervisor

- All work shall be supervised by a Site Supervisor in possession of a trade test certificate

9.1.3 Construction Health and Safety Officer

- SAMTRAC qualification

10. To be provided by the contractor

- 10.1** Site books (each in triplicate) to record:
- 10.2** All incidents as well as the progress of work during the occupation.
- 10.3** All instructions pertaining to the technical details of the work being performed at that time.
- 10.4** Upon appointment, the contractor shall supply machinery, equipment, material, labour and consumables, etc. necessary for the undertaking and completion of the works to satisfaction of the client.
- 10.5** The client will require conformance documentation for each item of material procured by the contractor for installation used in this contract.
- 10.6** Any damage caused to the property of PRASA will be for the contractor's account.
- 10.7** Before commencing construction in any particular area, the contractor shall verify the positions of services. Where any underground services are shown on the drawings, the contractor shall have the equipment available on site for as long as is necessary to detect and locate such services and, if so ordered, he or she shall excavate by hand to expose such services in areas and in a manner and at a time agreed upon with the technical officer.
- 10.8** Protection of cables- Before any excavations take place near identified service cables, the contractor shall contact the technical officer. The contractor shall advise the Prasa technical officer at least 7 days in advance of the actual date on which to excavate near any cable. The contractor shall not use mechanical equipment to excavate within 3m of the estimated position of identified cable and shall, if necessary, expose the cable by means of hand excavation carried out under proper supervision.

11. Measurement of Quality of Construction

- 11.1** The works shall be quantified by the contractor with the assistance of PRASA personnel, the payment will be subject to the rates submitted in the tender.
- 11.2** Where the condition of the site is such that the specified performance standards cannot be achieved, the contractor should record all relevant information in conjunction with the Prasa Technical Officer before and after working. Correctness and final approval shall be the responsibility of PRASA.

12. Rectification of sub-standard work

12.1 Where the specified standards of workmanship and accuracy are not attained, the Contractor shall rectify at own cost within 7 working days. should the contractor fail to honor the stipulated notified days he can be reported to the National Treasury for non-performance and may be blacklisted (prevented from doing any business with the state).

13. General

13.1 Should any claim arise due to damage caused by any action of work by the Contractor to property of PRASA and his employees or any other person/s, the Contractor shall be held liable to settle such claims at his own cost.

13.2 The contractor shall provide transport, equipment, tools, consumables, supervision, protection, and labour necessary to successfully complete the contract.

14. Safety

14.1 The Contractor shall comply with requirements of safety legislations and regulations in all respects.

14.2 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 roadworthy.

14.3 The Contractor shall be responsible for all protective clothing and –equipment for his employees. All employees required to climb structures shall be issued with suitable harnesses.

14.4 The contractor shall be responsible for security of personnel and material onsite as well as during transit.

14.5 All work shall always comply with the E7/1 Specification attached hereto.

14.6 Normal protection measures in accordance with the Protection Manual shall apply.

14.7 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.

14.8 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.

15. Measurements and payments

15.1 Claims for payment will be made monthly.

15.2 Any rejected and incomplete work will not be paid.

15.3 All rates in the schedule of quantities must be made per unit as requested and should be an all-inclusive rate.

15.4 The rate quoted by the Tenderer(s) and accepted by PRASA must hold well till the completion of the work and shall not be 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.

15.5 The client shall retain 10% of all invoices claimed under this contract, this shall be payable at the end of the guarantee period of 52 weeks after the date of handover.

15.6 The amount of the Preliminaries to be included in each monthly payment certificate shall be assessed as an amount prorated to the value of the work duly executed in the same ratio as the preliminaries bears to the total of prices excluding any contingency sum, the amount of the Preliminaries and any amount in respect of contract price adjustment if provided for in the contract.

16. Payment Certificate

16.1 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.

16.2 The Contractor shall then submit a VAT invoice and attach the above Progress Certificate for payment by the Employer.

16.3 Contractor to provide the Employer with the necessary details regarding banking details to enable the Employer to make electronic payments.

17. PRICING AND THE WORKS.

17.1 The contractor is required to provide firm prices/ rates for material and labour for the duration of the contract.

17.2 The contract period shall be inclusive of the delivery and installation period as well as an additional period of at least one year starting from the date of acceptance by the client of the last unit.

17.3 The costs for normal servicing shall be reflected separately and shall be paid quarterly for the duration of the service period.

17.4 The contractor shall make provision for the costs (direct or otherwise) associated with works on, over or adjacent to railway lines. 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.

17.5 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.

18. PENALTIES

18.1 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.

18.2 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,

18.3 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 6.3

19. Commissioning tests and completion

19.1 Designated PRASA personnel, in conjunction with the Contractor, shall carry out the final commissioning test. The Contractor shall carry out any remedial work, if necessary.

20. Handing over

20.1 The handovers shall be for each portion of the work when the Electrical System is tested and commissioned to the satisfaction of the Technical Manager, in accordance with the details as set out in the handing over documentation of PRASA.

BILL OF QUANTITIES

Item	Description	Unit	Qty	Unit Cost	Total Cost
1.	Supply and install mast poles complete (as per clause 7.2) at Randfontein yard and station	SUM	4	R.....	R.....
2.	Supply and cast foundations to mount the mast poles	SUM	4	R.....	R.....
3.	Supply and install light fittings (as per clause 7.4), fit 8 on each mast pole	Set of 8	4	R.....	R.....
4.	Supply and install LT cables from the main DB (kiosk) to the mast poles, incl. terminations, lugs, etc.	Meters	1000	R.....	
5.	Geotech studies (soil tests) and report on each mast	SUM	1	R.....	R.....
6.	Certificate of compliance (COC)	SUM	1	R.....	R.....
7.	Surge arrestors for all four masts	Each	12	R.....	R.....

8.	Supply and install spark gaps and earth spikes	Each	4	R.....	R.....
9.	Supply and install portable hand winch	Each	2	R.....	R.....
10	Supply and installation vandal proofing and spanner	Each	4	R.....	R.....
11	Testing and commissioning	SUM	1	R.....	R.....
		TOTAL EXCL. VAT			R.....
		VAT @ 15%			R.....
		GRAND TOTAL			R.....

Technical functionality

CRITERIA	WEIGHT	SCORES
Organizational Experience (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, 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 certificate signed by client or letter from the client confirming successful completion of the project.)	40	Score will be based on successfully executed and completed similar projects in the Supply and installation of mast lightings 1: Zero (0) Similar Projects/non-submission/incomplete submission= 0 2: 1 Similar project = 8 points 3: 2 Similar projects =16 points 4: 3 Similar projects= 24 points 5: 4 Similar projects = 32 points 6: 5 and above Similar projects=40 points
Qualifications and Technical Experience (based on Submitted CVs) of Key Staff - Team leader / project director - Site supervisor (N.B. Provide copies of original qualifications and certificates of professional bodies. The copies must be certified by commissioner of oath. The date on the stamp shall be three months or less old, before the closing date of the tender. Please provide SAQA accredited qualification.	40	Detailed CVs of the team members who will be used in completing the works. Years of experience should be related to cable jointing and terminations. No information provided/incomplete submission = 0 points 1: Average < 5 years of experience of Key Staff = 8 points 2: Average > = 5 up to 8 years of experience of Key Staff = 16 points 3: Average > 8 up to 10 years of experience of Key Staff = 24 points 4: Average > = 10 up to 15 years of experience of Key Staff = 32 points

(team leader / project director qualification shall be Electrical qualification) (Site supervisor qualification shall be a trade test certificate) Evaluation will be done on all 2 personnel and maximum points shall be obtained on all 2.		5: Average $\geq$ 15 years of experience of Key Staff = 40 points
Project program (Work plan) Provide project schedule in MS projects or MS excel that meets the client's timeline requirements and the schedule to cover the following key Milestones: • Project duration within the targeted duration of 3 months. • Resource allocation • Critical Path clearly highlighted • Activities showing safety measures to be taken, activities included. The overall schedule should clearly indicate sequencing of activities with clear understanding of scope.	20	Score will be allocated for MS Project or MS excel Schedule provided. No information provided = 0 points. 1: Project schedule provided with relevant activities and 1 of the indicated elements addressed = 4. 2: Project schedule provided with relevant activities and 2 of the indicated elements addressed = 8. 3: Project schedule provided with relevant activities and 3 of the indicated elements addressed = 12. 5: Project schedule provided with relevant activities and all the indicated elements addressed = 20.

Bidders shall score a minimum of 60% on each criterion to proceed to the next stage of evaluation