

REQUEST FOR QUOTATION (RFQ)

RFQ NUMBER: KZN/RAIL/08/05/2022/016/Q-1

REQUEST FOR QUOTATION (RFQ) FOR: SUPPLY OF A HEAVY ON-TRACK BALLAST REGULATING/PROFILING MACHINE (FOR 06 MONTHS) FOR METRORAIL KZN

SECTION 1: SBD1

PART A INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF PASSENGER RAIL AGENCY (PRASA)					
BID NUMBER:	KZN/RAIL/08/05/2022/016/ Q-1	CLOSING DATE:	18 October 2022	CLOSING TIME:	12H00pm
DESCRIPTION	SUPPLY AND MAINTENANCE OF ULTRASONIC MEASURING VEHICLE (FOR A PERIOD OF 24 MONTHS) FOR PRASA KZN REGION				
BID RESPONSE DOCUMENTS SHALL BE ADDRESSED AS FOLLOWS:					
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX NO 07 SITUATED AT:					
PRASA RAIL KZN					
65 MASABALALA YENGWA AVENUE					
PRASA REGIONAL OFFICE FOYER AREA					
KWAZULU NATAL					
BID SUBMISSION REGISTER MUST BE COMPLETED WHEN DROPPING OFF BIDS					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO					
CONTACT PERSON	Rani Padayachee				
TELEPHONE NUMBER	031 8130138				
E-MAIL ADDRESS	rani.padayachee@prasa.com				
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA.....
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE	[TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT	[TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No	

[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]

<p>2.1 ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>[IF YES ENCLOSE PROOF]</p>	<p>2.2 ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?</p>	<p><input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>[IF YES, ANSWER THE QUESTIONNAIRE BELOW]</p>
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QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? YES NO

DOES THE ENTITY HAVE A BRANCH IN THE RSA? YES NO

DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? YES NO

DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? YES NO

IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION?

YES NO

IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 BELOW.

PART B: TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. **ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED--(NOT TO BE RE-TYPED) OR IN THE MANNER**
- 1.3. **PRESCRIBED IN THE BID DOCUMENT.**
- 1.4. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT, 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.

2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VERIFY THE TAXPAYER'S PROFILE AND TAX STATUS.
- 2.3 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.
- 2.4 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.
- 2.5 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED; EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.
- 2.6 WHERE NO TCS PIN IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
- 2.7 NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE, COMPANIES WITH DIRECTORS WHO ARE PERSONS IN THE SERVICE OF THE STATE, OR CLOSE CORPORATIONS WITH MEMBERS PERSONS IN THE SERVICE OF THE STATE."

NB: FAILURE TO PROVIDE / OR COMPLY WITH ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID NVALID.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

(Proof of authority must be submitted e.g. company resolution)

DATE:

NB:

- ***Quotation(s) must be addressed to PRASA before the closing date and time shown above.***
- ***PRASA General Conditions of Purchase shall apply.***

SECTION 2

NOTICE TO BIDDERS

1. RESPONSES TO RFQ

Responses to this RFQ [Quotations] must not include documents or reference relating to any other quotation or proposal. Any additional conditions must be embodied in an accompanying letter.

Proposals must reach the PRASA before the closing hour on the date shown on SBD1 above, and must be enclosed in a sealed envelope.

2 COMMUNICATION

Respondent/s are warned that a response will be liable for disqualification should any attempt be made either directly or indirectly to canvass any SCM Officer(s) or PRASA employee in respect of this RFQ between the closing date and the date of the award of the business.

3 LEGAL COMPLIANCE

The successful Respondent shall be in full and complete compliance with any and all applicable national and local laws and regulations.

4 CHANGES TO QUOTATIONS

Changes by the Respondent to its submission will not be considered after the closing date and time.

5 PRICING

All prices must be quoted in South African Rand on a fixed price basis, including VAT.

6 BINDING OFFER

Any Quotation furnished pursuant to this Request shall be deemed to be an offer. Any exceptions to this statement must be clearly and specifically indicated.

7 DISCLAIMERS

PRASA is not committed to any course of action as a result of its issuance of this RFQ and/or its receipt of a Quotation in response to it. Please note that PRASA reserves the right to:

- Modify the RFQ's goods / service(s) and request Respondents to re-bid on any changes;
- Reject any Quotation which does not conform to instructions and specifications which are detailed herein;
- Reject Quotations submitted after the stated submission deadline or at the incorrect venue ;

Should a contract be awarded on the strength of information furnished by the Respondent, which after conclusion of the contract, is proved to have been incorrect, PRASA reserves the right to cancel the contract.

PRASA reserves the right to award business to the highest scoring bidder/s unless objective criteria justify the award to another Respondent.

Should the preferred fail to sign or commence with the contract within a reasonable period after being requested to do so, PRASA reserves the right to award the business to the next highest ranked Respondent provided that he/she is still prepared to provide the required goods at the quoted price.

8 LEGAL REVIEW

Proposed contractual terms and conditions submitted by a Respondent will be subjected to review and acceptance or rejection by PRASA's Legal Counsel, prior to consideration for an award of business.

9 NATIONAL TREASURY'S CENTRAL SUPPLIER DATABASE

Respondents are required to self-register on National Treasury's Central Supplier Database (CSD) which has been established to centrally administer supplier information for all organs of state and facilitate the verification of certain key supplier information. PRASA is required to ensure that price quotations are invited and accepted from prospective bidders listed on the CSD. Business may not be awarded to a respondent who has failed to register on the CSD. Only foreign suppliers with no local registered entity need not register on the CSD. The CSD can be accessed at <https://secure.csd.gov.za/>.

10 PROTECTION OF PERSONAL DATA

In responding to this bid, PRASA acknowledges that it may obtain and have access to personal data of the Respondents. PRASA agrees that it shall only process the information disclosed by Respondents in their response to this bid for the purpose of evaluating and subsequent award of business and in accordance with any applicable law.

Furthermore, PRASA will not otherwise modify, amend or alter any personal data submitted by Respondents or disclose or permit the disclosure of any personal data to any Third Party without the prior written consent from the Respondents. Similarly, PRASA requires Respondents to process any personal information disclosed by PRASA in the bidding process in the same manner.

11 EVALUATION METHODOLOGY

PRASA will utilise the following criteria [not necessarily in this order] in choosing a Supplier/Service Provider, if so required:

(Amend where applicable)

EVALUATION CRITERIA	WEIGHTING
Stage 1	Compliance
Mandatory Compliance	Basic Compliance
Stage 2-	Technical/Functionality
Technical/Functional Requirements (If applicable)	Threshold of 80%
Stage 3	Price and BBBEE
Price	80
BBBEE	20
TOTAL	100

12 ADMINISTRATIVE RESPONSIVENESS

The test for administrative responsiveness will include completeness of response and whether all returnable and/or required documents, certificates; verify completeness of warranties and other bid requirements and formalities have been complied with. Incomplete Bids will be disqualified.

13 VALIDITY PERIOD

- 13.1 PRASA requires a validity period of**Working Days** from the closing date.
- 13.2 Respondents are to note that they may be requested to extend the validity period of their response, on the same terms and conditions, if the internal processes are not finalized within the validity period. However, once the delegated authority
- 13.3 has approved the process the validity of the successful respondent(s)' bid will be deemed to remain valid until finalization of the of award.),

14 DISCLOSURE OF PRICES QUOTED

Respondents are to note that, on award of business, PRASA is required to publish the prices and preferences claimed of the successful and unsuccessful Respondents *inter alia* on the National Treasury e-Tender Publication Portal, (www.etenders.gov.za), on CIDB website for construction related RFQ's. (Where applicable).

15 RETURNABLE DOCUMENTS

Returnable Documents means all the documents, Sections and Annexures, as listed in the tables below. There are three types of returnable documents as indicated below and Respondents are urged to ensure that these documents are returned with the quotation based on the consequences of non-submission as indicated below:

15.1. Mandatory Returnable Documents

Failure to provide Mandatory Returnable Documents at the Closing Date and time of this RFQ will result in a Respondent's disqualification. Respondents are therefore urged to ensure that all documents are returned with their Quotations.

SECTION 3

1 EVALUATION CRITERIA:

Stage1 & Stage2: Adherence to Prequalification requirements and Compliance checklist

NB: Compliance Checklist Requirements for all Services/Goods and works

If you do not submit the following mandatory documents your Proposal/Quote will be disqualified automatically:

No.	Description of requirement	
a)	Price Schedule / Pricing form	
b)	Contractors must quote on all items listed on the BOQ	
c)	Completion of ALL RFQ declarations	
d)	Completed, Signed and Stamped Commissioner of Oaths	
e)	Joint Venture / Consortium agreement / Trust Deed (if applicable)	
f)	Bidders to complete submission register when dropping off bids into the tender-box	
g)	Specifications of Type Machinery Must Be Completed and Must Be Part Of The Submission on page 54	

The following documents are mandatory however bidders will not be automatically disqualified if not submitted Prasa will request the documents and must be made available at the time of request:

No.	Description of requirement	
a)	Company Registration Documents	
b)	Copies of Directors' ID documents;	
c)	Valid Tax Clearance Certificate and or SARS Issued Pin	
d)	CSD report / CSD reference number	
e)	Valid and Original, or certified copy of Letter of Good Standing (COID)	

NB: Valid BBBEE Certificate from a SANAS accredited rating agency (Original or Certified) or affidavit signed by the Commissioner of Oath

2.1 Stage 3

Technical / Functionality Requirements

Scoring of Functionality:

The minimum threshold for Technical/functionality criteria is (80%) and bidders who score below this minimum will not be considered for further evaluation in terms of price and B-BBEE.

CRITERIA	WEIGHT	SCORES

2.2 Stage4- Price and B-BBEE

Evaluation criteria	Weighting
BBBEE	20
Price	80
TOTAL	100

$$PS = 80 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$$

Where:

P_s = Score for the Bid under consideration

P_t = Price of Bid under consideration

P_{min} = Price of lowest acceptable Bid

Evaluation of Preference

Evaluation and final weighted scoring

- a) Broad-Based Black Economic Empowerment criteria [weighted score 20 points] Preference Points will be awarded to a bidder for attaining the B-BBEE status level contribution in accordance with the table indicated in Section 8 B-BBEE claim form.

SECTION 4

PRICING AND DELIVERY SCHEDULE

Respondents are required to complete the attached Pricing Schedule **Annexure:**

- 1 Prices must be quoted in South African Rand, inclusive of VAT.
- 2 Price offer is firm and clearly indicate the basis thereof.
- 3 Pricing Bill of Quantity is completed in line with schedule if applicable.
- 4 Cost breakdown must be indicated.
- 5 Price escalation basis and formula must be indicated.
- 6 To facilitate like-for like comparison bidders must submit pricing strictly in accordance with this price schedule and not utilise a different format. Deviation from this pricing schedule could result in a bid being declared non-responsive.
- 7 Please note that should you have offered a discounted price(s), PRASA will only consider such price discount(s) in the final evaluation stage on an unconditional basis.
- 8 Respondents are to note that if price offered by the highest scoring bidder is not market related, PRASA may not award the contract to the Respondent. PRASA may:
 - 9 negotiate a market-related price with the Respondent scoring the highest points;;
 - 10 if that Respondent does not agree to a market-related price, negotiate a market-related price with the Respondent scoring the second highest points;
 - 11 if the Respondent scoring the second highest points does not agree to a market-related price, negotiate a market-related price with the Respondent scoring the third highest points;
 - 12 If a market-related price is not agreed with the Respondent scoring the third highest points, PRASA must cancel the RFQ.
 - 13 if the Respondent scoring the second highest points does not agree to a market-related price, negotiate a market-related price with the Respondent scoring the third highest points or cancel the RFQ.

I / We _____ (Insert Name of Bidding Entity) of

_____ code _____

(Full address) conducting business under the style or title of: _____

represented by: _____ in my capacity as:

_____ being duly authorised, hereby offer

to undertake and complete the above-mentioned work/services at the prices quoted in the bills of quantities / schedule of quantities or, where these do not form part of the contract, at a lumpsum, of

_____ R

_____ (amount in numbers);

_____ (amount in words) Incl. VAT.

DELIVERY PERIOD: Suppliers are requested to offer their earliest delivery period possible.

Delivery will be effected within working days from date of order. (To be completed by Service provider)

SECTION 5

PRASA GENERAL CONDITIONS OF PURCHASE

General

PRASA and the Supplier enter into an order/contract on these conditions to supply the items (goods/services/works) as described in the order/contract.

Conditions

These conditions form the basis of the contract between PRASA and the Supplier. Notwithstanding anything to the contrary in any document issued or sent by the Supplier, these conditions apply except as expressly agreed in writing by PRASA.

No servant or agent of PRASA has authority to vary these conditions orally. These general conditions of purchase are subject to such further special conditions as may be prescribed in writing by PRASA in the order/contract.

Local Content Obligations

Respondents are to note that the Local Content commitments made by the successful Respondent(s) will be incorporated as a term of the contract and monitored for compliance. Should the successful Respondent fail to meet its Local obligations, non-compliance penalties shall be applicable. Breach of Local Content obligations also provide PRASA cause to terminate the contract in certain cases where material non-compliance with Local Content requirements are not achieved.

Price and payment

The price or rates for the items stated in the order/contract may include an amount for price adjustment, which is calculated in accordance with the formula stated in the order/contract.

The Supplier may be paid in one currency other than South African Rand. Only one exchange rate is used to convert from this currency to South African Rand. Payment to the Supplier in this currency other than South African Rand, does not exceed the amounts stated in the order/contract. PRASA pays for the item within 30 days of receipt of the Suppliers correct tax invoice.

Delivery and documents

The Supplier's obligation is to deliver the items on or before the date stated in the order/contract. Late deliveries or late completion of the items may be subject to a penalty if this is imposed in the order/contract. No payment is made if the Supplier does not provide the item as stated in order/contract.

Where items are to be delivered the Supplier:

Clearly marks the outside of each consignment or package with the Supplier's name and full details of the destination in accordance with the order and includes a packing note stating the contents thereof; On dispatch of each consignment, sends to PRASA at the address for delivery of the items, an advice note specifying the means of transport, weight, number of volume as appropriate and the point and date of dispatch; Sends to PRASA a detailed priced invoice as soon as is reasonably practical after dispatch of the items, and states on all communications in respect of the order the order number and code number (if any).

Containers / packing material

Unless otherwise stated in the order/contract, no payment is made for containers or packing materials or return to the Supplier.

Title and risk

Without prejudice to rights of rejection under these conditions, title to and risk in the items passes to PRASA when accepted by PRASA.

Rejection

If the Supplier fails to comply with his obligations under the order/contract, PRASA may reject any part of the items by giving written notice to the Supplier specifying the reason for rejection and whether and within what period replacement of items or re-work are required.

In the case of items delivered, PRASA may return the rejected items to the Supplier at the Supplier's risk and expense. Any money paid to the Supplier in respect of the items not replaced within the time required, together with the costs of returning rejected items to the Supplier and obtaining replacement items from a third party, are paid by the Supplier to PRASA.

In the case of service, the Supplier corrects non-conformances as indicated by PRASA.

Warranty

Without prejudice to any other rights of PRASA under these conditions, the Supplier warrants that the items are in accordance with PRASA's requirements, and fit for the purpose for which they are intended, and will remain free from defects for a period of one year (unless another period is stated in the Order) from acceptance of the items by PRASA.

Indemnity

The Supplier indemnifies PRASA against all actions, suits, claims, demands, costs, charges and expenses arising in connection therewith arising from the negligence, infringement of intellectual or legal rights or breach of statutory duty of the Supplier, his subcontractors, agents or servants, or from the Supplier's defective design, materials or workmanship.

The Supplier indemnifies PRASA against claims, proceedings, compensation and costs payable arising out of infringement by the Supplier of the rights of others, except an infringement which arose out of the use by the Supplier of things provided by PRASA.

Assignment and sub-contracting

The Supplier may not assign or subcontract any part of this order/contract without the written consent of PRASA.

Governing law

The order/contract is governed by the law of the Republic of South Africa and the parties hereby submit to the non-exclusive jurisdiction of the South African courts.

BIDDER'S DISCLOSURE

1. PURPOSE OF THE FORM

Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.

Where a person/s are listed in the Register for Tender Defaulters and / or the List of Restricted Suppliers, that person will automatically be disqualified from the bid process.

2. Bidder's declaration

2.1 Is the bidder, or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest¹ in the enterprise, employed by the state? **YES/NO**

2.1.1 If so, furnish particulars of the names, individual identity numbers, and, if applicable, state employee numbers of sole proprietor/ directors / trustees / shareholders / members/ partners or any person having a controlling interest in the enterprise, in table below.

Full Name	Identity Number	Name of State institution

2.2 Do you, or any person connected with the bidder, have a relationship with any person who is employed by the procuring institution? **YES/NO**

2.2.1 If so, furnish particulars:

2.3 Does the bidder or any of its directors / trustees / shareholders / members / partners or any person having a controlling interest in the enterprise have any interest in any other related enterprise whether or not they are bidding for this contract? **YES/NO**

2.3.1 If so, furnish particulars:

¹ the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise.

3 DECLARATION

I, the undersigned, (name)..... in submitting the accompanying bid, do hereby make the following statements that I certify to be true and complete in every respect:

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium² will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 3.6 I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

I CERTIFY THAT THE INFORMATION FURNISHED IN PARAGRAPHS 1, 2 and 3 ABOVE IS CORRECT.
I ACCEPT THAT THE STATE MAY REJECT THE BID OR ACT AGAINST ME IN TERMS OF PARAGRAPH 6 OF PFMA SCM INSTRUCTION 03 OF 2021/22 ON PREVENTING AND COMBATING ABUSE IN THE SUPPLY CHAIN MANAGEMENT SYSTEM SHOULD THIS DECLARATION PROVE TO BE FALSE.

.....
Signature	Date
.....
Position	Name of bidder

² Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

SECTION 7

B-BBEE PREFERENCE POINTS CLAIM FORM

This preference form must form part of all bids invited. It contains general information and serves as a claim for preference points for Broad-Based Black Economic Empowerment [B-BBEE] Status Level of Contribution.

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and

1.2 The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the preference point system shall be applicable.

1.3 Either the **80/20** preference point system shall be applicable to this bid.

1.4 Preference points for this bid shall be awarded for:

- (a) Price; and
- (b) B-BBEE Status Level of Contribution.

1.5 The maximum points for this bid are allocated as follows:

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTION	20
Total points for Price and B-BBEE must not exceed	100

1.5.1 Failure on the part of a bidder to submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System [SANAS], or a sworn affidavit confirming annual turnover and level of black ownership in case of all EMEs and QSEs with 51% black ownership or more together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.6 The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

2. DEFINITIONS

2.1 "all applicable taxes" includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;

- 2.2 “**B-BBEE**” means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- 2.3 “**B-BBEE status level of contributor**” means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- 2.4 “**bid**” means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals;
- 2.5 “**Black designated group**” has meaning assigned to it in codes of good practice issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act.
- 2.6 “**Black People**” meaning assigned to in Section 1 of Broad-Based Black Economic Empowerment Act.
- 2.7 “**Broad-Based Black Economic Empowerment Act**” means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- 2.8 “**CIPC**” means the Companies and Intellectual Property Commission, formerly known as CIPRO, the Companies and Intellectual Property Registration Office.
- 2.9 “**comparative price**” means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration;
- 2.10 “**consortium or joint venture**” means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract;
- 2.11 “**contract**” means the agreement that results from the acceptance of a bid by an organ of state;
- 2.12 “**co-operative**” means a co-operative registered in terms of section 7 of Cooperatives Act, 2005 (Act No. 14 of 2005)
- 2.13 “**Designated Group**” means - i) Black designated groups; ii) Black People; iii) Women; iv) people with disabilities or v) Small enterprise, as defined in Section 1 of National Small Enterprise Act, (102 of 1996)
- 2.14 “**Designated Sector**” means, sub-sector or industry or product designated in terms of regulation 8(1)(a)
- 2.15 “**EME**” means an Exempted Micro Enterprise as defines by Codes of Good Practice under section 9 (1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- 2.16 “**firm price**” means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
- 2.17 “**functionality**” means the ability of a bidder to provide goods or services in accordance with specification as set out in the bid documents;

- 2.18 **“Military Veteran”** has meaning assigned to it in Section 1 of Military Veterans Act, 2011 (Act No. 18 of 2011);
- 2.19 **“National Treasury”** has meaning assigned to it in Section 1 of Public Finance Management Act, 1999 (Act No. 1 of 1999);
- 2.20 **“non-firm prices”** means all prices other than “firm” prices;
- 2.21 **“person”** includes a juristic person;
- 2.22 **“People with disabilities”** meaning assigned to it in terms of Section 1 of Employment Equity Act, 1998 (Act No. 55 of 1998)
- 2.23 **“Price”** includes all applicable taxes less all unconditional discounts.
- 2.24 **“Proof of B-BBEE Status Level of Contributor”** i) the B-BBEE status level certificate issued by an unauthorised body or person; ii) a sworn affidavit as prescribed by the B-BBEE Codes of Good Practice; or iii) any other requirement prescribed in terms of the Broad-Based Black Economic Empowerment Act.
- 2.25 **“Rural Area”** i) a sparsely populated area in which people farm or depend on natural resources, including villages and small towns that are dispersed through the area; or ii) an area including a large settlement which depends on migratory labour and remittances and government social grants for survival, and may have traditional land tenure system.
- 2.26 **“QSE”** means a Qualifying Small Enterprise as defined by Codes of Good Practice under section 9 (1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
- 2.27 **“rand value”** means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;
- 2.28 **“sub-contract”** means the primary contractor’s assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract;
- 2.29 **“total revenue”** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the *Government Gazette* on 9 February 2007;
- 2.30 **“Township”** means an urban living area that any time from the late 19th century until 27 April 1994, was reserved for black people, including areas developed for historically disadvantaged individuals post 27 April 1994
- 2.31 **“Treasury”** meaning assigned to it in Section 1 of the Public Finance Management Act, 1999 (Act No. 1 of 1999)
- 2.32 **“trust”** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and
- 2.33 **“trustee”** means any person, including the founder of a trust, to whom property is bequeathed in order for

such property to be administered for the benefit of another person.

2.34 “Youth” meaning assigned to it in terms of Section 1 of National youth Development Agency Act, 2008 (Act No. 54 of 2008).

3. ADJUDICATION USING A POINT SYSTEM

3.1 The bidder obtaining the highest number of total points will be awarded the contract.

3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts.

3.3 Points scored must be rounded off to the nearest 2 decimal places.

3.4 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.

3.5 However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.

3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR PRICE

4.1 THE 80/20 PREFERENCE POINT SYSTEMS

A maximum of 80 points is allocated for price on the following basis:

80/20

$$P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

P_s = Points scored for comparative price of bid under consideration

P_t = Comparative price of bid under consideration

P_{\min} = Comparative price of lowest acceptable bid

5. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION

5.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

5.2

B-BBEE Status Level of Contributor	Number of points (80/20 system)
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

- 5.3 A bidder who qualifies as an EME in terms of the B-BBEE Act must submit a sworn affidavit confirming Annual Total Revenue and Level of Black Ownership. Furthermore EMEs may also obtain a sworn affidavit from CIPC (formerly CIPRO) Self Service Terminals when registering a business or filing annual returns. In these instances PRASA would require proof of turnover as well as proof of ownership. Sworn affidavits must substantially comply with the format that can be obtained on the DTI's website at www.dti.gov.za/economic_empowerment/bee_codes.jsp.
- 5.4 QSEs that are at least 51% Black owned or higher are only required to obtain a sworn affidavit on an annual basis confirming that the entity has an Annual Total Revenue of R50 million or less and the entity's Level of Black ownership.
- 5.5 A Bidder other than EME or a QSE that is at least 51% Black owned must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating a Verification Agency accredited by SANAS.
- 5.6 A trust, consortium or joint venture (including unincorporated consortia and joint ventures) must submit a consolidated B-BBEE Status Level verification certificate for every separate bid.
- 5.7 Tertiary Institutions and Public Entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.
- 5.8 A person will not be awarded points for B-BBEE status level if it is indicated in the bid documents that such a bidder intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a bidder qualifies for, unless the intended sub-contractor is an EME that has the capability and ability to execute the sub-contract.

5.9 A person awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.

5.10 Bidders are to note that the rules pertaining to B-BBEE verification and other B-BBEE requirements may be changed from time to time by regulatory bodies such as National Treasury or the DTI. It is the Bidder's responsibility to ensure that his/her bid complies fully with all B-BBEE requirements at the time of the submission of the bid.

6. BID DECLARATION

6.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

6.1.1 B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 5.1

6.2 B-BBEE Status Level of Contribution: . . . = (maximum of 20 points)
 (Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or a sworn affidavit.

7. SUB-CONTRACTING

7.1 Will any portion of the contract be sub-contracted?

(Tick applicable box)

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
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7.1.1 If yes, indicate:

- i) What percentage of the contract will be subcontracted.....?.....%
- ii) The name of the sub-contractor.....
- iii) The B-BBEE status level of the sub-contractor.....
- iv) Whether the sub-contractor is an EME.

(Tick applicable box)

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
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v) Specify, by ticking the appropriate box, if subcontracting with an enterprise in terms of Preferential Procurement Regulations,2017:

Designated Group: An EME or QSE which is at last 51% owned by:	EME <input checked="" type="checkbox"/>	QSE <input checked="" type="checkbox"/>
Black people	<input type="checkbox"/>	<input type="checkbox"/>

Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		
Black people who are military veterans		
OR		
Any EME		
Any QSE		

8. **DECLARATION WITH REGARD TO COMPANY/FIRM**

8.1 Name of company/firm:.....

8.2 VAT registration number:.....

8.3 Company registration number:.....

8.4 **TYPE OF COMPANY/ FIRM**

- Partnership/Joint Venture / Consortium
- One person business/sole propriety
- Close corporation
- Company
- (Pty) Limited

[TICK APPLICABLE BOX]

8.5 **DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

.....
.....
.....

8.6 **COMPANY CLASSIFICATION**

- Manufacturer
- Supplier
- Professional service provider
- Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

8.7 Total number of years the company/firm has been in business:.....

8.8 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contribution indicated in paragraph 7 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 7, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;
- iv) If a bidder submitted false information regarding its B-BBEE status level of contributor, local production and content, or any other matter required in terms of the Preferential Procurement Regulations, 2017 which will affect or has affected the evaluation of a bid, or where a bidder has failed to declare any subcontracting arrangements or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have.
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) if the successful bidder subcontracted a portion of the bidder to another person without disclosing it, PRASA reserves the right to penalise the bidder up to 10 percent of the value of the contract;
 - (e) recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
 - (f) forward the matter for criminal prosecution.

<p>WITNESSES</p> <p>1.</p> <p>2.</p>	<p>.....</p> <p>SIGNATURE(S) OF BIDDERS(S)</p> <p>DATE:</p> <p>ADDRESS</p> <p>.....</p> <p>.....</p>
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SECTION 8

COMMISSIONER OF OATH

I certify that the undersigned service provider has acknowledged that he/she has / have acquainted himself / themselves with the Contract, Project Specification / Special Conditions, Specifications and / or Bills of Quantities / Schedule of Quantities / Schedule of Prices, together with the drawings enumerated therein, as laid down by PRASA for the carrying out of the proposed WORKS knows and understands the contents of this document, that he/she does not have any objection to taking the oath, and that he/she considers it to be binding on his/her conscience, and which was sworn to and signed before me at _____ on this the _____ day of _____ 20____, and that the administering oath complied with the regulations contained in Government Gazette No. R 1258 of 21 July 1972, as amended.

_____ (Sign – SERVICE PROVIDER)

_____ (Name – SERVICE PROVIDER)

COMMISSIONER OF OATHS STAMP AND DETAILS OF PERSON	
STAMP :	NAME & SURNAME:
	DESIGNATION/RANK :
	PERSAL/EMPLOYEE NO:
	PLACE/DATE:

SECTION 9

PART A: PROJECT SPECIFICATION FOR MAINTENANCE OF RAILWAY TRACK WITH ON-TRACK MACHINERY

1. DEFINITIONS AND INTERPRETATION

DAY shall mean a calendar day. Where a specific number of days is allowed in the Contract for the performance of any act or is stipulated for the extinction of any right or the duration of any event or circumstance the days between the commencement and last day of the Annual Holidays (both days included) and the day from which the period is stated or agreed to commence, shall be excluded from the calculation of the number of days concerned.

DOUBLE SHIFT WORKING means the working of two consecutive shifts of 8 hours, which may each be non-continuous and scheduled at any times during a 24 hour day.

IDLE TIME (Ti) means all periods of 15 consecutive days or longer during which PRASA KZN does not require work to be performed by the machinery (see clause 14.4). This excludes the stoppage of work during the annual holiday.

JOINT ASSEMBLIES means all types of joints, including flash-butt and thermit welded, fishplate and block-joints.

LINE means the maximum rate of deviation of the running edge of one rail from a straight line between two points on the same rail of tangent track. Measurements will be taken 15mm below the top of the rail, against the gauge side of the rail used by the machine as a datum for aligning.

MACHINERY means the on-track machinery provided complete with all fittings, accessories and ancillary equipment including trailers, caravans and spare parts, as may be required to comply with the requirements of the specifications.

MAXIMUM OCCUPATION TIME (Tom) means the total occupation time, non-continuous, on a normal working day, not exceeding a total net period stated in the Special Conditions and Specifications.

MONTH means the continuous period from the first day to the last day of any calendar month, both days included.

MONTHLY WORKING TIME (Twm) means the targeted average monthly working time.

MOVING TIME (Tm) means the period required to move the machinery from work site to work site as a train, as part of or on a train. Moving time will commence at the announced time of departure and will end when the staging point at the new work site is reached. Periods of overnight stops when the machinery is travelling as a train, as part of or on a train will be excluded from moving time. Moving time will be included in occupation time for payment purposes.

NIGHT SHIFT ALLOWANCE means an allowance paid for any time worked between 19h00 and 05h00 (Night shift allowance is additional to either overtime or normal shift time, if applicable)

NON-AVAILABLE means when required to do work, the machinery or the operation thereof is unsafe, or the machinery is not able to produce work to the standards specified, due to any reason other than a stoppage of work caused by PRASA KZN.

NORMAL WORKING DAY means a total shift of 8 hours, which may be non-continuous, out of every 24 hours for 5 consecutive days out of every 7 days, or for 10 consecutive days out of every 14 days. The Technical Officer will determine the daily starting time, which may vary to suit seasonal changes or train timetables.

The Technical officer shall decide when 10/14-day work shifts will be worked. When a machine works further than 600 km away from the machine's base depot, the contractor may request working a 10/14-day shift if occupation conditions allow. PRASA KZN will consider such working shifts and the additional Saturday and Sunday shift payments will then apply.

OCCUPATION means a closure of the line on which work is to be performed for a specified period.

OCCUPATION DAY (To-day) means any day that the machinery will be required by the Technical Officer to be available.

OCCUPATION TIME (To) means the period(s) between the announced commencement time of an occupation and the time when the machinery is secured at its staging point for the last time.

OVERTIME means any time worked in excess of the hours of a normal working day and any time worked on Saturdays, Sundays and statutory public holidays in excess of 5 consecutive days out of 7 days or in excess of 10 consecutive days out of 14 days, all on the written instruction of, or as approved by the Technical Officer.

PLAIN TRACK means all track excluding sets and restricted track.

QUOTED PREPARATION TIME (Tq) means the combined period, as quoted by the Contractor in the Schedule of Machinery (for one complete cycle), to move the machinery from its staging point, travel to the point of work, to prepare it for work, and on completion of the work to return and secure it at the staging point, clear of the occupied track.

RESTRICTED TRACK means that portion of plain track where locking bars, guard rails and check rails are not removed prior to working or where sleepers are skewed by more than 75mm (measured at the rail's centre line) or where Dowty retarders and boosters are fitted which prevent the machine from producing work at the scheduled rates as defined in the Special Conditions and Specifications.

SETS mean all types of turnouts, including crossings, single and double slips.

SHIFT ALLOWANCE (normal) means an allowance paid for time worked on a Saturday, Sunday or statutory paid public holiday when working 5 consecutive days out of 7 days or 10 consecutive days out of 14 days (Payment for shift allowance ceases when overtime is paid)

SPLICE JOINT means a prefabricated rail expansion device. The Thermit welds at either end demarcate the extremities of the splice joint.

SPLIT OCCUPATION means an occupation on anyone-day, divided into 2 periods, the sum of which does not exceed 9 hours, with a 2 hour break in between and the total period not exceeding 11 hours.

STANDING TIME (Ts) means a stoppage of work caused by PRASA KZN.

TIME WORKED IN (Twi) means any day a machine is agreed to be available and works outside of and in lieu of a normal working day. Such Twi as well as production statistics and all relevant times must be reflected against the day for which the time was worked in.

TOP means a change of gradient of one or both rails.

TRACK means and includes plain track, restricted track, sets, splice joints and all joint assemblies.

TRAVELLING TIME (Tt) means the time for the machinery to travel between work site and staging point.

TWIST means the algebraic difference between adjacent cant measurements.

VERSINE means the offset measurement at midpoint of a 10m chord taken at any location on curved track. Measurements will be taken 15 mm below the top of the rail, against the gauge side of the rail used by the machine as a datum for aligning.

WORK means the work to be carried out in terms of the Contract.

WORKING TIME (Tw) means the periods during which the machinery is actually engaged on the operation or function for which it was provided.

2 THE CONTRACTOR'S GENERAL OBLIGATIONS

2.1 The Contractor's general obligations under the Contract comprise: -

- 2.1.1 Maintenance of railway track and the provision of on-track maintenance machinery and all accessory tools and equipment of the types and nature stipulated in the Project Specification and
- 2.1.2 The provision of all labour, supervisory personnel and specialised tradesman required to undertake the duties and functions required in terms of the Contract and everything, whether of a temporary or permanent nature, required for performance of the Work and services to be provided in terms of the Contract.
- 2.2 PRASA KZN shall, in the case of a breach of contract by the Contractor in terms of clause 29 (E5), have a lien over the Contractor's machines and accessory tools and equipment and all temporary buildings of the Contractor used for carrying out the Work.

3 **WORKMEN**

- 3.1 The Contractor shall ensure that all staff transported on on-track machines and PRASA KZN wagons or coaches, shall at all times be transported in a safe and responsible way. Only authorised staff shall be transported
- 3.2 The attention of the Contractor is directed to the requirements of safety legislation and regulations with regard to storage and transport of dangerous substances, accommodation and transport of people.

Staff shall only be allowed to travel on a train or machine in approved accommodation or cabin facilities

4 **HOURS OF WORK**

- 4.1 The Contractor shall conform to the hours of duty laid down by the Technical Officer.
- 4.2 When required, the Contractor shall work either overtime or shifts, on paid public holidays, Saturdays or Sundays. The machinery will not be required to work more than 6 shifts in any 7-day period or 11 shifts in any 14-day period.
- 4.3 Work shall not be suspended for rain or inclement weather unless otherwise agreed by the Technical Officer.
- 4.4 Before the end of each day's work the Contractor will be advised in writing of the commencement time and duration of the following day's occupation(s). The duration of the occupation will be subject to train operating conditions.
- 4.5 The Contractor may be required to work SPLIT occupations as defined in clause 1, when a 2 hours period will be allowed between occupation periods for servicing of the machines.
- 4.6 The Contractor will be allowed sufficient time on-track to calibrate and adjust the machine as part of the preventive maintenance of the machine. This time will be outside the scheduled occupation periods and will not be included in any of the contract measurements.

5 **COMPLIANCE WITH STATUTES AND SAFETY RULES**

- 5.1 The term "safety rules" is used in a generic sense and refers to all PRASA KZN arrangements, procedures and requirements, pertaining to safety, specified or incorporated by reference in the contract documents, such as the **Specification for Work On, Over, Under or Adjacent to Railway Lines and near High Voltage Equipment, E7/1, the Electrical Safety Instructions - High Voltage Equipment**. (these documents will form part of the tender document).

6 **PLACE OF WORK**

- 6.1 The Technical Officer shall determine where the Work shall be performed. The Technical Officer shall make the necessary arrangements to move the machinery by rail from one work site to another and shall give the Contractor written notice of the date and time of departure. Major movements will be planned, and the time allowed should be a minimum of 14 days or such shorter period as agreed.
- 6.2 Any delay to an announced move caused by the Contractor will render the machinery non-available for the period of such delay, excluding overnight stops.

7 RECORDS AND INSTRUCTION BOOKS

The Contractor shall submit such returns as may be required by the Technical Officer. He shall also provide and keep on each machine a duplicate carbon copy book, A4 size, the Workbook, in which instructions and events concerning the contract work shall be recorded, signed and dated by the Technical Officer or his deputy, and the Contractor.

8. MACHINERY AND EQUIPMENT REQUIRED

8.1 Mechanical and motive aspects

8.1.1 All machinery provided by the Contractor shall be in good mechanical condition and he shall maintain the machinery in good mechanical condition for the duration of the Contract.

8.1.2 Axle loads shall not exceed 20 tons.

8.1.3 The machine shall be self-propelled.

8.1.4 The machine shall have service brakes and independent emergency brakes capable of providing minimum retardation of 12,5% and 6% of gravitational acceleration respectively, on dry rail.

8.1.5 At the start of each occupation the Contractor shall, in the presence of the Technical Officer's deputy, perform the daily tests laid down by the Technical Officer. The brakes shall be briefly applied at low speed when travelling on level track or upgrade. If in the opinion of the Technical Officer's deputy the brakes do not function satisfactorily, the machinery shall be removed immediately to a staging point. Machinery staged due to defective brakes will be regarded as non-available.

At approximately one-month intervals the Technical Officer's deputy will test the brakes with a brake efficiency test meter and record the results in the workbook.

8.1.6 The machine shall actuate all signalling equipment used by PRASA KZN for traffic control.

8.1.7 Regular checks shall be made for pressure loss on brake cylinders and circuits, wear and set of brake shoes, proper functioning of sirens and mechanical locks on hydraulic components.

8.1.8 The machine shall have an adequate lighting system for operation at night. Lights shall be provided for travelling in both forward and reverse directions. The trailing end headlights and leading end red lights shall not be switched on during motion.

8.1.9 The machine shall be capable of being hauled as the last vehicle of a train if required to clear the section after breakdown. The Contractor shall provide towing equipment.

8.2 Wheel flanges, tyres and axles

8.2.1 The condition of the flanges and treads of wheels of all machines shall be carefully examined. Should any appear to be excessively worn, they shall be tested by means of the wheel flange thickness and skid limit gauge and the tyre-wear limit gauge.

8.2.2 Wheels shall comply with the following requirements:

- The thickness of a flange shall not be less than the minimum indicated by the wheel flange thickness gauge.
- Hollow wear on the tread shall not exceed 6mm.
- The flange height shall not exceed 35mm.
- The angle of the flange shall not be less than 15° and the radius at the tip of the flange not less than 6mm.

8.2.3 Axles shall comply with the following requirements:

- Ultrasonic testing: to specifications laid down by PRASA KZN, done for new axles and every time an axle is replaced after fitting new wheels.
- Distance between wheel flanges: 988mm ± 2mm.

8.3 Fuelling and maintenance

8.3.1 The Contractor shall not re-fuel service or repair the machinery, during occupations, save as provided in 13.2.2.

8.3.2 The Contractor may repair and adjust the machinery during stoppages caused by PRASA KZN. The machinery will be regarded as available during such repairs or adjustments, provided that the required working of the machine is not delayed thereby.

8.4 Recording instruments

8.4.1 Each machine shall be fitted with an approved tachograph, a mechanically operated event recorder and a speedometer.

8.4.2 The Contractor shall be responsible for inserting recording cards in the tachograph and event recorders, and for synchronising these instruments.

8.4.3 The Technical Officer's deputy will be responsible for setting the event recorder.

8.4.4 The Technical Officer's deputy will test the tachograph and event recorders at least once a week in the presence of the Contractor. The Contractor shall either repair or replace any device, which is inaccurate by more than 1 %. Failure to repair or replace an inaccurate device within 72 hours of the test will render the machinery non-available.

8.4.5 Should the tachograph or the event recorder break down, the Technical Officer's deputy will keep a complete written record of the starting and ending times of all events occurring during a track occupation. The Contractor shall sign this record if he agrees, and if he disagrees, he shall indicate on the record the reasons for the disagreement and then sign the document. Such disagreement shall be settled by negotiation between the Technical Officer and the Contractor.

8.5 Radio equipment

8.5.1 During track occupations the Contractor shall provide a cellular telephone for communication between the Workplace and the controlling office on either side of the Work place or the area CTC office.

The cell-phone for the official use of PRASA KZN shall be provided with a talk time contract of not less than 500 talk minutes per month. If this allowed talk time is exceeded, PRASA KZN shall pay the excess. This excess shall only be paid after all previous monthly account credits have been brought into consideration. The Technical officer shall certify detail account excess.

This Cell-phone shall also be available for the use of the PRASA KZN signal's or electrical technician involved if required for work directly related to the specified work. Use of this phone by any other PRASA KZN official than the Track inspector with the machine, may only be with his permission. The Track inspector with the machine shall be responsible for controlling the number of calls on this phone.

8.5.2 The Contractor shall provide and maintain walkie-talkie radio transceivers with a minimum range of 5 km in open country.

The Technical Officer, in consultation with the Contractor, will allocate suitable frequencies within the 450 MHz to 470 MHz band for configuration of the radio equipment.

The Contractor will be given seven day's written notice when additional radios are required.

8.5.3 All of the above-mentioned radio equipment shall operate on 12.5 kHz channel spacing and shall comply with specification SABS-1069.

- 8.5.4 The Contractor may operate the radio equipment only for trackside protection. The use of the allocated frequencies must be terminated when the contract expires.
- 8.5.5 When walkie-talkie communication fails due to faulty equipment, the machinery will be deemed as non-available.
- 8.5.6 When radio and or cellular telephone communication between the place of Work and the controlling stations or the protection flagmen fails, the Contractor shall remove the machinery from the track as soon as possible.

8.6 Warning devices

- 8.6.1 The machine shall be fitted with a hooter for use during travelling.
- 8.6.2 The machine shall be fitted with a separate warning system used solely for and on the approach of a train. The pitch and intensity shall make it discernable from other sounding devices and easily heard above the working of the machine anywhere within 100m from the machine. The warning system shall be activated by an appointed employee of the Contractor.

The Contractor's appointed employee shall be in continuous radio communication with PRASA KZN's protection flagmen who will warn the Contractor's employee of approaching trains on adjacent lines

- 8.6.3 A rotating amber flashing light shall be fitted to the top of the machine's cab, for use during travel.

8.7 Machinery Specifications

Machinery shall be suitable for use under the following conditions and dimensional limitations: -

- 8.7.1 Vehicle gauge: 1 065mm gauge track shown in Annexure 2 (Sheet 1 of 2). Should the machinery exceed the vehicle gauge in any respect, this shall be clearly indicated by the Contractor by means of suitable drawings.
- 8.7.2 Track gauge: nominal 1 065mm, with a range of - 10mm to + 45mm.
- 8.7.3 Minimum structure gauges: as shown in Annexure 1 (Sheet 1, 2 and 5 of 5).
- 8.7.4 Single lines or multiple lines with a minimum distance of 4m between track centres.
- 8.7.5 Maximum track gradient: 1 in 30.
- 8.7.6 Minimum curve radius: 125m.
- 8.7.7 Work place altitude range: 0 to 2 000m above sea level.
- 8.7.8 Ambient temperature range: - 5°C to + 50°C.
- 8.7.9 Mass of rail: 60 kg/m, 57 kg/m, 48 kg/m, 40 kg/m, 30 kg/m or 22 kg/m.
- 8.7.10 Maximum mass per sleeper: Sets - 750 kg; other - 300 kg.
- 8.7.11 Types of sleepers in track: timber, steel, monolithic or tie-bar concrete.
- 8.7.12 Sleeper spacing: 500mm to 900mm.

8.8 Unknown / Alternative / Substitute Machines

PRASA KZN will, in the case where alternative or substitute machines or machines with characteristics which are unknown to PRASA KZN are offered by Tenderers or the Contractor, require that such machines, before they are accepted, be subjected to trials under the prevailing working conditions of the contract area(s) to demonstrate their compliance with the contract specifications. Machines that do not comply with the specifications will not be accepted.

9. AVAILABILITY

- 9.1 The machinery shall be available, warmed up and at the place of Work on the date and at the time indicated by the Technical Officer's deputy.
- 9.2 Machinery will be regarded as available when moving from one Work place to another.
- 9.3 Moving to effect initial delivery, and final removal after completion of the Work, as well as moving requested by the Contractor (i.e. for maintenance or temporary storage of the machine at locations other than the Work place) will not be included when determining availability.
- 9.4 The Technical Officer shall give the Contractor a minimum of 14 days written notice to stop work temporarily for a period exceeding 14 consecutive days and a minimum of 14 days written notice to resume work after such temporary stoppage. Such idle time shall not be included in measurements for availability.

10. NON-AVAILABILITY

- 10.1 The Contractor shall advise the Technical Officer as soon as possible when any machinery is not available for work at its appointed place of Work and shall indicate the estimated time when it will be available for work.
- 10.2 Should any of the specified components or functions of the machine be non-available, the machine will be regarded as non-available.
- 10.3 Machinery will be regarded as available after breakdown when it is declared available and placed on the track for the purpose of testing, resetting or working, unless after the period of testing and resetting the machinery is still non-available. In the latter case, breakdown time will commence from the time that the machinery previously became non-available.
- 10.4 The provisions regarding productivity and standards of workmanship and accuracy shall apply during periods of testing or resetting.
- 10.5 When the machine is not available at all for Work on a day because of a breakdown on the previous day, occupation time and non-availability will both be equal to Tom hours.
- 10.6 Should a single stoppage of Work due to a breakdown of a machine exceed or be likely to exceed 60 minutes, the Technical Officer's deputy may require the machine to be removed to a staging point as soon as possible. Such travelling, whether from or returning to the point of breakdown, will not be included in Tt, but will be included in Tb.
- 10.7 If the Contractor is instructed to work either overtime or more than Twm, non-availability due to breakdown occurring in such time will not be penalised. Occupation time will also not be measured during such breakdown.

11. PROVIDED BY PRASA KZN

PRASA KZN will provide the following free of charge: -

- 11.1 Water to operate the machinery, where available. The quality of water cannot be guaranteed.
- 11.2 Where available, at campsites as in clause 8.2, water for drinking and domestic purposes and hot water for ablutions.
- 11.3 Free traffic consignment notes for the conveyance by rail from one area of operation to another or from the Contractor's workshop or depot to the area of operation and vice versa will be issued for the machine (whether under own power, coupled to a train or loaded onto a railway truck), spares, caravans used with the machine and either of one spares trailer or one light delivery vehicle.
- 11.4 PRASA KZN will be responsible for the safety of the machinery in so far as train working is concerned and will provide a qualified Track Inspector for each machine or group of machines, who will be in charge and who will -
- travel in the cab of the machinery whenever it moves as a train outside occupation areas.

- arrange protection for and supervise the operation of the machinery within the zone of protection, whether it is working, moving, or standing idle.
- supervise all on-tracking and off-tracking operations and ensure that the machinery is made secure when parked at the staging point.

11.5 Before work is commenced, the Technical Officer's deputy will enter in the work book the approximate positions of underground or hidden electrical conductors that may affect, or be affected by, the Work to be done under the Contract, or alternatively, endorse in the work book that no such conductors exist.

11.6 Nothing contained herein shall detract from the Contractor's obligation to exercise care in all respects in carrying out his duties under the Contract.

12. TO BE PROVIDED BY THE CONTRACTOR

12.1 Except where otherwise specified the Contractor shall at his own cost provide all machinery, labour, transport, consumable stores, equipment, tools, services, materials, spare parts and ingredients of every description required for the performance and completion of his contractual obligations.

12.2 The Contractor shall provide and deliver to the place of Work all fuels and water required for the machine operations.

12.3 The Contractor shall maintain and operate the machinery, direct his own personnel and perform all work required.

12.4 During track occupations, the Contractor shall ensure that sufficient mechanics, operators and labour are present to ensure efficient operation of the machinery.

12.5 At least one qualified and experienced mechanic shall be in attendance at all times during track occupations and when the machinery travels as a train.

12.6 The Contractor shall appoint one suitably qualified person as his representative at each occupation.

12.7 The Contractor and the Technical Officer shall notify each other in writing of the names of their representatives who will be present during track occupations. These, as well as any changes in the personnel, shall be recorded in the workbook.

12.8 Failure to comply with the provisions of 12.2 to 12.7 shall render the machinery non-available.

13. MACHINE MOVEMENTS

13.1 The Contractor shall deliver the machinery in full operational condition, with all operatives, to the initial place of Work, as directed by the Technical Officer.

13.2 The Contractor shall not place the machinery onto the track or remove it there from, or use it in any way, except when authorised to do so by the Technical Officer or his deputy.

13.3 The Contractor is responsible for movement of his machines in the occupation area.

13.4 Machinery shall not be operated as a train unless a representative of PRASA KZN, appointed by the Technical Officer, who is authorised to give instructions regarding the movement of the machinery, travels on the machinery to its destination. The Contractor shall, subject to the provisions of clause 10, assist PRASA KZN in all matters concerning the safety of trains, persons and the machinery.

13.5 The Contractor shall ensure that the off-tracking rails are correctly placed and fastened before lowering or moving the machinery onto them.

13.6 The Contractor shall point out to the Technical Officer any part of the track or off-track stand where conditions may constitute a danger to the machinery and its ancillary equipment, and record this in the work book. The Contractor shall however repair off-track platforms where work can reasonably be expected to be done by the labour provided with the machine as per the schedule of labour.

13.7 The Contractor shall load and unload all machinery to be transported by rail truck (see clause 16.3) and shall be responsible to properly secure all machinery to be so transported.

14. **CARE OF MATERIAL SUPPLIED BY PRASA KZN**

Any material supplied by PRASA KZN shall be used in the most economical way, and the Contractor shall take all reasonable care to prevent loss or damage thereof. Any material lost or damaged through negligence on the part of the Contractor or his employees shall either be made good by the Contractor or PRASA KZN will replace it. The value of the material replaced by PRASA KZN, including the cost of transport at normal tariffs applicable to the public, will be deducted from any money due to the Contractor or recovered in any other way.

15. **COMPLIANCE WITH STANDARDS OF WORKMANSHIP AND ACCURACY**

15.1 The Contractor shall work to the track dimensions required by the Technical Officer. These dimensions will be given in writing to the Contractor or indicated by means of chalk marks on the sleepers.

15.2 The Contractor shall continuously monitor and evaluate measurements of the track and shall ensure compliance with the specified standards of workmanship and accuracy.

15.3 Where, in the opinion of the Contractor, the condition of the track or any site condition is such that the specified performance standards cannot be achieved, he should record all relevant information before and after working in conjunction with the Technical Officer's deputy. The Technical Officer may, if he concurs with the Contractor's contentions, adapt the specified standards of workmanship and conformance to suit the track and/or site conditions.

16 **UNSATISFACTORY PERFORMANCE OF THE MACHINERY**

16.1 The Technical Officer may terminate the Work and/or order the machinery to be moved to another place of Work and/or order the removal of mechanic(s) and/or operator(s), and/or order the temporary or permanent removal and replacement of a machine under the following conditions:

- When the output of the machinery is less than 70% of the required minimum **productivity** for a period of two consecutive months, or
- When the percentage **availability** of the machinery (as described in the Special Conditions of Contract and Specifications) is less than 75% for a period of two consecutive months.

16.2 The Contractor may substitute, either temporarily or for the duration of the Contract, other machinery in place of that listed in the Schedule of Machinery offered. The substitute machinery shall be subject to all the terms and conditions of the Contract and shall in no way be inferior to the original machinery. (See clause 13.8). The Technical Officer shall be advised of any proposed substitution, which shall be subject to his approval.

16.3 Should the Technical Officer, at any time, be of the opinion that the machinery provided by the Contractor is performing defectively or is incapable of achieving the specified output and availability the Technical Officer may notify the Contractor in writing, but the Contractor shall not be relieved of any of his contractual obligations if such notification is not given? The Contractor shall there-upon take steps to improve the output and availability of the machinery to specified performance levels or to replace the machinery with machinery capable of achieving the specified performance, failing which the Executive Officer may act in terms of Clause 29.

17. **MEASUREMENT AND PAYMENT**

17.1 The quantities in the Schedule of Quantities and/or Prices are estimated and may be more or less than stated. The Technical Officer will measure all the work done and certify payment therefore in accordance with the Schedule of Quantities and/or Prices. The absence of stated quantities is no guarantee that none will be required.

17.2 Payment for establishment of a machine at the commencement of the Contract will only be made after the machine has attained the required minimum availability over a period of one month.

Should the Contract not be completed for any reason whatsoever, due to the Contractor, he shall refund to PRASA KZN a percentage of the establishment cost? The refund shall be proportional to the uncompleted period of the Contract.

In the case of unknown, alternative or substitute machines, establishment payments will only be made after successful completion of the trials (see clause 13.8) and only for the initial machine establishment.

- 17.3 Measurement and payment for the hire and operation of the machinery will be made as specified in the Project Specification. The following general payment provisions shall apply;
- 17.3.1 A machine-hire rate per day for each production machine that is available and operational. The rate shall include for all accessory labour, tools, equipment, etc., and everything whatsoever pertaining to the operation and maintenance of the machine.
- 17.3.2 A production-rate for each unit of time worked or work produced by the machine during actual working time. The rate shall include for all labour, fuels, consumables, materials, etc. and everything whatsoever, pertaining to the production output of the machine. The rate shall apply to all work performed on a "normal working day" as defined and to all Double-Shift working.
- 17.3.3 An extra-over payment will be made for overtime worked or production units produced during overtime working, i.e. time worked in excess of the maximum daily occupation time (Tom) on a normal working day and on Saturdays, Sundays and statutory public holidays. The overtime payment will not apply to Double Shift working.
- 17.3.4 Contractor shall submit, with their tenders, full particulars of the labour task crews, allowed for in the rates tendered in respect of clause 22.3.1 and 22.3.2, to undertake the tasks and functions specified in the Special Conditions and Specifications. Such particulars shall include the details of crew strengths i.e. numbers of labourers and supervisors, etc.
- 17.4 Additional payment will be made when the machine is required to work outside the contract area described in the Special Conditions and Specifications.
- 17.5 No payment whatsoever will be made for periods of non-availability.
- 17.6 No payment will be made if a machine is unable to work as a result of an accident to the machine, regardless of the cause of such accident.
- 17.7 When two or more machines work in tandem and as an interdependent production system, the entire group of machines will be deemed to be non-available if the non-availability of one or more machines renders the entire production system substantially unproductive.
- 17.8 The Contractor shall be paid at the hourly rates in the Labour Payment Schedule when the Technical Officer approves a temporary increase in labour to perform the tasks and functions specified in the Special Conditions and Specification, at particular workplaces.

18 INCREASE OR DECREASE IN COSTS

Not applicable

19 FOREIGN EXCHANGE RATE FLUCTUATIONS

- 19.1 The contract price payable to the Contractor will be adjusted for increases and decreases in costs of imported materials, machines and spare parts, due to fluctuations in foreign currency exchange rates after the conclusion of the Contract and for the duration thereof. Tenderers shall, by furnishing the particulars in the appendix to the Schedule of Quantities and/or Prices, indicate whether or not their tenders or part(s) thereof are subject to variation on account of exchange rate fluctuations.

Where no particulars are furnished, such tenders will be deemed to be not subject to variation on account of exchange rate fluctuations.

- 19.2 The contract price adjustments will be made in the monthly payment certificates in respect of the progress payments for that month and are to be based on the Standard Bank of South Africa's "TT sell" rate at the close of business on the last banker's day of the month for which measurement is being made.
- 19.3 The percentages quoted in the appendix shall indicate the proportion of the scheduled rate or price that are subject to exchange rate fluctuations and the adjustments on account of exchange rate fluctuations

shall only be made in respect of those proportions of the tendered rates and/or prices. The percentages quoted shall not be subject to variation on account of the actual quantities measured being more or less than the estimated quantities stated in the tender schedule of quantities and/or prices.

- 19.4 The rate of exchange to be used by Tenderers in the computation of their tender rates and/or prices and which is to be quoted in the appendix are the rate of exchange on the day 7 days prior to the date on which tenders close.
- 19.5 The adjustments of the tendered rates and prices will be made in respect of percentages quoted to be affected by fluctuations in the rate of exchange of the stated currency, between the rate stated in the appendix and the ruling rate determined in accordance with clause 24.2 hereof.
- 19.6 The contract price adjustments stipulated in clause 23 hereof shall not apply to the portions of the contract payments that are subject to adjustments for exchange rate fluctuations in terms hereof and the following formula shall apply instead.
- 19.6.1 The foreign exchange rate adjustment formula shall read:

$$(1 - x) \left[\frac{C_t}{C_o} - 1 \right]$$

Where x = the percentage not applicable to foreign exchange

- 19.6.2 Co shall be the rate as prescribed in clause 24.4 hereof.
Ct shall be the rate as prescribed in clause 24.2 hereof.
The indices to be used will be those that the Contractor proposed in his tender. These indices shall be from an official series, published by the generally accepted institution of the country to which the foreign currency is to be remitted. The tender shall furthermore show the trend of the indices over a period of at least two years.
- 19.7 The Contractor shall, when requested by the Technical Officer, furnish documentary proof of remittance to another country of the contract payments made in terms of this clause.
20. **PAYMENT CERTIFICATES**
- 20.1 On or about the last day of each month, the Technical Officer's deputy will make a progress measurement of the work done in conjunction with the Contractor.
- 20.2 Thereafter the Project Manager will issue a certificate authorising payment of such sum of money as he may consider represents the value of the work referred to in 25.1.
- 20.3 The Contractor shall be entitled to receive payment of the amount authorised in the said certificate within 30 days from the date of measurement or receipt of the Contractor's VAT-invoice, whichever is the later. Such payment will be regarded as an open payment, and both the certificate and payment will be subject to revision and adjustment by the Project Manager if at any time he is of the opinion that the certificate does not represent accurately the value of work completed or to correct previous over or under payments.
- 20.4 In the event of failure by PRASA KZN to make payment within the time stipulated in clause 25.3, he shall pay to the Contractor interest at prime overdraft rate as certified by the Contractor's bankers upon all overdue payments of such certified amounts, from the date on which such payments should have been made. Interest payments shall not be applicable to corrections made in respect of previous over- or underpayments.
- 20.5 The Project Manager shall, within 28 days after completion of the Contract, authorise the release of surety, and submit for approval by the Executive Officer a Final Certificate which, after approval by the latter, shall be issued to the Contractor, thereby certifying both the final completion of the Contract Work and the amount due to the Contractor. The Project Manager may deduct from the Final Payment Certificate any money then due by the Contractor to PRASA KZN under the Contract, and for such provisions for the resolution of any disputes which may at the time exist between the Contractor and PRASA KZN, as is deemed necessary by him.

- 20.6 The Project Manager shall, within 14 days after approval by the Executive Officer, and subject to clause 25.5, send the Final Certificate to the Contractor who, by countersigning thereof, shall certify his acceptance of the amount shown due to him as being full and final payment, subject only to the resolution of outstanding disputes.
- 20.7 Within 30 days after the receipt of the Contractor's certification, PRASA KZN will remit to the Contractor the balance of all money so due under the Contract in terms of the Final Certificate.
- 20.8 Where the Contractor fails to certify the Final Certificate or has not disputed the correctness thereof within three months after its receipt by him, PRASA KZN will deem the Contractor to be in agreement with the Final Certificate and will effect payment in terms thereof.

PRASA KZN will not consider or admit any claim arising from the Final Certificate or in connection with the Contract, which has not been lodged with the Project Manager within a period of three months after receipt by the Contractor of the Final Certificate, and the Contractor accepts and acknowledges that by his failure to lodge a claim within the above-stipulated period of three months, he waives such claim and relieves PRASA KZN of responsibility for such claim.

- 20.9 Neither the issue of the Final Certificate nor any payment made there under shall release the Contractor from any liability to indemnify PRASA KZN against, and to reimburse it in respect of, any claim made or to be made against it by a third party for damage or loss sustained by such third party in consequence of any wrongful act or omission of the Contractor, or his employees or agents.

21. **GUARANTEE**

PRASA KZN requires a Bank Guarantee or Deed of Surety ship of 5% of the total value of the Contract as security for the due and faithful performance by the Contractor of all the duties and obligations resting upon and assumed by him in terms of the Contract.

The bank guarantee or Deed of Suretyship is to be returned to the Contractor upon completion of the contract after certification from the Project Manager that all contract requirements have been met.

22. **ANNEXURES**

The following annexures are applicable to this contract:

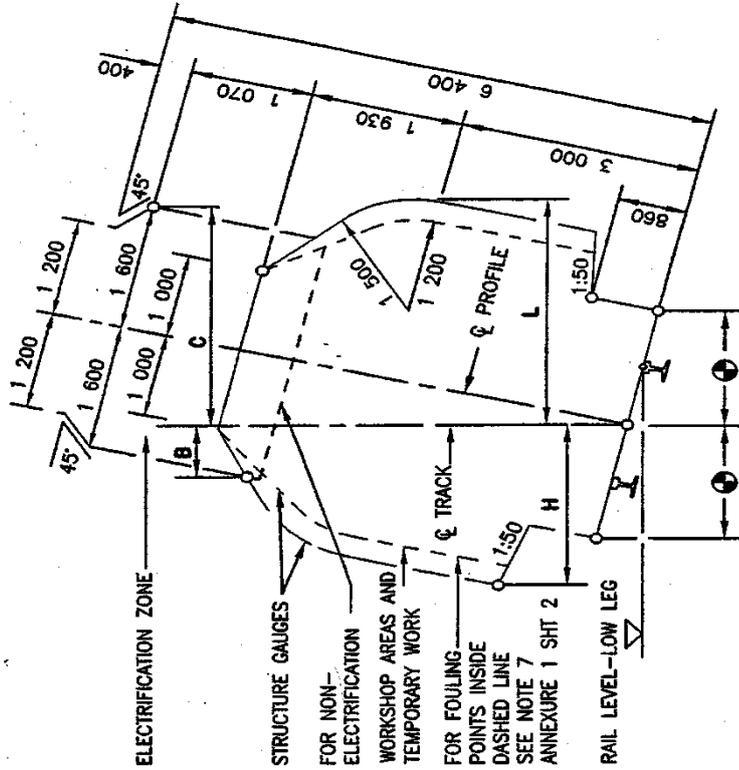
Annexure 1 (Sheet 1 of 5); Horizontal clearances: 1065mm track gauge

Annexure 1(Sheet 2 of 5); Vertical clearances: 1065mm track gauge

Annexure 2 (Sheet 1 of 2); Vehicle gauge: 1065mm track gauge

Annexure 4 (Sheet 1 of 1); Formation and Ballast minimum requirements

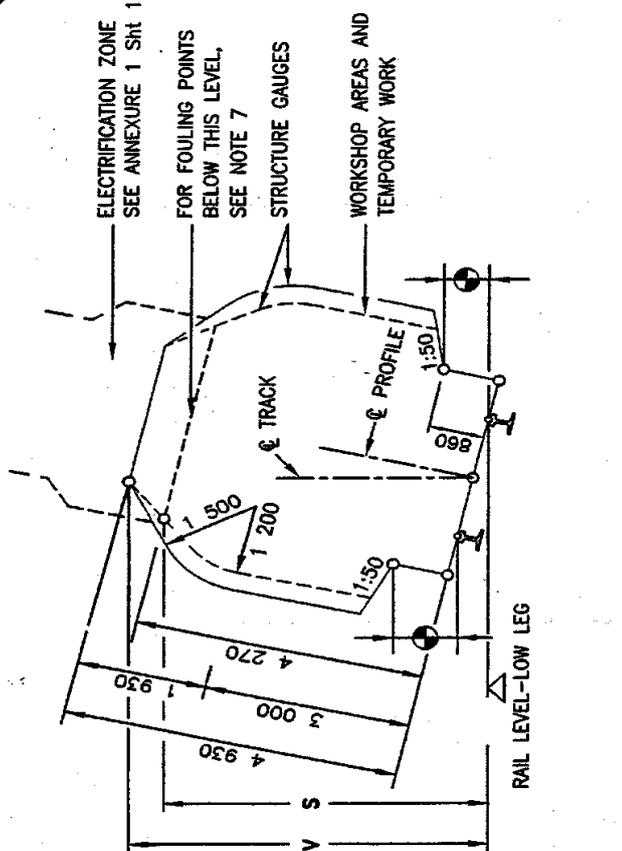
Annexure 16 (Sheet 3 to 5 of 5); De-stressing and working temperature ranges



RADIUS (m)	WITH CANT		NO CANT		WITH CANT	
	H (mm)	L (mm)	H & L	B (mm)	C (mm)	
90	2 730	3 090	2 780	1 130	2 100	
100	2 700	3 030	2 750	1 140	2 050	
120	2 650	2 970	2 700	1 160	2 010	
140	2 620	2 920	2 660	1 175	1 990	
170	2 590	2 870	2 630	1 190	1 970	
200	2 570	2 820	2 600	1 205	1 950	
250	2 550	2 790	2 580	1 230	1 920	
300	2 540	2 760	2 560	1 250	1 900	
350	2 530	2 730	2 540	1 270	1 890	
400	2 520	2 710	2 530	1 290	1 875	
500	2 510	2 680	2 520	1 320	1 850	
600	2 500	2 660	2 510	1 340	1 830	
800	2 490	2 620	2 500	1 365	1 790	
1 000	2 480	2 600	2 490	1 380	1 760	
1 200	2 480	2 580	2 490	1 200	1 730	
1 500	2 480	2 550	2 480	1 415	1 700	
2 000	2 480	2 500	2 480	1 440	1 660	
3 000	2 470	2 470	2 470	1 500	1 600	
>5 000	2 460	2 460	2 460	1 600	1 600	

REMARKS:

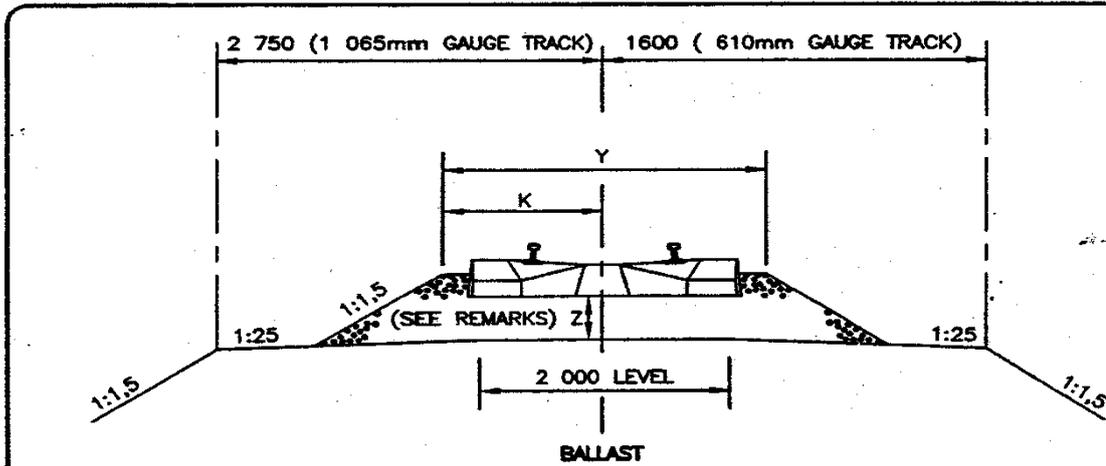
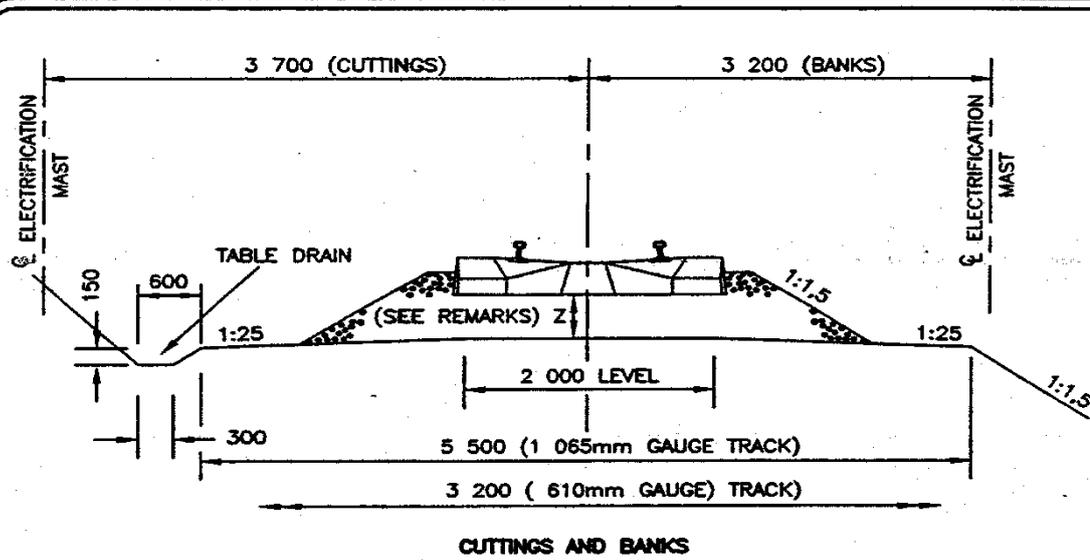
1. H AND B IS THE REQUIRED HORIZONTAL CLEARANCE ON THE OUTSIDE OF THE CURVE BASED ON MINIMUM CANT.
2. L AND C IS THE REQUIRED HORIZONTAL CLEARANCE ON THE INSIDE OF THE CURVE BASED ON MAXIMUM CANT.
3. INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
4. FOR WORKSHOP AREAS AND TEMPORARY WORK, CLEARANCES H AND L MAY BE REDUCED BY 300mm.
5. Ⓢ SEE ANNEXURE 1 SHEET 3 FOR PLATFORM CLEARANCES.
6. ALSO REFER TO REMARKS 4 TO 8 OF ANNEXURE 1 SHEET 2.



LOCATION	RADIUS (mm)	ELECTRIFIED (PRESENT OR FUTURE)	
		3KV & 25KV	50KV
* OVER OR NEAR POINTS AND CROSSING IF REQUIRED BY ELECTRICAL IRRESPECTIVE OF RADIUS	100	S	V
	300	4 470	5 050
	600	4 410	5 020
	1 000	4 370	5 000
	1 500	4 350	4 990
	2 000	4 310	4 980
>3 000	4 290	4 940	
ALL AREAS OTHER THAN THOSE INDICATED BY * BELOW		4 270	4 930
		5 650	6 000

REMARKS:

- V IS THE REQUIRED VERTICAL CLEARANCE EXCEPT WHERE REDUCED CLEARANCE S APPLIES.
- S IS THE MINIMUM VERTICAL CLEARANCE FOR STRUCTURES AND TEMPORARY WORK OVER NON-ELECTRIFIED LINES.
- INTERMEDIATE VALUES MAY BE INTERPOLATED BY THE ENGINEER IN CHARGE.
- FOR APPLICATION AT CURVES
 - 1 APPLY INCREASED CLEARANCES FOR CURVES TO POINTS 3m BEYOND THE ENDS OF THE CIRCULAR CURVE.
 - 2 REDUCE CLEARANCES AT A UNIFORM RATE OVER THE REMAINDER OF THE TRANSITION CURVE.
 - 3 FOR NON-TRANSITIONED CURVES REDUCE AT A UNIFORM RATE OVER A LENGTH OF 15m ALONG STRAIGHTS.
- NEW STRUCTURES: SEE BRIDGE CODE.
- TUNNELS: SEE DRAWING BE 82-35.
- FOULING POINTS: SEE CLAUSE 8.1.
- CLEARANCES ARE BASED ON 15m BOGIE CENTRES AND 21.2m VEHICLE BODY LENGTH.
- SEE ANNEXURE 1 SHEET 3 FOR PLATFORM CLEARANCES.



CLASS OF LINE	Z (mm)	Y (mm)	K (mm)	QUANTITY (m ³ /km)		
				PY/FY	P2/F4	WOOD
S	300	2 800	1 400	1 600	-	-
N1	280	2 700	1 350	1 500	1 400	-
N2	200	2 700	1 350	-	1 200	1 100

REMARKS:

1. Z TO BE MEASURED UNDER THE LOW LEG RAIL ON CURVES.
2. DEPTH OF BALLAST (Z) ARE TO BE MEASURED IN THE CONSOLIDATED STATE, THAT IS AFTER 100 000 GROSS TON TRAIN TRAFFIC.

ANNEXURE 16
SHEET 3 of 5
AMENDMENT

DESTRESSING AND WORKING
TEMPERATURE RANGES

SECTION	DESTRESSING RANGES		WORKING RANGES FOR RAIL LAYING	
	THROUGH LINES	YARD TRACKS	B	C
	A	D		
CAPE TOWN - BELLVILLE	20 - 50	25 - 45	15 - 55	15 - 60
* BELLVILLE - WORCESTER	25 - 45	30 - 40	20 - 50	20 - 60
* WORCESTER - DE AAR	25 - 40	25 - 35	20 - 50	20 - 55
HUTCHINSON - CALVINA	25 - 35	25 - 30	20 - 40	20 - 50
KOOTJIESKOLK - SAKRIVER	25 - 35	25 - 30	20 - 40	20 - 50
KRAAIFONTEIN - BITTERFONTEIN	25 - 45	30 - 40	20 - 50	20 - 60
KALBASKRAAL - SALDANHA	25 - 45	30 - 40	20 - 50	20 - 60
HERMON - PORTERVILLE	25 - 45	30 - 40	20 - 50	20 - 60
WOLSELEY - PRINCE ALFRED HAMLET	25 - 45	30 - 40	20 - 50	20 - 60
PAARL - FRANCHHOEK	25 - 45	30 - 40	20 - 50	20 - 60
EERSTERMIER - BREDASDORP	25 - 45	30 - 40	20 - 50	20 - 60
VAN DER STEL - STRAND	25 - 45	30 - 40	20 - 50	20 - 60
KLIPDALE - PROTEM	25 - 45	30 - 40	20 - 50	20 - 60
EERSTERMIER - MULDERSVLEI	25 - 45	30 - 40	20 - 50	20 - 60
* WORCESTER - RIVERSDALE	25 - 40	30 - 35	20 - 45	20 - 55
KENTEMADE - ATLANTIS	25 - 45	30 - 40	20 - 50	20 - 60
TABLE BAY HARBOUR - SIMONSTOWN	20 - 50	25 - 45	15 - 55	15 - 60
CAPE TOWN CENTRAL METRO AREA	20 - 50	25 - 45	15 - 55	15 - 60
* DE AAR - * KIMBERLEY	25 - 35	25 - 30	20 - 40	20 - 50
* KIMBERLEY - MAKWASSIE	25 - 40	30 - 40	20 - 50	20 - 55
* MAKWASSIE - * KLERKSDORP	20 - 40	25 - 35	15 - 50	15 - 55
* KIMBERLEY - * POSTMASBURG	25 - 35	25 - 30	20 - 40	20 - 50
POSTMASBURG - HOTAZEL	25 - 40	30 - 35	20 - 45	20 - 55
DE AAR - NAKOP	25 - 40	30 - 35	25 - 45	25 - 55
GROVEPUT - COPPERTON	25 - 40	30 - 35	25 - 45	20 - 55
UPINGTON - KAKEMAS	25 - 40	30 - 35	25 - 45	20 - 55
BELMONT - DOUGLAS	25 - 40	30 - 35	20 - 45	20 - 55
VEERTIENSTROME - MAFIKENG	25 - 40	30 - 35	20 - 45	20 - 55
PUDIMOE - COLIGNE	25 - 40	30 - 35	20 - 45	20 - 55
* MAKWASSIE - VERMAAS	20 - 40	25 - 35	15 - 45	15 - 55
OTTOSDAL - * KLERKSDORP	20 - 40	25 - 35	15 - 45	15 - 55
LICHTENBURG - WELVERDIEND	20 - 40	25 - 35	15 - 45	15 - 55
PORT ELIZABETH - ALICEDALE	25 - 45	30 - 40	20 - 50	20 - 60
* ALICEDALE - NOUPOORT	25 - 40	30 - 35	20 - 45	20 - 55
NOUPOORT - DE AAR	25 - 40	30 - 35	20 - 45	20 - 55
SWARTKOPS - KLIPPLAAT	25 - 45	30 - 40	20 - 50	20 - 60
KLIPPLAAT - ROSMEAD	25 - 45	30 - 40	20 - 50	20 - 60
ADDO - KIRKWOOD	25 - 45	30 - 40	20 - 50	20 - 60
RIVERSDALE - * MOSSELBAAI	25 - 45	30 - 40	20 - 50	20 - 60
MOSSELBAAI - GEORGE	20 - 45	25 - 40	15 - 50	15 - 60
* GEORGE - OUDTSHOORN	25 - 45	30 - 40	20 - 50	20 - 60
* OUDTSHOORN - * KLIPPLAAT	25 - 40	30 - 35	20 - 45	20 - 55
OUDTSHOORN - CALITZDORP	25 - 45	30 - 40	20 - 50	20 - 60
* GEORGE - KNYSNA	25 - 45	30 - 40	20 - 50	20 - 60
* PORT ELIZABETH - AVONTUUR	25 - 40	30 - 35	20 - 45	20 - 55
GAMTOOS - PATENSIE	25 - 45	30 - 40	20 - 50	20 - 60
COOKHOUSE - SOMERSET EAST	25 - 40	30 - 35	20 - 45	20 - 55
* ALICEDALE - PORT ALFRED	30 - 40	30 - 35	25 - 45	25 - 55
BARKLEY BRIDGE - ALEXANDRIA	25 - 45	30 - 40	20 - 50	20 - 60
EAST LONDON - DOHNE	20 - 45	25 - 40	15 - 50	15 - 60
* DOHNE - QUEENSTOWN	25 - 40	30 - 35	20 - 50	20 - 55
* QUEENSTOWN - BURGERSDORP	20 - 35	25 - 30	15 - 45	15 - 50
* BURGERSDORP - SPRINGFONTEIN	20 - 40	25 - 40	15 - 50	15 - 55
COOKHOUSE - BLANEY	25 - 40	30 - 35	20 - 45	20 - 55
AMABELE - UMTATA	25 - 40	30 - 35	20 - 45	20 - 55
IMVANI - QAMATA	25 - 40	30 - 35	20 - 45	20 - 55
* ROSMEAD - STORMBERG	20 - 30	20 - 25	15 - 35	15 - 45
SCHOOMBEE - HOFMEYR	20 - 30	20 - 25	15 - 35	15 - 45
STERKSTROOM - MACLAER	20 - 30	20 - 25	15 - 35	15 - 45
MOLTENO - JAMESTOWN	20 - 30	20 - 25	15 - 35	15 - 45
BURGERSDORP - BARKLEY EAST	20 - 35	25 - 30	15 - 40	15 - 50

REMARKS:

1. FOR REMARKS SEE ANNEXURE 16 SHEET 5.

ANNEXURE 16
SHEET 4 of 5
AMENDMENT

DESTRESSING AND WORKING
TEMPERATURE RANGES

SECTION	DESTRESSING RANGES		WORKING RANGES FOR RAIL LAYING	
	THROUGH LINES	YARD TRACKS	B	C
	A	D		
NOUPOORT - SPRINGFONTEIN	20 - 40	25 - 35	15 - 45	15 - 55
* SPRINGFONTEIN - BLOEMFONTEIN	20 - 35	25 - 30	15 - 40	15 - 50
BLOEMFONTEIN - THEUNISSEN	20 - 35	25 - 30	15 - 40	15 - 50
* THEUNISSEN - KROONSTAD	20 - 40	25 - 35	15 - 45	15 - 55
KROONSTAD - VEREENIGING	20 - 40	25 - 35	15 - 45	15 - 55
BETHLEHEM - ARLINGTON	15 - 35	20 - 30	10 - 40	10 - 50
* ARLINGTON - * KROONSTAD	15 - 40	20 - 35	10 - 45	10 - 55
KIMBERLEY - EMMAUS	25 - 40	25 - 35	20 - 45	20 - 55
* EMMAUS - BLOEMFONTEIN	20 - 35	25 - 30	15 - 40	15 - 50
SPRINGFONTEIN - KOFFIEFONTEIN	25 - 40	30 - 35	20 - 45	20 - 55
ALIWAL NORTH - SANNASPOS	20 - 40	25 - 35	15 - 45	15 - 55
GROOTVLEI - * BETHLEHEM	20 - 35	25 - 30	15 - 40	15 - 50
* BETHLEHEM - BLOEMFONTEIN	20 - 35	25 - 30	15 - 40	15 - 50
HARRISMITH - BETHLEHEM	15 - 35	20 - 30	10 - 40	10 - 50
VREDEFORT - DOVER	20 - 40	25 - 35	15 - 45	15 - 55
WOLWENHOEK - ARLINGTON	20 - 40	25 - 35	15 - 45	15 - 55
* ARLINGTON - MARQUARD	20 - 40	25 - 35	15 - 45	15 - 55
ORKNEY - WESLEIGH	20 - 40	25 - 35	15 - 45	15 - 55
VIERFONTEIN - BULTFONTEIN	20 - 40	25 - 35	15 - 45	15 - 55
ANCONA - WHITES	20 - 40	25 - 35	15 - 45	15 - 55
THEUNISSEN - WINBURG	20 - 40	25 - 35	15 - 45	15 - 55
WARDEN - * HARRISMITH	20 - 40	25 - 35	15 - 45	15 - 55
MASERU - MARSAILLES	20 - 40	25 - 35	15 - 45	15 - 55
LADYBRAND - MODDERPOORT	20 - 40	25 - 35	15 - 45	15 - 55
VIRGINIA - GLEN HARMONY	20 - 40	25 - 35	15 - 45	15 - 55
WONDERFONTEIN - BROODSNYERSPLAAS	15 - 40	20 - 35	10 - 45	10 - 55
ERMELO - MACHADODORP	20 - 40	25 - 35	15 - 45	15 - 55
BUHRMANNSKOP - LOTHAR	15 - 35	20 - 30	10 - 40	10 - 50
ROSSBURG - * DASSENHOEK	20 - 45	25 - 40	15 - 50	15 - 60
DASSENHOEK - CATO RIDGE	25 - 40	30 - 35	20 - 45	20 - 55
CATO RIDGE - PIETERMARITZBURG	25 - 40	30 - 35	20 - 45	20 - 55
* PIETERMARITZBURG - * VOLKSRUST	20 - 40	25 - 35	15 - 45	15 - 55
ROSSBURG - HILLCREST	20 - 45	25 - 40	15 - 50	15 - 60
* HILLCREST - CATO RIDGE	25 - 40	30 - 35	20 - 45	20 - 55
DURBAN - PORT SHEPSTONE	20 - 50	25 - 45	15 - 60	15 - 65
KELSO - UMZINTO	20 - 50	25 - 45	15 - 60	15 - 65
DURBAN - HLUHLUWE	20 - 50	25 - 45	15 - 60	15 - 65
* HLUHLUWE - GOLELA	25 - 45	30 - 40	20 - 55	20 - 60
EMPANGENI - NKWALINI	25 - 50	30 - 45	20 - 55	20 - 60
DUFFSROAD - KWAMASHU	25 - 50	30 - 45	20 - 55	20 - 60
THORNVILLE - RICHMOND	25 - 40	30 - 35	20 - 45	20 - 55
THORNVILLE - PENTRICH	25 - 40	30 - 35	20 - 45	20 - 55
* PIETERMARITZBURG - KOKSTAD	25 - 35	25 - 30	20 - 40	20 - 50
DONNYBROOK - UNDERBERG	20 - 35	25 - 30	15 - 40	15 - 50
FRANKLIN - MATATIELE	20 - 35	25 - 30	15 - 40	15 - 50
PIETERMARITZBURG - DALTON	25 - 40	30 - 35	20 - 45	20 - 55
* DALTON - KRANSKOP	20 - 40	25 - 35	15 - 45	15 - 55
SCHROEDERS - BRUYNHILL	25 - 40	30 - 35	20 - 45	20 - 55
* DALTON - GLENSIDE	20 - 40	25 - 35	15 - 45	15 - 55
GREYTOWN - MOUNT ALIDA	20 - 40	25 - 35	15 - 45	15 - 55
ENNERSDALE - BERGVILLE	25 - 40	30 - 35	20 - 45	20 - 55
GLENCOE - VRYHEID	20 - 40	20 - 35	15 - 50	15 - 55
NEWCASTLE - UTRECHT	20 - 40	25 - 35	15 - 45	15 - 55
LADYSMITH - HARRISMITH	20 - 40	25 - 35	15 - 45	15 - 55

REMARKS:

- FOR REMARKS SEE ANNEXURE 16 SHEET 5.

ANNEXURE 16
SHEET 5 of 5
AMENDMENT

DESTRESSING AND WORKING
TEMPERATURE RANGES

SECTION	DESTRESSING RANGES		WORKING RANGES FOR RAIL LAYING	
	THROUGH LINES	YARD TRACKS	B	C
	A	D		
KLERKSDORP - * POTCHEFSTROOM	20 - 35	25 - 30	20 - 40	15 - 50
POTCHEFSTROOM - * KRUGERSDORP	20 - 40	25 - 35	15 - 45	15 - 55
KRUGERSDORP - JOHANNESBURG	15 - 40	20 - 35	10 - 45	10 - 55
JOHANNESBURG - OLFANTSFONTEIN	15 - 40	20 - 35	10 - 45	10 - 55
POTCHEFSTROOM - VEREENIGING	20 - 40	25 - 35	15 - 45	15 - 55
VEREENIGING - GERMISTON	20 - 40	25 - 35	15 - 45	15 - 55
VOLKSRUST - * STANDERTON	15 - 35	20 - 30	10 - 40	10 - 50
STANDERTON - * HEIDELBERG	20 - 35	25 - 30	15 - 40	15 - 50
HEIDELBERG - GERMISTON	20 - 40	25 - 35	15 - 45	15 - 55
BALFOUR NORTH - * GROOTVLEI	20 - 35	25 - 30	15 - 40	15 - 50
GROOTVLEI - REDAN	20 - 40	25 - 35	15 - 45	15 - 55
FIRHAM - VREDE	20 - 35	25 - 30	15 - 40	15 - 50
VOLKSRUST - BREYTEN	15 - 40	20 - 35	10 - 45	10 - 55
BETHAL - SPRINGS	20 - 40	25 - 35	15 - 45	15 - 55
SPRINGS - KAYDALE	20 - 40	25 - 35	15 - 45	15 - 55
MIDWAY - HOUTHEUWEL	20 - 35	25 - 30	15 - 40	15 - 50
BANK - LANGLAAGTE	20 - 35	25 - 30	15 - 40	15 - 50
MAFKENG - * KRUGERSDORP	25 - 40	30 - 35	20 - 45	20 - 55
APEX - WITBANK	20 - 35	25 - 30	15 - 40	15 - 50
DELMAS - HAWEKLIP	20 - 35	25 - 30	15 - 40	15 - 50
SENTRARAND AREA	15 - 35	20 - 30	10 - 40	10 - 50
JOHANNESBURG CENTRAL METRO AREA	15 - 40	20 - 35	10 - 45	10 - 55
OLFANTSFONTEIN - * IRENE	15 - 40	20 - 35	10 - 45	10 - 55
IRENE - PRETORIA	20 - 40	25 - 35	15 - 45	15 - 55
PRETORIA - * WARMBATHS	20 - 40	25 - 35	15 - 45	15 - 55
WARMBATHS - * POTGIETERSRUS	20 - 45	25 - 40	15 - 55	15 - 60
POTGIETERSRUS - BEITBRIDGE	20 - 45	25 - 40	15 - 50	15 - 50
* PRETORIA - * WATERVAL BOVEN	20 - 40	25 - 35	15 - 50	15 - 55
WATERVAL BOVEN - * NELSPRUIT	20 - 45	25 - 40	15 - 55	15 - 60
NELSPRUIT - KOMATIPOORT	25 - 45	30 - 40	20 - 55	20 - 60
HERCULES - MAGALIESBURG	20 - 40	25 - 35	15 - 45	15 - 55
PRETORIA - BRITS	20 - 40	20 - 35	15 - 45	15 - 55
BRITS - RUSTENBURG	20 - 40	25 - 35	15 - 45	15 - 55
RUSTENBURG - * THABAZIMBI	20 - 40	25 - 35	15 - 45	15 - 55
THABAZIMBI - ELLISRAS	25 - 40	30 - 35	20 - 45	20 - 55
BRITS - ATLANTA	20 - 40	25 - 35	15 - 45	15 - 55
NYLSTROOM - VAALWATER	20 - 40	25 - 35	15 - 45	15 - 55
NABOOMSPRUIT - ZEBEDIELA	20 - 40	25 - 35	15 - 45	15 - 55
PIENAARSRIVER - MARBLE HALL	25 - 40	30 - 35	20 - 45	20 - 55
RAYTON - CULLINAN	20 - 40	25 - 35	15 - 45	15 - 55
GROENBULT - KAAPMUIDEN	25 - 45	30 - 40	20 - 50	20 - 60
HOEDSPRUIT - PHALABORWA	25 - 45	30 - 40	20 - 50	20 - 60
* KAAPMUIDEN - BARBERTON	20 - 45	25 - 40	15 - 50	15 - 60
* NELSPRUIT - GRASKOP	20 - 35	25 - 30	15 - 40	15 - 50
CITRUS - PLASTON	20 - 45	25 - 40	15 - 50	15 - 60
BELFAST - STEELPOORT	20 - 40	25 - 35	15 - 45	15 - 55
DERWENT - ROOSSENEKAL	20 - 40	25 - 35	15 - 45	15 - 55
PRETORIA CENTRAL METRO AREA	20 - 40	25 - 35	15 - 45	15 - 55
SALDANHA - BAMBOESBAAI	20 - 50	25 - 45	15 - 55	15 - 60
* BAMBOESBAAI - SISHEN	25 - 40	30 - 35	20 - 45	20 - 55
RICHARDSBAY - ULUNDI	20 - 45	-	20 - 55	-
* ULUNDI - PIET RETIEF	20 - 40	25 - 35	20 - 50	15 - 55
PIET RETIEF - * SHEEPMORE	20 - 40	25 - 35	20 - 50	15 - 55
SHEEPMORE - ERMELO	15 - 35	20 - 30	15 - 45	10 - 50
* ERMELO - BROODSNYERSPLAAS	15 - 40	20 - 35	15 - 50	10 - 55
BROODSNYERSPLAAS - OGIES	15 - 40	20 - 35	15 - 50	10 - 55

REMARKS:

1. RAIL TEMPERATURES IN DEGREE CELSIUS.
2. USE A RAIL TENSOR WHEN THE DIFFERENCE IN THE 'A' RANGE IS 10° CELSIUS OR SMALLER.
3. * DENOTES "EXCLUDED".

PART B: SPECIFICATION FOR PROFILING/REGULATING BALLAST OF RAILWAY TRACK FOR THE KZN REGION

CONTENTS

1 SCOPE

- 1.1 Nature of work
- 1.2 Contract area
- 1.3 Duration of contract

2 DEFINITIONS

3 TYPE OF MACHINE REQUIRED

- 3.1 Regulating/Profiling functions
- 3.2 Mechanical and motive aspects

4 STANDARDS OF WORKMANSHIP AND ACCURACY

5 MEASUREMENTS FOR COMPLIANCE WITH STANDARDS

6 EVALUATION OF MACHINE PERFORMANCE

7 RECTIFICATION

8 PRODUCTIVITY

9 MEASUREMENT AND PAYMENT

SCHEDULE OF MACHINES

SCHEDULE OF PRICES

APPENDIX A

1 SCOPE:

1.1 Nature of work

This Contract includes the maintenance of track by the Contractor with a heavy duty, on-track ballast regulating/profiling machine.

1.2 Contract area

The Contract area will be various areas within the boundaries of the railway reserve for the Metrorail, KZN region

1.3 Duration of contract

1.3.1 The Contract shall commence on the date stated in the letter of acceptance of tender and the contract period shall be six (6) months.

2 DEFINITIONS

The following additional definitions shall apply.

Regulate - To place the correct quantity of ballast between and around the sleepers to form the required profile and/or brooming of the ballast.

Profiling - Forming of the ballast profile by means of adjustable ploughs.

Brooming - Finishing off the top surface of the ballast profile to ensure that ballast does not protrude above the sleepers and/or picking up excess ballast from the top-surface to store it in the machine's ballast hopper for distribution to other areas.

Ballast - Broken stone used to support sleepers.

3 TYPE OF MACHINE REQUIRED

3.1 Regulating functions

3.1.1 The machine shall be able to correct the ballast profile of the track to the required dimensions by:

- Moving ballast from either side of the track to the other
- Moving ballast from either side of the track to between the rails, or vice versa

3.1.2 All ploughs shall be hydraulically operated from inside the cab of the machine to enable adjustment of the ballast profiles according to the available ballast volume without stopping the machine.

3.1.3 Where obstructions occur within the required ballast profile the machine shall stop short thereof and continue regulating the ballast on the other side of the obstruction.

3.1.4 Signalling and electrical equipment (such as axle counters, cables and bonds) and rail lubricators will not be removed for regulating.

3.2 Motive and other aspects

3.2.1 The machine shall not require having off-track equipment.

3.2.2 The machine cab shall provide sufficient space for the Contractor's staff as well as seating for one member of METRORAIL staff.

4 STANDARDS OF WORKMANSHIP AND ACCURACY

The required standards are given in Appendices A and B.

4.1 The standards will not apply within 10m of obstructions that prevent the machine from profiling to the required ballast profile, or where insufficient ballast occurs.

- 4.2 No ballast shall remain beyond the toe of the ballast profile, such that the depth of ballast stones remaining is more than 60mm. This will not be applicable where there is ballast infill between multiple tracks.
- 4.3 Where excess ballast is encountered it shall be distributed on the profile shoulders as follows:
- Straight track: Symmetrical
Curves: Excess ballast placed on high leg, to a maximum of 300mm preference, after which further excess is placed symmetrically.
- 4.4 All ballast and muck shall be removed from drains, (concrete lined or earth). This excludes ballast and muck that fouled the drains before start of work on the section.
- 4.5 When the Technical Officer specifies a different ballast profile, similar tolerances to that shown in Appendices A and B will apply as standards.

5 MEASUREMENT FOR COMPLIANCE WITH STANDARDS

- 5.1 The Contractor is responsible for achieving the required standards. Measurements by the Technical Officer (as described below) will only be as a check, once the Contractor is ready to hand over the track.
- 5.2 Compliance with the Sc standards will be evaluated after operation of the machine. Should any measurement exceed the Sc standard the machine shall immediately rectify the fault.
- 5.3 Compliance with the Sf standards will be evaluated within the first 100 000 gross tons of traffic but always within 24 hours after submission for handover.
- 5.4 Ballast profiles will be measured by means of a template and tape, as shown in Appendix B. The template shall be provided by the Contractor and be available at the worksite at all times.
- 5.5 The Technical Officer or his deputy will take all measurements before and after the profiler.

6 EVALUATION OF MACHINE PERFORMANCE

- 6.1 Machine performance will be evaluated by measurement of the ballast profile behind the machine operation by the Technical Officer or his deputy and will be **based on the local conditions and ballast availability**. Defective machine performance is indicated by a measurement that fails to meet the specified standards i.e. a failed measurement.
- 6.2 The performance of the machine will be acceptable if the number of failed measurements does not exceed the specified number shown in Appendix A.

Plain track and restricted track will for this purpose be divided into 500m sections.

If the terms of clauses 4.1 or 4.5 exclude a portion of track from measurement, or the 500m section is not complete (for example if a set occurs within the section), the tolerance will be reduced proportionally.

- 6.3 Should any measurement exceed the Sc-standard, the machine shall immediately rectify the fault.
- 6.4 The Technical Officer's deputy will decide, if re-working shall be done in case of non-conformance to clauses 5.2 or 5.3.
In all instances where re-working is required, the working time will not be added to the monthly total of Tw, for the duration of such re-working.
- 6.5 Should re-working according to clause P.5.4 not be possible because of a lack of occupation time, then fifty percent of the Tw for the portion of track under consideration, taken at scheduled rates, will be subtracted from the monthly total of Tw.
- 6.6 The tachograph will be marked by the Technical Officer's deputy to indicate where re-working was done.

7 RECTIFICATION

- 7.1 In case of non-compliance with the standards of workmanship and accuracy the ballast shall be regulated until the standards are achieved. The Technical Officer's deputy will give the Contractor a written instruction to this effect, which will include the relevant measurement results.
- 7.2 Where the Sc standards are not attained before the end of an occupation, nor should the Contractor damage the track or any visible equipment, the Technical Officer may arrange to rectify the defects. Costs will be recovered from the Contractor, at departmental rates.

8 PRODUCTIVITY

- 8.1 Productivity = $P = La \cdot [\sum(Tw_{pro} \cdot R_{pro})]$

La = the total lengths of track accepted
= La_{pro}
Tw = Working time
R = quoted production rate of track finalised per hour of working time (Tw).
Subscripts "pro" distinguish between profiling (up to three separate types).
the productivity factor will always be limited to a factor of 1.

Working on sections where the standards of workmanship and accuracy are not applied will not be included in the productivity factor.

- 8.2 The quoted production rates will be used in conjunction with the monthly totals of work done and times taken to determine the month's productivity factor.
- 8.3 The scheduled working rates will be taken in consideration during adjudication of tenders.
- 8.4 If the actual monthly working rate is slower than R, Tw will be multiplied with the ration: $P = (\text{Actual working rate})/R = \text{Productivity factor}$.

9 MEASUREMENT AND PAYMENT

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

- (a) In the Formulae herein Tw, To, Tb and La are the totals for the month, except when Tw > 90 hours, where after no Tb will be added to the monthly total of Tb. To will be reduced with all the Tb recorded after Tw > 100 hours.

- (b) Availability = $A = \frac{To - Tb}{To}$

Availability is not calculated separately for profiling and brooming

- (c) Productivity factor, P, is calculated as in clause 8

9.1 ITEM 1

An Establishment payment will be made after the machine first attains a minimum availability of 65% over a period of 1 month.

9.2 ITEM 2

Payment made for machine hire will be made as follows:

Monthly payment = (Availability) x (Applicable rate of item 2.1 or 2.2) x (number of To days in the month)

To days exclude days on which the machine was not required to be available – e.g. weekends/holidays. To-days includes days for moving the machine between regions/deposits.

In any year the guaranteed number of T_o days will be: 180 x (calendar days in the six-month/365) – (idle time).

The additional T_o days will only be measured after the quarantined number of days had been worked.

9.3 ITEM 3

Payment will be made for each hour of working time (T_w). Only work that was required and accepted will be included in the production measurement and payment under item 3.

9.4 ITEM 4 – Overtime Payment

Item 4.1 – Overtime payment will be made for occupation time during week days (Monday to Friday) in excess of the hours of maximum occupation time (TOM) of 8 (eight) hours per day.

Item 4.2 – Overtime payment will be made for work performed on a **Saturday** when in excess of 5 consecutive days out of every 7 or in excess of 10 consecutive days out of every 14 days.

Item 4.3 – Overtime payment will be made for work performed on a **Sunday or Paid Public Holiday** when in excess of 5 consecutive days out of every 7 days or in excess of 10 consecutive days out of every 14 days.

9.5 ITEM 5 – Shift Allowance

Item 5.1 – A shift allowance payment will be made for work performed on a **Saturday** when working five days out of every seven days or ten days out of every fourteen days.

Item 5.2 – A shift allowance payment will be made for work performed on a **Sunday** or Paid Public Holiday when working five days out of every seven days or ten days out of every fourteen days.

Item 5.3 – A **night shift** allowance payment will be made when a 9-hour occupation or part thereof falls between 19h00 and 05h00, and will be paid in addition to any other shift or overtime payments.

9.6 ITEM 6

Payment for temporary stoppage of work, idle times (I_t) will be made for each calendar day. The tendered rates shall include for all costs incurred by the Contractor.

9.7 ITEM 7

When technological development required by METRORAIL necessitates modifications to the machine, an assessment of the time and cost of such modifications shall be submitted to the Technical Officer as soon as possible. Modifications in the field shall only be done on instruction by the Technical Officer, for which the following shall apply:

For labour the rates in item 7 of the schedule of quantities and prices

A mark-up of 25% will be allowed on landed prices of imported parts or the delivered prices of locally manufactured parts.

9.8 ITEM 8

Payment will be made per track kilometre for moving the machinery between worksite and worksite. Tendered rates shall be included for fuel as well as wear and tear while moving. No payment will be made when the machinery is pulled by Locomotive.

MANDATORY COMPLIANCE DOCUMENT

SPECIFICATIONS OF TYPE MACHINERY MUST BE COMPLETED AND MUST BE PART OF THE SUBMISSION

PROFILING/REGULATING BALLAST OF RAILWAY TRACK

TYPE OF MACHINE:

MAKE:

MODEL (YEAR):

HOPPER CAPACITY (cub metro):

NOMINAL TRAVELLING SPEED (km/h):

1:60 gradient (minimum = 45km/h):

Zero gradient (minimum = 60km/h):

When travelling as part of and coupled to a train:
(minimum = 60km/h)

Note: **Nominal** in the schedule of machines indicates the maximum continuous production rate that the machine is capable of.

DESCRIPTION	UNIT	SCHEDULED MEASUREMENT/RATE/TIME	LIMITING RATE
Lateral reach (from rail centreline)	m		2,90 minimum
Vertical reach (from rail level)	m		1,00 minimum
Profiling rates: <ul style="list-style-type: none">Shoulders onlyShoulders to centreShoulder to shoulder	m/Tw hr m/Tw hr m/Tw hr	R _{pro} 1 = R _{pro} 2 = R _{pro} 3 =	
Brooming rates: <ul style="list-style-type: none">Finishing off onlyPicking up ballast and finishing off	m/Tw hr m/Tw hr	R _{pro} 1 = R _{pro} 2 =	

TECHNICAL EVALUATION MAINTENANCE OF PERMANENT WAY TRACK WITH ONE ON-TRACK BALLAST REGULATOR/PROFILER FOR THE PRASA KZN REGION

No	Functionality and Capabilities	TOTAL POINTS
1.	1. Capacity to deliver the Project (30) 1.1 Availability to commence Project implementation (30 calendar days from the date of award) = 30	30
2.	Technical Specifications as per requirements : (Machine Specifications) 2.1 Machine capabilities as per specifications 2.2 Self-propelled and capable of being hauled 2.3 Conforms to moving structure and track gauge	40
3	Relevant experience: provide client list including letter of reference with contactable details in last 10 years a minimum of 3 similar projects(30) <ul style="list-style-type: none"> • > 3 similar works with contactable details submitted = 30 • 3 similar works with contactable details submitted = 20 NB!! Provide letters of reference from the previous clients on completed projects.	30
	GRAND TOTAL	100
	Minimum of 80% must be achieved to qualify to next evaluation stage (Price and BBBEE)	

BILL OF QUANTITIES AND PRICES

ITEM	DESCRIPTION	QUANTITY	UNIT	RATE		AMOUNT	
				R	c	R	c
1	Establishment costs (inclusive of machine movement)	1	sum				
2	Machine hire						
2.1	To days	160	days				
3	Working hours (Tw)	1200	Hrs				
4	Overtime (quantities provisional)						
4.1	Overtime hours outside Tom of 8 hours	70	Hrs				
4.2	Overtime payment for Saturdays when in excess of 5 out of 7 days or 10 out of 14 days worked consecutively	70	Hrs				
4.3	Overtime payment for Sundays and PPH when in excess of 5 out of 7 days or 10 out of 14 days worked consecutively	100	Hrs				
5	Shift allowance (Provisional)						
5.1	Shift payment for Saturdays when working 10 out of 14 days	200	Hrs				
5.2	Shift payment for Sundays and PPH when working 10 out of 14 days	200	Hrs				
5.3	Night shift payment for night shifts between 19:00 and 05:00 (This payment is in addition to shift payments in items 5.1 and 5.2 and 4.1.-4.3)	500	Hrs				

6	Idle Time	10	days				
7	Day labour (Provisional, rates only)						
7.1	Skilled	-	Hrs				
7.2	Semi-skilled	-	Hrs				
7.3	Un skilled	-	Hrs				
8	Enhancement for overtime(extra-over for items 7.1-7.3)						
8.1	Weekends, including Saturdays		%				
8.2	Sunday and Public Holidays		%				
9	Cell Phones						
9.1	Monthly rental	6	month				
9.2	Additional charges	500	min				
		TOTAL (VAT excl.)					
		VAT @ 15%					
		TOTAL (VAT Incl.)					

NB All quantities are provisional