



SOUTH AFRICAN NATIONAL PARKS

MAINTENANCE AND REHABILITATION OF THE SUSPENSION BRIDGES AT STORMS RIVER MOUTH REST CAMP IN THE GARDEN ROUTE NATIONAL PARK – TSITSIKAMMA SECTION

CONTRACT NO: CI-GK-0165

TENDER DOCUMENT

October 2024

ISSUED BY:

Mr. Garret Kobe

Manager SCM: Infrastructure and Special Projects

SOUTH AFRICAN NATIONAL PARKS

P.O. BOX 787

PRETORIA

0001

NAME OF TENDERER:

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

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The Tenderer is required to check the numbers of pages and should any be found to be missing or duplicated, or should any of the typing be distinct, or any doubt or obscurity arise as to the meaning of any description or particular of any item, or if the Tender Document contains any obvious errors, then the Tenderer must immediately inform the Employer and have them rectified or explained in writing as the case may be. No liability whatsoever will be admitted by reason of the Tenderer having failure to comply with the foregoing instructions.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

1: The Tender

This document is for information purposes ONLY

Contractor

Witness for
Contractor

Employer

Witness for
Employer

Part T1: Tendering procedures

This document is for information purposes ONLY

Contractor

Witness for Contractor

Employer

Witness for Employer

Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165

T1.1: Tender Notice and Invitation to Tender (SBD1)

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE SOUTH AFRICA NATIONAL PARKS					
BID NUMBER:	CI-GK-0165	CLOSING DATE:	15 November 2024	CLOSING TIME:	11h00
DESCRIPTION:	Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in the Garden Route National Park – Tsitsikamma Section				

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)

Location of tender box:	Entrance Gate Storms River Mouth, Reception, Garden Route National Park: Tsitsikamma Section, Tender Box Available 8h00 to 18h00 (Monday - Sunday)
Physical address:	Entrance Gate Storms River Mouth (off the N2 National Road) Garden Route NP – Tsitsikamma Section
Identification:	Contract No. CI-GK-0165: Maintenance and Rehabilitation of the Suspension Bridges in Storms River Mouth Rest Camp in the Garden Route National Park – Tsitsikamma Section
Google Earth Coordinates: 34° 00' 39.38" S / 23° 52' 08.23" E	

T1.1: Tender Notice and Invitation to Tender

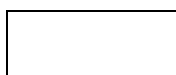
The South African National Parks invites tenders for the project:

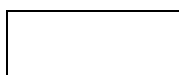
Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in the Garden Route National Park – Tsitsikamma Section

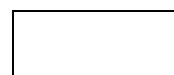
ELIGIBILITY CRITERIA

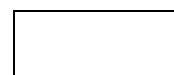
1) CIDB Grading:

- a) Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations, for a **6SL or 6CE** or higher class of construction work, are eligible to submit tenders:
- b) Joint ventures are eligible to submit tenders provided that:
 - (i) every member of the joint venture is registered with the CIDB;
 - (ii) the lead partner has a contractor grading designation in the **6SL or 6CE** or higher class of construction work; or not lower than one level below the required grading designation in the class of construction works under consideration and possess the required recognition status;
 - (iii) the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered of **6SL or 6CE** class of construction work or a value determined in accordance with the Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.
- c) Only tenderers who comply with the following are eligible to submit tenders:
 - (i) Have the required and valid CIDB grading stated.
 - (ii) Achieved the minimum score for Functionality
 - (iii) Tenderer is not listed in the Register of Tender Defaulters and prohibited from doing business with the public sector.
 - (iv) The tenderer has not abused the Employer's supply chain management system
 - (v) The tenderer has not failed to perform on any previous contract with the employer.


Contractor


Witness for Contractor


Employer


Witness for Employer

FUNCTIONALITY CRITERIA

Tenderers are required to demonstrate their ability to undertake the work and provide proof of experience in **Civil Engineering projects (Reinforced Concrete Structures) and/or Structural Steel Work Fabrication and Erection projects**. Tenderers are required to score a **minimum** of 8 points out of a possible 12 points in order to be responsive: Tender Data, of the proposed functionality criteria and points for evaluation. Refer to Clause **C3.11.1** in the Tender Data.

The physical address for collection of tender documents and site clarification meeting is:

Physical address: Entrance Gate Storms River Mouth (off the N2 National Road).

Identification: Contract No. CI-GK-0165: Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in the Garden Route National Park – Tsitsikamma Section

Full tender documents will ONLY be available at the COMPULSORY clarification meeting.

A non-refundable tender deposit of R 300-00, payable in cash, is required on collection of the tender document.

All Queries:

Queries relating to the issue of these document may be addressed to:

Mr. Garret Kobe

Tel No: (021) 426 5132

Email: garret.kobe@sanparks.org

A compulsory clarification meeting with representatives of the Employer will take place at the **Garden Route National Park: Tsitsikamma Section, Entrance Gate of Storms River Mouth Rest Camp** on **23 October 2024** starting at **11:00**.

Prospective tenderers who arrive later than 11h15 will not be allowed into the Clarification meeting.

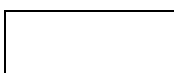
The tenderers must be represented at the site inspection by a person who is suitably qualified and experienced to comprehend the implications of the work involved. Attendance of the site inspection is compulsory and a tender will be disqualified if the site inspection is not attended by a representative of the tenderer.

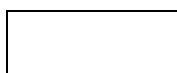
Tenders may only be submitted on the tender documentation that is issued.

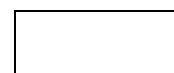
Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

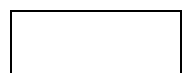
The closing time for receipt of tenders is 15 November 2024 at 11:00 hrs. E-mail and late tenders will not be accepted.

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		TECHNICAL ENQUIRIES MAY BE DIRECTED TO:	
CONTACT PERSON	G Kobe	CONTACT PERSON	E Barends
TELEPHONE NUMBER	012 426 5132	TELEPHONE NUMBER	021 983 9304
FACSIMILE NUMBER		FACSIMILE NUMBER	
E-MAIL ADDRESS	garret.kobe@sanparks.org	E-MAIL ADDRESS	elrich.barends@sanparks.org


Contractor


Witness for
Contractor


Employer


Witness for
Employer

SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELL PHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		OR	CENTRAL SUPPLIER DATABASE No:	MAAA
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS / SERVICES / WORKS OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS / SERVICES / WORKS OFFERED?		☐ Yes ☐ No [IF YES, ANSWER PART B:3]
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**

BID SUBMISSION:

BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.

ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED—(NOT TO BE RE-TYPED) OR IN THE MANNER PRESCRIBED IN THE BID DOCUMENT.

THIS BID IS SUBJECT TO THE PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022,

THE CONDITIONS OF TENDER ARE THE STANDARD CONDITIONS OF TENDER AS CONTAINED IN **ANNEX C OF THE CIDB STANDARD FOR UNIFORMITY IN CONSTRUCTION PROCUREMENT (AUGUST 2019)**

TAX COMPLIANCE REQUIREMENTS

BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.

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.

APPLICATION FOR TAX COMPLIANCE STATUS (TCS) PIN MAY BE MADE VIA E-FILING THROUGH THE SARS WEBSITE WWW.SARS.GOV.ZA.

BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID.

IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER.

WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.

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 INVALID.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:
(Proof of authority must be submitted e.g. company resolution)

DATE:

PROTECTION OF PERSONAL INFORMATION ACT, 4 of 2013 (POPIA)

SANParks adheres to the Protection of Personal Information Act, 4 of 2013 (POPIA) requirements regarding personal information which came into effect 1 July 2021.

As SANParks, we are committed to protecting your privacy and ensuring that personal information collected is used properly, lawfully and transparently.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

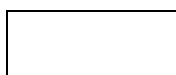
T1.2: Tender Data

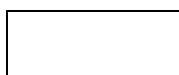
The conditions of tender are the Standard Conditions of Tender as contained in **Annex C of the CIDB Standard for Uniformity in Construction Procurement (August 2019)** which are reproduced without amendment or alteration for the convenience of tenderers as an Annex to the Tender Data.

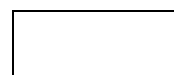
The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of tender.

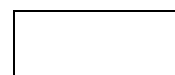
Each item of the Tender Data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

Clause number	Tender Data
C.1.1	The employer is the South African National Parks.
C.1.2	The following documents form part of this tender: VOLUME 1 : The General Conditions of Contract for Construction Works, Third Edition, 2015, prepared by the South African Institution of Civil Engineering (SAICE). This publication is available and tenderers must obtain copies at their own cost from the South African Institution of Civil Engineering (SAICE), Private Bag X200, Halfway House 1685, Tel: (011) 805 5947, Fax: (011) 805 5971, e-mail: civilinfo@saice.org.za. VOLUME 2: The Standard Specifications SANS/SABS as prepared by the South African Bureau of Standards (SABS), as well as all other Regulations, Factories Acts and By-laws stated in Part C3.4.1 are applicable to this Contract. This publications is available and tenderers must obtain copies at their own cost. VOLUME 3: The Contract Document in which is bound: THE TENDER Part T1: Tendering procedures T1.1 - Tender notice and invitation to tender T1.2 - Tender data Part T2: Returnable documents T2.1 - List of returnable documents T2.2 - Returnable schedules THE CONTRACT Part C1: Agreements and Contract data C1.1 - Form of offer and acceptance C1.2 - Contract data C1.3 - Performance Bond Part C2: Pricing data C2.1 - Pricing assumptions C2.2 - Bill of Quantities Part C3: Scope of work C3 - Scope of work and Drawings Part C4: Site information C4 - Site information Part C5 : Drawings C5 - Drawings

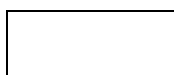

Contractor

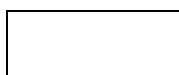

Witness for
Contractor

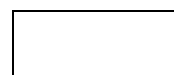

Employer

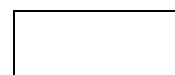

Witness for
Employer

Clause number	Tender Data
C.1.4	The employer's agent is: Name: SMEC South Africa (Pty) Ltd. Address: 65 Riebeek Street, Cape Town City Centre, CAPE TOWN, 8001 Tel: +27 83 555 2971 E-mail: andre.smit@smec.com
C.2.1	Only those tenders who satisfy the following eligibility criteria and who provide the required evidence in their tender submission are eligible to submit and have their tenders evaluated: Tenderers who are registered with the CIDB, or are capable of being so registered prior to the evaluation of submission, are eligible to have their tenders evaluated: It is estimated that tenderers must have a CIDB contractor grading designation of 6SL or 6CE or Higher. Joint Venture are eligible to submit tenders provided that: (i) every member of the joint venture is registered with the CIDB; (ii) the lead partner has a contractor grading designation in the 6SL or 6CE class of construction work; or not lower than one level below the required grading designation in the class of construction works under consideration and possess the required recognition status. (iii) The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 6SL or 6CE class of construction work or a value determined in accordance with Regulation 25 (1B) of 25(7A) of the Construction Industry Development Regulations.
C.2.7	The arrangements details for the compulsory clarification meeting are stated under Part T1.1: Tender Notice and Invitation to Tender. Tenderers must complete and sign the attendance register at the clarification meeting in the name of the tendering entity.
C2.8	Should it be necessary for a bidder to obtain clarity on any matter arising from or referred to in this tender document, please refer queries, in writing, to the contact person listed below. Under no circumstances may any other employee within the SANParks be approached for any information. Any such action may result to disqualification of a response submitted in competition to the tender process. Enquiries should reference specific page and or paragraph numbers, where appropriate. All questions / enquiries must be forwarded in writing not later than 11:00 on 08 November 2024 Questions/enquiries received after 11:00 on 08 November 2024 will not be considered. Name: Garret Kobe Capacity: Manager SCM: Infrastructure and Special Projects. Address: PO Box 787, PRETORIA, 0001 Tel: 012 426 5132 Fax: 086 416 2121 E-mail: Garret.kobe@sanparks.org
C.2.12	No alternative proposals will be accepted.
C.2.13.2	Electronic tender offers will not be accepted.
C.2.13.3	Parts of each tender offer communicated on paper shall be submitted as an original, plus Nil copies.
Clause number	Tender Data


Contractor


Witness for
Contractor


Employer


Witness for
Employer

C.2.13.7	The employer's address for delivery of tender offers and identification details to be shown on each tender offer package are: <table border="1"> <tr> <td>Location of tender box:</td><td>Entrance Gate Storms River Mouth, Reception, Garden Route National Park: Tsitsikamma Section</td></tr> <tr> <td>Physical address:</td><td>Entrance Gate Storms River Mouth (off the N2 National Road) Garden Route NP – Tsitsikamma Section</td></tr> <tr> <td>Identification details:</td><td>Contract No. CI-GK-0165: MAINTENANCE AND REHABILITATION OF THE SUSPENSION BRIDGES AT STORMS RIVER REST CAMP, GARDEN ROUTE NATIONAL PARK – TSITSIKAMMA SECTION</td></tr> </table>	Location of tender box:	Entrance Gate Storms River Mouth, Reception, Garden Route National Park: Tsitsikamma Section	Physical address:	Entrance Gate Storms River Mouth (off the N2 National Road) Garden Route NP – Tsitsikamma Section	Identification details:	Contract No. CI-GK-0165: MAINTENANCE AND REHABILITATION OF THE SUSPENSION BRIDGES AT STORMS RIVER REST CAMP, GARDEN ROUTE NATIONAL PARK – TSITSIKAMMA SECTION
Location of tender box:	Entrance Gate Storms River Mouth, Reception, Garden Route National Park: Tsitsikamma Section						
Physical address:	Entrance Gate Storms River Mouth (off the N2 National Road) Garden Route NP – Tsitsikamma Section						
Identification details:	Contract No. CI-GK-0165: MAINTENANCE AND REHABILITATION OF THE SUSPENSION BRIDGES AT STORMS RIVER REST CAMP, GARDEN ROUTE NATIONAL PARK – TSITSIKAMMA SECTION						
C.2.15.9	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.						
C.2.15.1	The closing time for submission of tender offers is as per Notice and Invitation to Tender T1.1.						
C.2.16	The tender offer validity period is 12 Weeks.						
C.2.19	Access shall be provided for inspections, tests and analysis as may be required by the employer.						
C.2.23	The tenderer is required to submit the following documents: 1) Compulsory Enterprise Questionnaire (Completed and Signed) (Compulsory) 2) Site Inspection Certificate (Completed and signed by SANParks representative) (Compulsory) 3) Form of Offer (Completed and Signed) (Compulsory) 4) Bill of Quantities (Completed) (Compulsory) 5) Letter of Good Standing from Compensation Commissioner (Compulsory) 6) Preference Points claimed in terms of the Preferential Procurement Regulations 2022 (Form SBD 6.1) (Completed and Signed) (Compulsory) 7) An original and valid B-BBEE sworn affidavit, SANAS or DTIC certificate, or certified copy thereof. For Joint Ventures, a SANAS certificate in the name of the JV must be provided (Compulsory, if claiming points for specific goals) 8) Resolution of Board of Directors (Authority for Signatory) 9) Proof of National Treasury Central Supplier Data Base (CSD) registration 10) Invitation To Bid (From SBD 1) (Completed and Signed) 11) Declaration of Interest (Form SBD 4) (Completed and Signed) 12) Proof of Contractor Registration issued by the Construction Industry Development Board (CIDB) 13) Proof of registration of Closed Corporation, Company or other legal entities 14) Letter of intent for construction guarantee (FSCA registered institutions only) 15) Record of Addenda to tender documents, if applicable (Completed and Signed) 16) Joint Venture / Joint Venture signed agreement / Consortium Disclosure Form (Where applicable) 17) A valid Tax Compliance Status Verification PIN issued by the South African Revenue Services. 18) Proposed Subcontractors 19) Signed acknowledgment of the "Health and Safety Specification Acknowledgement Receipt" in the name of the document in the tender 20) Signed acknowledgement of the "Environmental Management Plan/Programme Receipt" in the name of the document in the tender						
C.3.4.1	The time and location for opening of the tender offers are: <table border="1"> <tr> <td>Date and Time:</td><td>15 November 2024 at 11:00</td></tr> <tr> <td>Place:</td><td>Main boardroom at Entrance Gate of Storms River Mouth, Garden Route National Park - Tsitsikamma Section (off the N2 National Road)</td></tr> </table>	Date and Time:	15 November 2024 at 11:00	Place:	Main boardroom at Entrance Gate of Storms River Mouth, Garden Route National Park - Tsitsikamma Section (off the N2 National Road)		
Date and Time:	15 November 2024 at 11:00						
Place:	Main boardroom at Entrance Gate of Storms River Mouth, Garden Route National Park - Tsitsikamma Section (off the N2 National Road)						
Clause number	Tender Data						
C.3.11.1	Evaluation of tenders offers. The procedure for the evaluation of responsive tenders is Functionality, Price and Specific Goals						

Contractor

Witness for Contractor

Employer

Witness for Employer

1) FUNCTIONALITY

Tenderers are required to demonstrate their ability to undertake the work and provide proof of experience in the construction Civil Engineering projects (Reinforced concrete Structures) and/or Structural Steel Work Fabrication and Erection projects

Tenderers are required to score a minimum of 8 points out of a possible 12 points in order to qualify for the tender.

Tenderers who fail to meet the minimum threshold shall be declared non-responsive and subsequently rejected. The onus rests with the tenderer to supply sufficient information to allow for the proper scoring, evaluation and award of points.

Where insufficient information is provided, zero points will be awarded for such particular criterion.

The functionality criteria and maximum score in respect of each of the criteria as follows:

Functionality criteria	Sub-criteria	Maximum number of points
Civil Engineering projects (Reinforced Concrete Structures) and/or Structural Steel Work Fabrication and Erection projects		
Contracts of value exceeding R6.0 million, inclusive of VAT	2 points per contract	12
Maximum possible score for functionality		12

Failure to provide verifiable proof for the various criteria will result in a score of **zero points** for the particular criterion.

Tenders scoring less than 8 points will not be further evaluated.

Tenderer to submit list of past and current projects for functionality information – information must clearly state “project information”. Contractor to submit “**Letter of Intent**”/ “**Letter of Award**”/ “**Letter of Appointment**” for current projects, and “**Letter of Award**” and “**Completion Certificates**” for completed projects. Project details shall include telephone contact details of either the Client or the Engineer for the project and **detailed values on Reinforced concrete Structures and/or Structural Steel Work Fabrication and Erection**.

Functionality points will only be awarded on letter(s) submitted.

It is the responsibility of the tenderer to submit authentic supporting documentation, tenderers will be disqualified and reported if found to have submitted fraudulent information.

2) PRICE AND SPECIFIC GOALS

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022.

POINTS AWARDED FOR PRICE

80/20 preference point system for acquisition of goods or services for Rand value equal to or above R30 000 and up to R50 million.

The following formula will be used to calculate the points out of 80 for price in respect of a tender with a Rand value equal to or above R30 000 and up to a Rand value of R50 million, inclusive of all applicable taxes:

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

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

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POINTS AWARDED FOR SPECIFIC GOALS

Specific goals for the tender and points claimed are indicated per the table below.

The specific goals allocated points in terms of this Tender	Number of points allocated (80/20 system)	Number of points claimed (80/20 system) (To be completed by the service provider)
1) Percentage black ownership		
Persons historically disadvantaged on the basis of race with 100% black ownership, OR	10	
Persons historically disadvantaged on the basis of race with 75% - 99% black ownership, OR	8	
Persons historically disadvantaged on the basis of race with 60% - 74% black ownership, OR	6	
Persons historically disadvantaged on the basis of race with 51% - 59% black ownership, OR	4	
Persons historically disadvantaged on the basis of race with 0 – 50% black ownership	2	
2) Exempted Micro Enterprise or Qualifying Small Enterprises		
Exempted Micro Enterprise (annual turn-over below R10 million) Qualifying Small Enterprises (annual turn-over between R10 million & R50 million)	4	
3) Locality		
To Qualify, bidder must include verifiable proof of business address in the Koukamma Local Municipality, older than two years, OR	6	
To Qualify, bidder must include verifiable proof of business address in the Eastern Cape province & Western Cape province, older than two years, OR	4	
TOTAL MAXIMUM POINTS CLAIMED BY THE SERVICE PROVIDER	20	

Important Notes:

The following will be accepted as proof:

1) Black ownership

- Bidders to submit valid B-BBEE certificate or sworn affidavit clearly indicating the percentage Black ownership.

2) Exempted Micro or Qualifying Small Enterprises

- Bidders to submit valid B-BBEE certificate or sworn affidavit clearly indicating the type of enterprise.

3) Locality

- To qualify, bidder must provide / include verifiable proof of business address in one of the criteria, older than 2 years (Municipal or Eskom account)
- Rental agreement in the name of the bidding company with proof of payment for the month prior to closing of the tender.
- or ownership of business premises - municipal account in the name of the bidding company to confirm 2-year business address.

NB: Bidders who are not located in the Koukamma Local Municipality or Eastern- or Western Cape Province and who are not EME's or QSE's may still tender but will not claim points for specific goals. Failure to provide the afore-mentioned documentation, will result in an allocation of zero points for specific goals

The Tender will not be disqualified if any of the two "specific goals" mentioned above are not met.

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C.3.13	Tender offers will only be accepted if: a) The tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation; b) The tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; c) The tenderer has not: - abused the employer's supply chain management system; - or - failed to perform on any previous contract and has been given a written notice to this effect; and e) Has completed the Compulsory Enterprise Questionnaire, SBD 1, 4, 6.1 and declaration of local content and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process. f) Has submitted the documentation listed in C2.23
C.3.17	Provide to the successful tenderer one copy of the signed contract document.

Annex C

Standard conditions of tender

(As per Construction Industry Development Board, Government Gazette No42622, 08 August 2019)

C.1 General

C.1.1 Actions

C.1.1.1 The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

C.1.1.2 The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions.

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Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

- Note:
- 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.
 - 2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.

C.1.1.3 The employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

C.1.2 Tender Documents

The documents issued by the employer for the purpose of a tender offer are listed in the tender data.

C.1.3 Interpretation

C.1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

C.1.3.2 These conditions of tender, the tender data and tender schedules which are required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.

C.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

- a) **Conflict of interest** means any situation in which:
 - i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially;
 - ii) an individual or tenderer is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
 - iii) incompatibility or contradictory interests exist between an employee and the tenderer who employs that employee.
- b) **Comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;
- c) **Corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;
- d) **Fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;

C.1.4 Communication and employer's agent

Each communication between the employer and a tenderer shall be to or from the employer's agent only, and in a form that can be readily read, copied and recorded. Communications shall be in the English language. The employer shall not take any responsibility for non-receipt of communications from or by a tenderer. The name and contact details of the employer's agent are stated in the tender data.

C.1.5 Cancellation and Re-Invitation of Tenders

C.1.5.1 An employer may, prior to the award of the tender, cancel a tender if-

- a) due to changed circumstances, there is no longer a need for the engineering and construction works specified in the invitation;
- b) funds are no longer available to cover the total envisaged expenditure; or
- c) no acceptable tenders are received.
- d) there is a material irregularity in the tender process.

C.1.5.2 The decision to cancel a tender invitation must be published in the same manner in which the original tender invitation was advertised

C.1.5.3 An employer may only with the prior approval of the relevant treasury cancel a tender invitation for the second time.

C.1.6 Procurement procedures

C.1.6.1 General

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Unless otherwise stated in the tender data, a contract will, subject to C.3.13, be concluded with the tenderer who in terms of C.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submissions that are received at the closing time for tenders.

C.1.6.2 Competitive negotiation procedure

- C.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of C.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.
- C.1.6.2.2 All responsive tenderers or at least a minimum of not less than three responsive tenderers that are highest ranked in terms of the evaluation criteria stated in the tender data shall be invited to enter into competitive negotiations based on the principle of equal treatment, keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of C.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.
- C.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to revise their tender offer based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.
- C.1.6.2.4 The contract shall be awarded in accordance with the provisions of C.3.11 and C.3.13 after tenderers have been requested to submit their best and final offer.

C.1.6.3 Proposal procedure using the two stage-system

C.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

C.1.6.3.2 Option 2

- C.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.
- C.1.6.3.2.2 The employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data, and award the contract in terms of these conditions of tender.

C.2 Tenderer's obligations

C.2.1 Eligibility

- C.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.
- C.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.

C.2.2 Cost of tendering

- C.2.2.1 Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer complies with requirements.
- C.2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

C.2.3 Check documents

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Check the tender documents on receipt for completeness and notify the employer of any discrepancy or omission.

C.2.4 Confidentiality and copyright of documents

Treat as confidential all matters arising in connection with the tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a tender offer in response to the invitation.

C.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

C.2.6 Acknowledge addenda

Acknowledge receipt of addenda to the tender documents, which the employer may issue, and if necessary apply for an extension to the closing time stated in the tender data, in order to take the addenda into account.

C.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

C.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five (5) working days before the closing time stated in the tender data.

C.2.9 Insurance

Be aware that the extent of insurance to be provided by the employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.

C.2.10 Pricing the tender offer

- C.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable fourteen (14) days before the closing time stated in the tender data.
- C.2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.
- C.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.
- C.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

C.2.11 Alterations to documents

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations.

C.2.12 Alternative tender offers

- C.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.
- C.2.12.2 Accept that an alternative tender offer must be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.
- C.2.12.3 An alternative tender offer must only be considered if the main tender offer is the winning tender.

C.2.13 Submitting a tender offer

- C.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.
- C.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.

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- C.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.
- C.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.
- C.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- C.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- C.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.
- C.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.
- C.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.

C.2.14 Information and data to be completed in all respects

Accept that tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive.

C.2.15 Closing time

- C.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.
- C.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

C.2.16 Tender offer validity

- C.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.
- C.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.
- C.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted. If the validity period stated in 2.2.16 lapses before the employer evaluating tender, the contractor reserves the right to review the price based on Consumer Price Index (CPI).
- C.2.16.4 Where a tender submission is to be substituted, a tenderer must submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as "SUBSTITUTE".

C.2.17 Clarification of tender offer after submission

Provide clarification of a tender offer in response to a request to do so from the employer during the evaluation of tender offers. This may include providing a breakdown of rates or prices and correction of arithmetical errors by the adjustment of certain rates or item prices (or both). No change in the competitive position of tenderers or substance of the tender offer is sought, offered, or permitted.

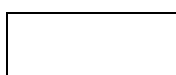
Note: Sub-clause C.2.17 does not preclude the negotiation of the final terms of the contract with a preferred tenderer following a competitive selection process, should the Employer elect to do so.

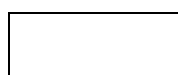
C.2.18 Provide other material

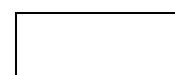
- C.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.
- C.2.18.2 Dispose of samples of materials provided for evaluation by the employer, where required.

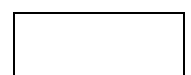
C.2.19 Inspections, tests and analysis

Provide access during working hours to premises for inspections, tests and analysis as provided for in the tender data.


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C.2.20 Submit securities, bonds and policies

If requested, submit for the employer's acceptance before formation of the contract, all securities, bonds, guarantees, policies and certificates of insurance required in terms of the conditions of contract identified in the contract data.

C.2.21 Check final draft

Check the final draft of the contract provided by the employer within the time available for the employer to issue the contract.

C.2.22 Return of other tender documents

If so instructed by the employer, return all retained tender documents within twenty-eight (28) days after the expiry of the validity period stated in the tender data.

C.2.23 Certificates

Include in the tender submission or provide the employer with any certificates as stated in the tender data.

C.3 The employer's undertakings

C.3.1 Respond to requests from the tenderer

C.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who collected tender documents.

C.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

- a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;
- b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or
- c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

C.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three (3) working days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who collected tender documents.

C.3.3 Return late tender offers

Return tender offers received after the closing time stated in the Tender Data, unopened, (unless it is necessary to open a tender submission to obtain a forwarding address), to the tenderer concerned.

C.3.4 Opening of tender submissions

C.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

C.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main tender offer only.

C.3.4.3 Make available the record outlined in C.3.4.2 to all interested persons upon request.

C.3.5 Two-envelope system

C.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

C.3.5.2 Evaluate functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total

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price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

C.3.6 Non-disclosure

Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.

C.3.7 Grounds for rejection and disqualification

Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.

C.3.8 Test for responsiveness

C.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

- a) complies with the requirements of these Conditions of Tender,
- b) has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the tender documents.

C.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
- c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the non-conforming deviation or reservation.

C.3.9 Arithmetical errors, omissions and discrepancies

C.3.9.1 Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

C.3.9.2 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with C.3.11 for:

- a) the gross misplacement of the decimal point in any unit rate;
- b) omissions made in completing the pricing schedule or bills of quantities; or
- c) arithmetic errors in:
 - (i) line item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
 - (ii) the summation of the prices.

C.3.9.3 Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as tendered or accept the corrected total of prices.

C.3.9.4 Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows:

- a) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- b) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

C.3.10 Clarification of a tender offer

Obtain clarification from a tenderer on any matter that could give rise to ambiguity in a contract arising from the tender offer.

C.3.11 Evaluation of tender offers

The Standard Conditions of Tender standardize the procurement processes, methods and procedures from the time that tenders are invited to the time that a contract is awarded. They are generic in nature and are made project specific through choices that are made in developing the Tender Data associated with a specific project.

Conditions of tender are by definition the document that establishes a tenderer's obligations in submitting a tender and the employer's undertakings in soliciting and evaluating tender offers. Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require employers to conduct the process of offer and acceptance in terms of a set of standard procedures.

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The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements:	
Requirement	Qualitative interpretation of goal
Fair	The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.
Equitable	Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.
Transparent	The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability or capacity, legal impediments and conflicts of interest.
Competitive	The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.
Cost effective	The processes, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes.

The activities associated with evaluating tender offers are as follows:

- a) Open and record tender offers received
- b) Determine whether or not tender offers are complete
- c) Determine whether or not tender offers are responsive
- d) Evaluate tender offers
- e) Determine if there are any grounds for disqualification
- f) Determine acceptability of preferred tenderer
- g) Prepare a tender evaluation report
- h) Confirm the recommendation contained in the tender evaluation report

C.3.11.1 General

The employer must appoint an evaluation panel of not less than three persons conversant with the proposed scope of works to evaluate each responsive tender offer using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

C.3.12 Insurance provided by the employer

If requested by the proposed successful tenderer, submit for the tenderer's information the policies and / or certificates of insurance which the conditions of contract identified in the contract data, require the employer to provide.

C.3.13 Acceptance of tender offer

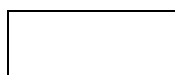
Accept the tender offer; if in the opinion of the employer, it does not present any risk and only if the tenderer:

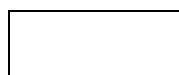
- i) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement;
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract;
- c) has the legal capacity to enter into the contract;
- d) is not; insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act No. 2008, bankrupt or being wound up, has his/her affairs administered by a court or a judicial officer, has suspended his/her business activities or is subject to legal proceedings in respect of any of the foregoing;
- e) complies with the legal requirements, if any, stated in the tender data; and
- f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

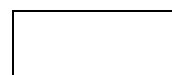
C.3.14 Prepare contract documents

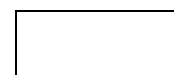
- C.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:
- a) addenda issued during the tender period,
 - b) inclusion of some of the returnable documents, and
 - c) other revisions agreed between the employer and the successful tenderer.

C.3.15 Complete adjudicator's contract


Contractor


Witness for
Contractor


Employer


Witness for
Employer

Unless alternative arrangements have been agreed or otherwise provided for in the contract, arrange for both parties to complete formalities for appointing the selected adjudicator at the same time as the main contract is signed.

C.3.16 Registration of the award

An employer must, within twenty-one (21) working days from the date on which a contractor's offer to perform a construction works contract is accepted in writing by the employer, register and publish the award on the cidb Register of Projects.

C.3.17 Provide copies of the contracts

Provide to the successful tenderer the number of copies stated in the Tender Data of the signed copy of the contract as soon as possible after completion and signing of the form of offer and acceptance.

C.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

Part T2: Returnable Schedules

This document is for information purposes ONLY

Contractor

Witness for
Contractor

Page 23 of 196

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

T2.1: List of Returnable Documents

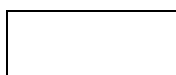
The complete tender document as received from the employer, together with all additional documentation as requested, must be submitted. No documentation must be removed from the tender document.

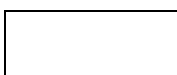
The tenderer must complete the following returnable documents:

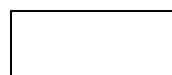
- 1 Returnable Schedules required for tender completeness purposes and are COMPULSORY**
Compulsory Enterprise Questionnaire
Site inspection certificate
Health and Safety Specifications Acknowledgement
Letter of good standing from the Compensation Commissioner
Letter of intent for a Construction Guarantee (FSCA registered institutions only)
- 2 Other documents required only for tender evaluation purposes**
A valid Tax verification pin as issued by the South African Revenue Services
An original and valid B-BBEE sworn affidavit, DTIC or SANAS certificate, or certified copy thereof. [For JV's, only SANAS certificates are acceptable]
Capacity of Tenderer
Documentation for Functionality evaluation
- 3 Other documents that will be incorporated into the contract**
Resolution of board of directors / members / partners (Authority of Signature)
Special Resolution of Joint Venture Partners – if applicable
Record of Addenda to Tender Documents – if applicable
Proposed Amendments and Qualifications – if applicable
SBD 1: Invitation to Bid
SBD 4: Declaration of interest
SBD 6.1: Preference points claim form in terms of preferential procurement regulations 2022
Proof of active Contractor Registration issued by the Construction Industry Development Board
Clarification Meeting Information
Health and Safety Specifications
Code of conduct for implementing a project for SANParks
Environmental Management Plan for General Construction Activities
- 4 C1.1 Offer and Acceptance (the offer portion of C1.1)**
- 5 C1.2 Contract Data (Part 2)**
- 6 C2.2 Bills of Quantities (As per tender document, completed in black ink) (COMPULSORY)**
- 7 DOCUMENTATION FOR FUNCTIONALITY EVALUATION (Previous Contracts Information)**

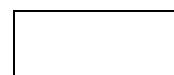
T2.2 Returnable Schedules

This returnable schedule needs to be completed if the tenderer is a company or other legal person.


Contractor


Witness for
Contractor


Employer


Witness for
Employer

Resolution of Board of Directors / Members / Partners

RESOLUTION of a meeting of the Board of *Directors / Members / Partners of:

(Legally correct full name and registration number, if applicable, of the Enterprise)

Held at _____ (place)

On _____ (date)

RESOLVED that:

1. The Enterprise submits a Tender to the South African National Parks in respect of the following project:

(Project description as per Tender Document)

Tender Number: _____ (Tender Number as per Tender Document)

2. *Mr/Mrs/Ms: _____

in *his/her Capacity as : _____ (Position in the Enterprise)

and who will sign as follows : _____

be, and is hereby, authorised to sign the Tender, and any and all other documents and/or correspondence in connection with and relating to the Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Tender to the Enterprise mentioned above.

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			

Note:

1. * Delete which is not applicable
2. **NB.** This resolution must be signed by all the Directors / Members / Partners of the Tendering Enterprise
3. Should the number of Directors / Members/Partners exceed the space available above, additional names and signatures must be supplied on a separate page

ENTERPRISE STAMP

Contractor

Witness for
Contractor

Employer

Witness for
Employer

Resolution of Board of Directors / Members / Sole Proprietor/ Partners of Partnership (i.e., of each legal person to comprise the Joint Venture Partnership)

RESOLUTION of a meeting of the Board of *Directors / Members / Sole Proprietor/ Partners of:

(Legally correct full name and registration number, if applicable, of the Enterprise)

Held at _____ (place)

On _____ (date)

RESOLVED that:

1. The Enterprise submits a Tender, in Joint Venture with the following Enterprises:

(List all the legally correct full names and registration numbers, if applicable, of the Enterprises forming the Joint Venture)

to the South African National Parks in respect of the following project:

(Project description as per Tender Document)

Tender Number: _____ (Tender Number as per Tender Document)

2. The Principal Partner of the Joint Venture will be

(Legally correct full name and registration number, if applicable, of the Principal Partner of Joint Venture)

3. *Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ (Position in the Enterprise)

and who will sign as follows: _____

be, and is hereby, authorised to sign a joint venture agreement with the parties listed under item 1 above, and any and all other documents and/or correspondence in connection with and relating to the joint venture, in respect of the project described under item 1 above.

4. The Enterprise accepts joint and several liability with the parties listed under item 1 above for the due fulfilment of the obligations of the joint venture deriving from, and in any way connected with, the Contract to be entered into with the South African National Parks in respect of the project described under item 1 above.
5. The Enterprise chooses as its *domicilium citandi et executandi* for all purposes arising from this joint venture agreement and the Contract with the South African National Parks in respect of the project under item 1 above:

Physical address: _____

_____ (code)

Postal Address: _____

Contractor

Witness for
Contractor

Employer

Witness for
Employer

(code)

Telephone number: _____ (code)

Fax number: _____ (code)

No .	Name	Capacity	Signature
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			

NOTE:

* Delete which is not applicable

2. **NB. This resolution must be signed by all the Directors / Members / Partners of the Bidding Enterprise**
3. **Should the number of Directors / Members / Partners exceed the space available above, additional names and signatures must be supplied on a separate page**

ENTERPRISE STAMP

--

--

Contractor

--

Witness for
Contractor

--

Employer

--

Witness for
Employer

This returnable schedule needs to be completed if the tenderer is a joint venture.

Special Resolution of Joint Venture Partners

RESOLUTION of a meeting of the duly authorised representatives of the following legal entities who have entered into a joint venture to jointly tender for the project mentioned below: *(legally correct full names and registration numbers, if applicable, of the Enterprises forming a Joint venture)*

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

Held at _____ (place)

On _____ (date)

RESOLVED that:

Contractor

Witness for
Contractor

Employer

Witness for
Employer

- A. The above-mentioned Enterprises submit a tender in joint venture partnership to the South African National Parks in respect of the following project:

(Project description as per Tender Document)

Tender Number: _____ (Tender Number as per Tender Document)

- B. Mr/Mrs/Ms: _____

in *his/her Capacity as: _____ (Position in the Enterprise)

and who will sign as follows: _____
be, and is hereby, authorised to sign the Tender, and any and all other documents and/or correspondence in connection with and relating to the Tender, as well as to sign any Contract, and any and all documentation, resulting from the award of the Tender to the Enterprises in joint venture mentioned above.

- C. The Enterprises constituting the Joint Venture, notwithstanding its composition, shall conduct all business under the name and style of: _____
- D. The Enterprises to the Joint Venture accept joint and several liability for the due fulfilment of the obligations of the Joint Venture deriving from, and in any way connected with, the contract entered into with the South African National Parks in respect of the project described under item A above.
- E. Any of the Enterprises to the Joint Venture intending to terminate the Joint Venture agreement, for whatever reason, shall give the South African National Parks 30 days written notice of such intention. Notwithstanding such decision to terminate, the Enterprises shall remain jointly and severally liable to the South African National Parks for the due fulfilment of the obligations of the Joint Venture as mentioned under item D above.
- F. No Enterprise to the Joint Venture shall, without the prior written consent of the other Enterprises to the Joint Venture and of the South African National Parks, cede any of its rights or assign any of its obligations under the Joint Venture agreement in relation to the contract with the South African National Parks referred to herein.
- G. The Enterprises choose as the *domicilium citandi et executandi* of the Joint Venture for all purposes arising from the Joint Venture agreement and the contract with the South African National Parks in respect of the project under item A above:

Physical address: _____

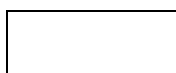
_____ (code)

Postal Address: _____

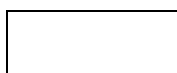
_____ (code)

Telephone number: _____ (code)

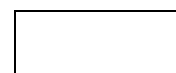
Fax number: _____ (code)



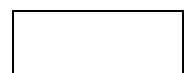
Contractor



Witness for
Contractor



Employer



Witness for
Employer

	Name	Capacity	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

Note:

1. * Delete which is not applicable
2. **NB.** This resolution must be signed by all the Duly Authorised Representatives of the Legal Entities to the Joint Venture submitting this Tender
3. Should the number of Duly Authorised Representatives of the Legal Entities joining forces in this Tender exceed the space available above, additional names and signatures must be supplied on a separate page
4. Resolutions, duly completed and signed, from the separate Enterprises who participate in this Joint venture must be attached to the Special Resolution

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

Compulsory Enterprise Questionnaire

The following particulars must be furnished. In the case of a joint venture, separate enterprise questionnaires in respect of each partner must be completed and submitted.

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 3: cidb registration number:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

** Complete only if sole proprietor or partnership and attach separate page if more than 3 partners*

Section 5: Particulars of companies and close corporations
 Company registration number
 Close corporation number
 Tax reference number

Section 6: SBD1 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

Section 7: SBD4 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

Section 8: SBD6 issued by National Treasury must be completed for each tender and be attached as a tender requirement.

Section 9: Record in the service of the state
 Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

☐ a member of any municipal council	☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999)
☐ a member of any provincial legislature	☐ a member of an accounting authority of any national or provincial public entity
☐ a member of the National Assembly or the National Council of Province	☐ an employee of Parliament or a provincial legislature
☐ a member of the board of directors of any municipal entity	☐ an employee, director or board member of or otherwise employed by or contracted to the South African National Parks or had or has any contractual relationships of any kind with the South African National Parks.
☐ an official of any municipality or municipal entity	

Contractor

Witness for
Contractor

Employer

Witness for
Employer

If any of the above boxes are marked, disclose the following:

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Name of institution, public office, board or organ of state and position held	Status of service (Tick appropriate column)	
		Current	Within last 12 months

* Insert separate page if necessary

Section 10: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

- | | |
|--|---|
| ☐ a member of any municipal council | ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| ☐ a member of any provincial legislature | ☐ a member of an accounting authority of any national or provincial public entity |
| ☐ a member of the National Assembly or the National Council of Province | ☐ an employee of Parliament or a provincial legislature |
| ☐ a member of the board of directors of any municipal entity | ☐ an employee, director or board member of or otherwise employed by or contracted to the South African National Parks or had or has any contractual relationships of any kind with the South African National Parks. |
| ☐ an official of any municipality or municipal entity | |

If any of the above boxes are marked, disclose the following:

Name of spouse, child or parent	Name of institution, public office, board or organ of state and position held	Status of service (Tick appropriate column)	
		Current	Within last 12 months

Contractor

Witness for
Contractor

Employer

Witness for
Employer

*Insert separate page if necessary

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:

- i) Authorises the Employer to obtain a tax clearance certificate from the South African Revenue Services that it is in order.
- ii) Confirms that neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004.
- iii) Confirms that no partner, member, director, or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption.
- iv) Confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- iv) Confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Name	Position	Signed

Name of Tenderer	Date

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

Record of Addenda to tender documents

I / We confirm that the following communications received from the South African National Parks before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:
(Attach additional pages if more space is required)

	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		

Name	Position	Signed

Name of Tenderer	Date

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

Proposed Amendments and Qualifications

The Tenderer should record any deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule.		
Page	Clause or item	Proposal
This document is for information purposes ONLY		

Name	Position	Signed

Name of Tenderer	Date

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

Capacity of Tenderer

1. WORK CAPACITY

(The Tenderer is requested to furnish the following full particulars, attach additional pages if more space is required. Failure to furnish the particulars may result in the Tender being disregarded.)

Skilled artisans employed		Unskilled employees employed	
Categories of artisans	Number	Categories of employees	Number
Machinery	Plant	Workshops	

 Contractor

 Witness for
Contractor

 Employer

 Witness for
Employer

2. QUALIFICATIONS AND EXPERIENCE OF PROPOSED SITE SUPERVISION TEAM FOR THE PROJECT

Tenderer to provide name(s), key qualifications and experience of site supervision team that will supervise the project on behalf of the Contractor.
Attach additional documents as proof.

Item	Description
Site Agent (Provide copy of CV)	
Name of Person	
No of years' experience	
Field/s of experience	
Permanent employment (Yes/No)	
Site Foreman (Provide copy of CV)	
Name of Person	
No of years' experience	
Field/s of experience	
Permanent employment (Yes/No)	

Contractor

Witness for
Contractor

Employer

Witness for
Employer

3. PARTICULARS OF COMMITMENTS WHICH THE TENDERER HAS PREVIOUSLY COMPLETED AND PRESENTLY ENGAGED WITH:

3.1 Current projects

NB: Letters of Intent / Appointment and all other relevant detail to be attached.

Project	Place (town)	Reference / Contact person	Contact Tel. No.	Contract amount	Contract period	Date of commencement	Scheduled date of completion
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

Contractor

Witness for
Contractor

Employer

Witness for
Employer

3.2 Previous projects

NB: Letters of Appointment, Completion Certificates and all other relevant detail to be attached.

Project	Place (town)	Reference / Contact person	Contact Tel. No.	Contract amount	Contract period	Date of commencement	Scheduled date of completion	Actual date of completion
1.								
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

Site Inspection Certificate

This is to certify that I,

Representing

Company

Position

Visited the site on

I have made myself familiar with all local conditions likely to influence the work and the cost thereof. I further certify that I am satisfied with the description of the work and explanations given at the site inspection meeting and that I understand perfectly the work to be done, as specified and implied, in the execution of this contract.

I have attended the Clarification Meeting at **Garden Route National Park, Tsitsikamma section** and listened to the explanations regarding the works. I declare that I read the Clarification Meeting document, signed it and include it herewith.

Name Tenderer's Representative	Position	Signed

Name of Tenderer	Date

Name of Employer's Representative	Signature	Date

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

HEALTH AND SAFETY SPECIFICATION ACKNOWLEDGEMENT RECEIPT

Contractor's Acknowledgement:

I, _____ representing

_____ (Contractors), have satisfied myself with the content of this Health and Safety Specification and Baseline Risk Assessment and have made the relevant provision under my Preliminary & General Section for any and all costs involved to ensure compliance of this Specification and shall we be the successful contractor, we shall ensure that our employees and contractors on site comply with the requirements of these documents, our safety documentation and health and safety legislation

Signature of Contractor: _____ Date: _____

Comments:

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

ENVIRONMENTAL MANAGEMENT PLAN ACKNOWLEDGEMENT RECEIPT

Contractor's Acknowledgement:

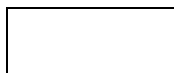
I, _____ representing

_____ (Contractors), have satisfied myself with the content of this Environmental Management Plan and have made the relevant provision under my Preliminary & General Section for any and all costs involved to ensure compliance of this Plan and shall we be the successful contractor, we shall ensure that our employees and contractors on site comply with the requirements of this document and the Code of Conduct when working in a national park.

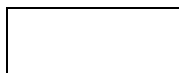
Signature of Contractor

Date

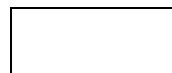
Comments:



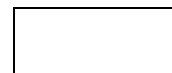
Contractor



Witness for
Contractor



Employer



Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

SBD 4

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?

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.

 Contractor

 Witness for
Contractor

 Employer

 Witness for
Employer

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:

.....

.....

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.

3.5 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or

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.

 Contractor

 Witness for
Contractor

 Employer

 Witness for
Employer

indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

- 3.6 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.
- 3.7 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.

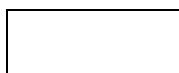
.....
Signature

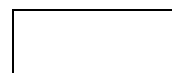
.....
Date

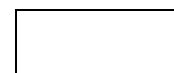
.....
Position

.....
Name of bidder


Contractor


Witness for
Contractor


Employer


Witness for
Employer

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

- the 80/20 system for requirements with a Rand value of equal to or above R 30 000 and up to R 50 000 000 (all applicable taxes included); and

1.2 The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
Total points for Price and SPECIFIC GOALS	100

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

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

2. DEFINITIONS

- (a) **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation,

Contractor

Witness for
Contractor

Employer

Witness for
Employer

and includes all applicable taxes;

- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE - THE 80/20 PREFERENCE POINT SYSTEMS

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

80/20

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

Where

P_s	=	Points scored for price of tender under consideration
P_t	=	Price of tender under consideration
$P_{\max}$	=	Price of highest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

- 4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/documentation stated in the conditions of this tender:
- 4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—
- (a) an invitation for tender for income-generating contracts, that either the 80/20 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or
 - (b) any other invitation for tender, that either the 80/20 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system, then the organ of state must indicate the points allocated for specific goals for both the 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

Note to tenderers: *The tenderers must indicate how they claim points for each preference point system. Points will be allocated according to the points claimed in the table below.*

Contractor

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Contractor

Employer

Witness for
Employer

The specific goals allocated points in terms of this Tender	Number of points allocated (80/20 system)	Number of points claimed (80/20 system) (To be completed by the service provider)
1) Percentage black ownership		
Persons historically disadvantaged on the basis of race with 100% black ownership, OR	10	
Persons historically disadvantaged on the basis of race with 75% - 99% black ownership, OR	8	
Persons historically disadvantaged on the basis of race with 60% - 74% black ownership, OR	6	
Persons historically disadvantaged on the basis of race with 51% - 59% black ownership, OR	4	
Persons historically disadvantaged on the basis of race with 0 – 50% black ownership	2	
2) Exempted Micro Enterprise or Qualifying Small Enterprises		
Exempted Micro Enterprise (annual turn-over below R10 million) Qualifying Small Enterprises (annual turn-over between R10 million & R50 million)	4	
3) Locality		
To Qualify, bidder must include verifiable proof of business address in the Koukamma Local Municipality, older than two years, OR	6	
To Qualify, bidder must include verifiable proof of business address in the Eastern Cape province & Western Cape province, older than two years, OR	4	
TOTAL MAXIMUM POINTS CLAIMED BY THE SERVICE PROVIDER	20	

Important Notes:

The following will be accepted as proof:

1) Black ownership

- Bidders to submit valid B-BBEE certificate or sworn affidavit clearly indicating the percentage Black ownership.

2) Exempted Micro or Qualifying Small Enterprises

- Bidders to submit valid B-BBEE certificate or sworn affidavit clearly indicating the type of enterprise.

3) Locality

- To qualify, bidder must provide / include verifiable proof of business address in one of the criteria, older than 2 years (Municipal or Eskom account)
- Rental agreement in the name of the bidding company with proof of payment for the month prior to closing of the tender.
- or ownership of business premises - municipal account in the name of the bidding company to confirm 2-year business address.

NB: Bidders who are not located in the Koukamma Local Municipality or Eastern- or Western Cape Province and who are not EME's or QSE's may still tender but will not claim points for specific goals. Failure to provide the afore-mentioned documentation, will result in an allocation of zero points for specific goals

The Tender will not be disqualified if any of the three "specific goals" mentioned above are not met.

DECLARATION WITH REGARD TO COMPANY/FIRM

4.3. Name of company/firm.....

Contractor

Witness for
Contractor

Employer

Witness for
Employer

4.4. Company registration number:

4.5. **TYPE OF COMPANY/ FIRM**

- ☐ Partnership/Joint Venture / Consortium
- ☐ One-person business/sole propriety
- ☐ Close corporation
- ☐ Public Company
- ☐ Personal Liability Company
- ☐ (Pty) Limited
- ☐ Non-Profit Company
- ☐ State Owned Company

[TICK APPLICABLE BOX]

4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I 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 paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering 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) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted 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
 - (e) forward the matter for criminal prosecution, if deemed necessary.

STANDARD BIDDING DOCUMENTS DECLARATION

The following documents are deemed to form and be read and construed as part of this agreement even where integrated in this document:

Declaration of Interest (SBD1)
Declaration of Interest (SBD4)
Preference points claimed (SBD6.1) – Original or certified copy of B-BBEE certificate or Sworn Affidavit

The obligation to complete, duly sign and submit these declarations included in this SBD declaration


Contractor


Witness for
Contractor


Employer


Witness for
Employer

pack cannot be transferred to an external authorised representative, auditor or any other third party acting on behalf of the legal entity.

I declare that I have had no participation in any collusive practices with any Bidder or any other person regarding this or any other procurement. I certify that the information furnished in these declarations (SBD 1 and SBD6.1) is correct and I accept that SANParks may reject the Offer or act against me should these declarations prove to be false. I confirm that I am duly authorised to sign this SBD declaration pack nominated in writing by the Chief Executive Officer or Senior Member/Person with management responsibility (Close Corporation, Partnership or Individual).

NAME (PRINT)	
CAPACITY	
SIGNATURE	
NAME OF FIRM	
DATE	

WITNESSES:	
1	_____
2	_____
Date	_____

2: The Contract

This document is for information purposes ONLY

Contractor

Witness for
Contractor

Employer

Witness for
Employer

Part C1: Agreement and contract data

This document is for information purposes ONLY

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

C1.1 FORM OF OFFER AND ACCEPTANCE

OFFER

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of:

CONTRACT No. CI-GK-0165: Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in the Garden Route National Park – Tsitsikamma Section

The tenderer, identified in the offer signature block, has examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the conditions of tender.

By the representative of the tenderer, deemed to be duly authorized, signing this part of this form of offer and acceptance, the tenderer offers to perform all of the obligations and liabilities of the contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the contract data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS:

..... Rand (in words);

R (in figures)

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning a copy of this acceptance form to the tenderer, whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.

Signature(s)		Date	
Name(s)			
Capacity			
For the Tenderer			
Name of tenderer (Company)			
Address of tenderer			
Name of witness			
Signature of witness		Date	


Contractor


Witness for
Contractor


Employer


Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

ACCEPTANCE (NB: TO BE COMPLETED BY SANParks NOT THE TENDERER)

By signing this part of this form of offer and acceptance, the employer identified below accepts the tenderer's offer. In consideration thereof, the employer shall pay the contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer's offer shall form an agreement between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract, are contained in:

- Part C1: Agreements and contract data, (which includes this agreement)
- Part C2: Pricing data
- Part C3: Scope of work.
- Part C4: Site information and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the tender schedules as well as any changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed signed acceptance form, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five working days of the date of such receipt notifies the employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

Signature(s)		Date:	
Name(s)			
Capacity			
For the Employer			
Name of Employer	South African National Parks		
Address of Employer	643 Leyds Street Muckleneuk 0002 P O Box 787 Pretoria 0001		
Name of witness			
Signature of witness		Date:	

Schedule of Deviations

Notes

Contractor	Witness for Contractor	Page 54 of 196	Employer	Witness for Employer
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1. The extent of deviations from the tender documents issued by the employer before the tender closing date is limited to those permitted in terms of the conditions of tender.
2. A tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, be the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.
3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents, and which it is agreed by the Parties becomes an obligation of the contract, shall also be recorded here.
4. Any change or addition to the tender documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the contract.

1	Subject
	Details
	
	
	
2	Subject
	Details
	
	
	
3	Subject
	Details
	
	
	
4	Subject
	Details
	
	
	
5	Subject
	Details
	
	
	

By the duly authorised representatives signing this agreement, the employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the tender schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether in writing, oral communication or implied during the period between the issue of the tender documents and the receipt by the tenderer of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

For the Tenderer:

Signature(s):

Contractor

Witness for
Contractor

Employer

Witness for
Employer

Name(s):

Capacity:

Name of organization / tenderer:

Address of organization / tenderer:

Name and
signature
of witness:

.....

Date:

For the Employer:

Signature(s):

Name(s):

Capacity:

Name and address of organization: The South African National Parks

Name and
signature
of witness:

.....

Date:

Contractor

Witness for
Contractor

Employer

Witness for
Employer

Confirmation of Receipt

The Tenderer, (now Contractor), identified in the Offer part of this Agreement hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this agreement, including the Schedule of Deviations (if any) today:

the..... (day)
of (month)
20..... (year)
at (place)

For the Contractor:

Signature(s):

Name(s):

Capacity:

Signature and name of witness:

Signature:

Name:

Contractor

Witness for Contractor

Employer

Witness for Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

C1.2 Contract Data

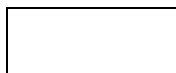
Part 1: Contract Data provided by the Employer

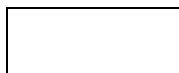
The General Conditions of Contract for Construction Works, Third Edition, 2015 published by the South African Institution of Civil Engineering, Private Bag X200, Halfway House, 1685, is applicable to this Contract and copies of these Conditions of Contract may be obtained from the South African Institution of Civil Engineering (Tel 011-805 5947) www.saice.org.za. The General Conditions of Contract make several references to the Contract Data for specific data, which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the General Conditions of Contract.

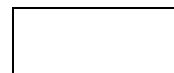
Each item of data given below is cross-referenced to the clause in the General Conditions of Contract for Construction Works, Third Edition, 2015, to which it mainly applies.

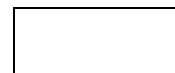
The variations to the General Conditions of Contract are:

CLAUSE	DESCRIPTION / WORDING
1.1.1	The term “the Engineer” shall be taken to mean “the Employer’s Agent” as defined in clause 1.1.1.16, where “the Engineer” is used in other documentation (for example SANS / SABS standardised specifications and particular specifications in this tender document – see also C3 Scope of Work, Construction, Specifications for further “mapping of definitions”).
1.1.1.13	The Defects Liability Period is 12 (twelve) months.
1.1.1.14	The time for achieving Practical Completion is 10 (ten) months , excluding the 14 day period referred to in Clause 5.3.2 below, and inclusive of non-working days referred to in Clause 5.8.1 below, but exclusive of special non-working days (Clause 5.8.1).
1.1.1.15	The name of the Employer is: the Chief Executive Officer, SOUTH AFRICAN NATIONAL PARKS represented by The General Manager: Infrastructure & Special Projects and/or such other person or persons duly authorised thereto by the Employer in writing.
1.1.1.16	The name of the Employer’s Agent is: SMEC South Africa (PTY) Ltd or their successors duly appointed by the Employer.
1.1.1.26	The Pricing Strategy is a Re-measurement Contract .
1.2.1.2	The Employer’s address for receipt of communications and notices is: Physical address: South African National Parks The General Manager: Infrastructure & Special Projects. 643 Leyds Street Muckleneuk Pretoria 0002 Postal Address: PO Box 787 Pretoria 0001 Telephone: (012) 426 5126
1.2.1.2	The address of the Employer’s Agent is: Physical address:


Contractor


Witness for
Contractor


Employer


Witness for
Employer

CLAUSE	DESCRIPTION / WORDING				
	SMEC South Africa (Pty) Ltd. 65 Riebeeck Street, Cape Town City Centre, CAPE TOWN, 8001 Tel: +27 83 555 2971 E-mail: andre.smit@smec.com				
3.1.3	The Employer's Agent shall obtain the specific approval of the Employer before executing any of his functions or duties according to the following Clauses of the General Conditions of Contract: 1. Clause 3.2.1 Nomination of Employer's Agent's Representative. 2. Clause 3.2.4 Employer's Agent's authority to delegate. 3. Clause 5.8.1 Non-working times. 4. Clause 5.11.1 Suspension of the Works. 5. Clause 5.12.4 Acceleration instead of extension of time. 6. Clause 6.3.2 Orders for variations to be in writing. 7. Clause 10.1.1 Contractor's claim.				
5.3.1	The documentation to be submitted by the Contractor before commencement with Works execution are: (1) Health and Safety Plan (Refer to Clause 4.3). (2) Initial programme (Refer to Clause 5.6) - a program must be submitted for each work order issued. (3) Security (Refer to Clause 6.2) (4) Insurance (Refer to Clause 8.6). (5) Occupational Health and Safety Agreement (C1.4 of the Contract Document). (6) Letter of Good Standing from the Compensation Commissioner (if not insured with a Licensed Compensation Insurer). (7) A signed Agreement between the Employer and the Contractor for the Works to be completed by the Contractor in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act (Act No.85 of 1993) and the Construction Regulations promulgated thereunder (Refer to Clause 4.3). (8) Proof to the Employer, of payment, that the Contractor has paid all contributions required in terms of the Compensation for Occupational Injuries and Diseases Act, No. 130 of 1993 (Refer to Clause 4.3).				
5.3.2	The time to submit the documentation required before commencement with Works execution is 14 days .				
5.4.2	The access and possession of Site shall not be exclusive to the Contractor but shall be as set out elsewhere in the Contract.				
5.8	Delete the words "between sunrise and sunset" in the first line and replace with "within normal working hours". <u>Add the following:</u> *Normal working hours shall be between 07h00 and 17h00 (season dependant) on weekdays from Monday to Friday, and from 07h00 until 13h00 on Saturdays. Note that there are restricted traveling times in the park. No traveling is permitted within Garden Route National Park during the following times: 1 October to 31 March 19:00 – 05:30, 1 April to 30 September 18:00 – 06:30, the Contractor shall make provision for transporting his staff off site in good time. The park seasonal hours are; <table> <tr> <td>Winter: April - September</td><td>07:00 - 17:00</td></tr> <tr> <td>Summer: October - March</td><td>06:00 - 18:00</td></tr> </table>	Winter: April - September	07:00 - 17:00	Summer: October - March	06:00 - 18:00
Winter: April - September	07:00 - 17:00				
Summer: October - March	06:00 - 18:00				
5.8.1	The non-working days are Saturday and Sundays. The special non-working days are: (1) All gazetted public holidays falling outside the year end break. (2) The year end-break as determined by the South African Forum of Civil Engineering Contractors (www.safcec.org.za). The special non-working days are: a) Any statutory public holiday in terms of the Public Holidays Act, and, where such statutory public holiday falls on a Sunday, and the next Monday subsequently becomes a statutory public holiday in				

Contractor

Witness for
Contractor

Employer

Witness for
Employer

CLAUSE	DESCRIPTION / WORDING																										
	terms of the Public Holidays Act, then both the relevant Sunday and the relevant Monday shall be special non-working days under the contract; and ii) Any proclaimed statutory day of mourning, and iii) Any proclaimed statutory election day which is proclaimed as a statutory public holiday, and iv) All annual year-end shutdown periods as recommended by the South African Bargaining Council for the Civil Engineering Industry.																										
5.12.2.2	A delay caused by inclement weather conditions will be regarded as a delay only if, in the opinion of the Employer's Agent, all progress on an item or items of work on the critical path of the working programme of the contractor has been brought to a halt. Delays on working days only (based on a five-day working week) will be taken into account for the extension of time, but the Contractor shall make provision in his programme of work for an expected delay of "n" working days caused by normal rainy weather, for which he will not receive any extension of time, where "n" equals days per month. <table border="1"> <thead> <tr> <th>Month</th><th>"n" Working days</th></tr> </thead> <tbody> <tr><td>January</td><td>2 days</td></tr> <tr><td>February</td><td>2 days</td></tr> <tr><td>March</td><td>2 days</td></tr> <tr><td>April</td><td>2 days</td></tr> <tr><td>May</td><td>3 days</td></tr> <tr><td>June</td><td>4 days</td></tr> <tr><td>July</td><td>4 days</td></tr> <tr><td>August</td><td>3 days</td></tr> <tr><td>September</td><td>3 days</td></tr> <tr><td>October</td><td>2 days</td></tr> <tr><td>November</td><td>2 days</td></tr> <tr><td>December</td><td>2 days</td></tr> </tbody> </table> Extension of time during working days will be granted to the degree to which actual delays, as defined above, exceed the number of "n" working days. It shall be further noted that where the critical path is not affected, no extension of time for <u>abnormal</u> climatic conditions or for any other reason will be entertained.	Month	"n" Working days	January	2 days	February	2 days	March	2 days	April	2 days	May	3 days	June	4 days	July	4 days	August	3 days	September	3 days	October	2 days	November	2 days	December	2 days
Month	"n" Working days																										
January	2 days																										
February	2 days																										
March	2 days																										
April	2 days																										
May	3 days																										
June	4 days																										
July	4 days																										
August	3 days																										
September	3 days																										
October	2 days																										
November	2 days																										
December	2 days																										
5.13.1	The penalty for failing to complete the Works is R 3 500 per calendar day.																										
5.14.1	The requirements for achieving Practical Completion are when the works is fit for the intended purpose and occupation without danger or undue inconvenience to the employer.																										
5.16.3	The latent defects period is 10 Years , commencing on the day after the date of certification of Practical Completion.																										
6.2.1	The security to be provided by the Contractor shall be a performance guarantee of 10% of the Contract Sum. The performance guarantee shall contain the precise wording of the document included in Part C1.3 of the Contract Data: Form of Guarantee .																										
6.8.2	Contract Price Adjustment shall NOT be applicable.																										
6.8.4	<i>Add the following to Clause 6.8.4:</i> Notwithstanding the above, in the event that a public holiday is proclaimed after 28 days before the closing date for Tenders, no costs other than those that can be claimed under Clause 5.12.3 shall be added to the contract price.																										
6.10.1.5	The percentage advance on materials not yet built into the permanent Works is 80% . Proof of ownership is required.																										
6.10.3	The limit on retention is 10% total of the Contract Price (5% of cost payable at completion, and 5% after 12 month retention period – final completion). A guarantee in lieu of retention is not permitted.																										
8.6.1.1.2	The value of plant and materials supplied by the Employer to be included in the insurance sum is R0.																										
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is R100 000 (One hundred thousand rand) .																										
8.6.1.2	A Coupon Policy for Special Risks Insurance issued by the South African Special Risks Insurance Association is not required.																										
8.6.1.3	The limit of indemnity for liability insurance is R10 000 000 for any single claim – the number of claims to be unlimited during the construction and Defects Liability Periods.																										

Contractor

Witness for
Contractor

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Employer

Witness for
Employer

CLAUSE	DESCRIPTION / WORDING
10.3.2	Amicable settlement in terms of Clause 10.4 shall be contemplated for all disputes prior to referring any dispute to adjudication or arbitration.
10.5.3	The number of Adjudication Board Members to be appointed is one .
10.7.1	The determination of disputes which are unresolved in terms of Clause 10.4.2 shall be by arbitration.

The additions to the General Conditions of Contract are:

Clause	Additions
A2	Pro forma – Form of Offer and Acceptance The Form of Offer to be used shall be the Form of Offer bound in this document, which is not necessarily the same as that attached to the published version of the General Conditions of Contract.
A3	Pro forma - Deed of Guarantee The Deed of Guarantee shall be in the form bound in this document, which is not necessarily the same as that attached to the published version of the General Conditions of Contract.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

Part 2: Contract Data provided by the Contractor

Clause	Additions
Clause 1.1.1.9:	The name of the Contractor is:
Clause 1.2.1.2:	The address of the Contractor is: Physical : Postal : Address: Address: Telephone : Fax: Email :

Contractor

Witness for
Contractor

Employer

Witness for
Employer

C1.3 Form of Guarantee

WHEREAS THE CHIEF EXECUTIVE, SOUTH AFRICAN NATIONAL PARKS

(hereinafter referred to as "the Employer") entered into a Contract with

.....

(hereinafter called "the Contractor") on the day of 20. for **CONTRACT No. CI-GK-0165**

for the

Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in the Garden Route National Park – Tsitsikamma Section

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of a guarantee for the due and faithful fulfilment of such Contract by the Contractor;

WHEREAS WE, (*name of Insurance Company/Bank*)

have at the request of the Contractor, agreed to give such guarantee;

NOW THEREFORE WE do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co principal Debtors to the Employer under renunciation of the benefits of division and excursion for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

- i) The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Due Completion Date of the Works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alterations of the Due Completion Date which the Employer may make, give, concede or agree to under the said Contract.
- ii) This guarantee shall be limited to the payment of a sum of money.
- iii) The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.
- iv) This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

- v) Our total liability hereunder shall not exceed the sum of
.....(R)
- vi) The Guarantor reserves the right to withdraw from this guarantee by depositing the Guarantee Sum with the beneficiary, whereupon the Guarantor's liability hereunder shall cease.
- vii) We hereby choose our address for the serving of all notices for all purposes arising hereof as
.....

IN WITNESS WHEREOF this guarantee has been executed by us at

on this day of 20.....

As witnesses:

1. Signature

2. Duly authorized to sign on behalf of

..... Address

.....

.....

Contractor

Witness for
Contractor

Employer

Witness for
Employer

C1.4: Pro-Forma – OHS Mandatory Form

TO BE COMPLETED AND SIGNED BY ALL MANDATARIES

OCCUPATIONAL HEALTH AND SAFETY ACT NO. 85 OF 1993

Note: Section 1(1)(xxviii) of the Act defines a "Mandatory" as including "an Agent, a Contractor or a Subcontractor for Work."

The Employer and the Contractor hereby agree, in terms of the provisions of Section 37 (2) of the Occupational Health and Safety Act, Act No.85 of 1993, hereinafter referred to as "the Act", that the Contractor as an employer in its own right and in its capacity as Contractor for the execution of the works, shall have certain obligations and that the following arrangement shall apply between them to ensure compliance by the Contractor with the provisions of the Act, namely:-

- i. The Contractor undertakes to acquaint the appropriate officials and the employees of the Contractor with all relevant provisions of the Act, and the regulations promulgated in terms of the Act, and
- ii. The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and regulations will be fully complied with, and
- iii. The Contractor hereby accepts sole liability for such due compliance with the relevant duties, obligations and prohibitions imposed by the Act and regulations in respect of the work included in the Contract, and
- iv. The Contractor shall be obliged to report forthwith to the Employer any investigation, complaint, or criminal charge which may arise as a consequence of the provisions of the Act and regulations pursuant to work performed on behalf of the Employer, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Signed aton the day of 20.....

WITNESS:

.....

For and on behalf of the **Contractor**

WITNESS:

.....

For and on behalf of the **Chief Executive Officer
South African National Parks**

Contractor

Witness for
Contractor

Employer

Witness for
Employer

C1.5: Pro-Forma – Declaration of Ownership of Unused Materials
DECLARATION OF OWNERSHIP OF UNUSED MATERIAL

FOR

CERTIFICATE OF PAYMENT NO:

I/We, the undersigned,

..... (Name of Contractor)

hereby declare that the materials for which payment is claimed in terms of Clause 6.10.1.5 of the General Conditions of Contract are:

(a) as described

* (i) on the copy of Invoice No. annexed hereto;

* (ii) as set out in detail below

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

*delete whichever is not applicable.

(b) located at

.....
.....

(c) totally owned by me/us and that no other party has any claim or right in respect of the above materials and that I am/we are free to pass ownership upon receipt of payment for such materials

(d) intended for incorporation into the permanent works of this Contract.

Signed at

on this day of 20.....

Witnesses:

1.

2.

Signature:

Capacity:

On behalf of:

Address:

.....

.....

Contractor

Witness for Contractor

Employer

Witness for Employer

Part C2: Pricing data

- C2.1 Pricing Instructions
- C2.2 Day Work Schedule
- C2.3 Bill of Quantities

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp
in the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

C2.1: Pricing Instructions

- i) The measurement and payment clause of the SANS 1200 Standardised Specification and the Standard and Particular Specifications shall be deemed to form part of and included in the Pricing Instruction.
- ii) The units of measurement described in the Bills of Quantities are metric units. Abbreviations used in these Bills of Quantities are as follows:

%	=	percent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kPa	=	kilopascal
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
m ²	=	square metre
m ² -pass	=	square metre-pass
m ³	=	cubic metre
m ³ -km	=	cubic metre-kilometre
MN	=	meganewton
MN.m	=	meganewton-metre
MPa	=	megapascal
No.	=	number
Prov sum	=	Provisional sum
PC sum	=	Prime Cost sum
R/only	=	Rate only
sum	=	lump sum
t	=	ton (1000 kg)
W/day	=	Work day

- iii) Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- iv) The quantities set out in the Bills of Quantities are the estimated quantities for the Contract Works, but the Contractor will be required to undertake whatever quantities may be directed by the Engineer from time to time. The Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.
- v) The prices and rates in these Bills of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.
- vi) It will be assumed that prices included in these Bills of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders (refer to www.stanza.org.za or www.iso.org for information on standards).

Contractor

Witness for
Contractor

Employer

Witness for
Employer

- vii) Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount tendered such items
- viii) An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.
- ix) The quantities set out in these Bills of Quantities are approximate and do not necessarily represent the actual amount of work to be done. The quantities of work accepted and certified for payment will be used for determining payments due and not the quantities given in the Bills of Quantities.
- x) Reasonable compensation will be received where no pay item appears in respect of work required in the Bills of Quantities in terms of the Contract and which is not covered in any other pay item.
- xi) The short descriptions of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.
- xii) Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the SANS 1200 Standardised Specification.

Construction –

- xiii) Attention is drawn to Clause 6.7.1 of the General Conditions of Contract and the Contractor must not order the quantities of materials stated in the Bill of Quantities until he has confirmed from the construction drawings or measurement on Site that such quantities are in fact the correct quantities.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp
in the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

C2.2 Day Work Schedule

C2.2.1 GENERAL

Tenderers must complete this list which shall be used for the assessment of value of the work which the Engineer instructed in writing that must be done on a day work bases, all in agreement with Clause 6.5 of the General Conditions of Contract for Construction Works 2015. All the rates are fixed and shall be binding until and with the issuing of the final approval certificate, except for statutory increases announced from time to time, only if this Contract is subject to contract price adjustment as specified in Clause 6.8.2 of the Contract Data.

C2.2.2 LABOUR COSTS

Rates for labour as listed below shall include all the allowances as specified in the General Conditions of Contract for Construction Works 2015. If these rates differs from similar rates tendered in the bill of quantities, the rates in the tendered bill of quantities will apply.

Overtime costs attached to this contract shall be paid in the same relation as to that which the employees are actually paid.

Only the net working hours will be measured under dayworks and it will be held that the Contractor has made provision in his rates for possible interruptions and standing time.

DESCRIPTION	UNIT	RATE
Unskilled Labourer	hour	
Semi-skilled Labourer	hour	
Skilled Labourer	hour	
Pipe Layer	hour	
Bricklayer	hour	
Steel Fixer	hour	
Foreman/Section Leader	hour	
General Foreman	hour	
Surveyor	hour	

1. Where there are discrepancies in the rates tendered for similar items in the above table and items listed in the bill of quantities, the rates in the bill of quantities shall govern.

* All labour not specified above and not listed additionally by the Contractor, will be regarded as "Skilled Labour".

C2.2.3 EQUIPMENT COSTS

Full comprehensive hourly rates, which also include the cost of the operators and other equipment, must be listed below. Rates must also include all the costs of consumable items, maintenance, depreciation, tools and all other coincidences that shall be necessary to operate the equipment for the purpose it is designed for. If these rates differs from similar rates tendered in the bill of quantities, the rates in the tendered bill of quantities will apply.

The rates must also include all the overhead costs, profits, site supervision, insurance, holidays with payment, travelling costs (or travelling allowances) and residence allowances of operators and any other allowances that is applicable. No further percentage allowances shall be applicable on equipment. The Tenderer must list under each heading the fabrication and specification of the equipment available.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

The Contractor will be paid the actual net cost of plant hired by him for dayworks and in addition will be paid a percentage allowance on the net cost of such hire which allowance will cover the Contractors overhead costs and profit.

DESCRIPTION	UNIT	RATE
xiv) Digger-Loader (TLB)		
	Hour	
	Hour	
xv) Excavators		
	Hour	
	Hour	
xvi) Trucks (m ³ specified)		
	Hour	
	Hour	
xvii) Tractors & Trailers		
	Hour	
	Hour	
xviii) Concrete Mixers (litres specified)		
	Hour	
	Hour	
xix) Plate Compactors		
	Hour	
	Hour	
xx) Rammer / Jumping Jack Compactors		
	Hour	
	Hour	
xxi) Breakers		
	Hour	
	Hour	
xxii) Compressors		
	Hour	
	Hour	

10. Drills (electrical / battery operated)		
--	--	--

Contractor

Witness for
Contractor

Employer

Witness for
Employer

	Hour	
	Hour	
11. Generators		
	Hour	
	Hour	
12. Other Equipment - specify		
	Hour	
	Hour	
	Hour	
	Hour	

1. Where there are discrepancies in the rates tendered for similar items in the above table and items listed in the bill of quantities, the rates in the bill of quantities shall govern.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

C2.3 Bill of Quantities

CONTENTS

The full BoQ will be available in the Tender Document at the Clarification Meeting.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**SOUTH AFRICAN NATIONAL PARKS
CONTRACT NO. CI-GK-0165**

**MAINTENANCE AND REHABILITATION OF THE SUSPENSION BRIDGES AT STORMS RIVER MOUTH REST CAMP IN THE
GARDEN ROUTE NATIONAL PARK – TSITSIKAMMA SECTION**

SUMMARY OF BILL OF QUANTITIES

This document is for information purposes ONLY

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp
in the Garden Route National Park – Tsitsikamma Section**

Contractor

Witness for
Contractor

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Employer

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Employer

Part C3: Scope of Work

- C3.1 Description of the Works**
- C3.2 Engineering**
- C3.3 Procurement**
- C3.4 Construction**
- C3.5 Management**
- C3.6 Annexes**

Status

Should any requirement or provision in the parts of the Scope of Work conflict with any requirement of any Standardised Specification, particular specification or any drawings, the order of precedence, unless otherwise specified, is:

Drawings
Scope of Work (Parts C3.1, C3.4, C3.5 and C3.6)
Standardised Specifications

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

C3.1 Description of the Works

C3.1.1 Employer's objectives

This Contract form part of the upgrade and maintenance strategy of tourism facilities within the Garden Route National Park's. The objective of the Garden Route National Park is to appoint one contractor to execute the rehabilitation and replacement of the existing Suspension Bridges superstructures.

C3.1.2 Description of the works

The rehabilitation of existing substructures and demolition and replacement of superstructures of three bridges within the Garden Route National Park.

C3.1.3 Extent of the Works

The following works is included in the project:

- Establish on site.
- Concrete testing on existing concrete substructure elements.
- Provision of safe temporary access (for construction use only) over the Storms River mouth.
- Demolition of existing bridge superstructures (cables, hangers, transverse beams, parapet fence).
- Rehabilitate substructure (structural steel frames, connections, anchors and reinforced concrete)
- Construct new bridge superstructure (Cables, hangers, transverse beams, parapet fence)
- Sustainable construction – Reuse of timber walkway planks within the nature reserve.
- De-establish from site.

The bill of quantities and related specification provides more detailed to the above brief outline of the scope of works.

The above description is not necessarily complete and shall not limit the work to be carried out.

C3.1.4 Location of the Works and Access

The site of the works is located at Storms River Mouth Rest Camp in the Garden Route National Park - Tsitsikamma. The site is 900m away from the parking area at the restaurant and is accessed by a boardwalk footpath. All tools, materials and equipment logistics must be planned accordingly. The site location and entrance road can be seen on the Locality Plan.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

C3.2 Engineering

C3.2.1 Design

- (a) The Employer is responsible for the design of the permanent Works as reflected in the Contract Documents, unless otherwise stated.
- (b) The Contractor is responsible for the design of the temporary Works such as traffic accommodation signage and signalling and their compatibility with the permanent Works.
- (c) The Contractor shall supply all details necessary to assist the Engineer in the compilation of the as-built drawings.

C3.2.2 Employer's design

The Employer's design is contained in the Tender Documentation and Drawings. Amendments to the design, if necessary, will be issued during the construction phase.

C3.2.3 Design brief

Where the Contractor is to supply the design of designated parts of the permanent Works or temporary Works, he shall supply full working drawings supported by a professional engineer's design certificate.

C3.2.4 Drawings

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless required by the Engineer. The Engineer will, at the request of the Contractor in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the contract. The position of all underground infrastructure shall be given by either co-ordinates or stake value and offset. Where necessary, levels shall also be given. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Engineer's Representative on a regular basis.

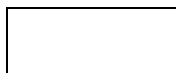
All information in possession of the Contractor, required by the Engineer and/or the Engineer's Representative to complete the as-built/record drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

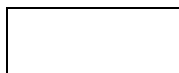
The Drawings prepared by the Employer for the permanent Works applicable to the contract are issued with this tender document. The Employer reserves the right to issue and/or amended additional drawings during the Contract.

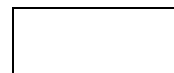
Drawings as per bound into this Tender Document are:

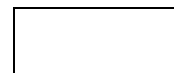
Drawing Number	Title
C3336-S-C-[SR01]-001	Bridge 1 – General Arrangement
C3336-S-C-[SR02]-002	Bridge 2 & 3 – General Arrangement

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**


Contractor


Witness for
Contractor


Employer


Witness for
Employer

C3.3 Procurement

C3.3.1 PREFERENTIAL PROCUREMENT

The works shall be executed in accordance with the conditions associated with the granting of preferences detailed in Form SBD 6.1: Preference Points Claim Form in Terms of the Preferential Procurement Regulations 2022, where preferences are granted in respect of B-BBEE contribution. In particular, the Contractor may not sub-contract more than 25% of the value of the contract to sub-contractors that do not have an equal or higher B-BBEE status level than the Contractor, unless the sub-contractors are exempted micro enterprises that have the capability and ability to execute the sub-contract works.

C3.3.2 SCOPE OF MANDATORY SUBCONTRACT WORK

No mandatory subcontract work is envisaged under this contract

C3.3.3 SUBCONTRACTORS

C3.3.3.1 Procedure for the selection of sub-contractors / suppliers

Where monetary allowances for provisional sums or prime cost items have been provided in the Bills of Quantities, and where the work is to be executed / supplied by sub-contractors / suppliers, then the following selection process shall be followed in respect of the required sub-contractors / suppliers:

The Contractor shall invite three quotations from suitably qualified sub-contractors / suppliers, the selection of which shall be in consultation with, and to the approval of the Engineer, for the required work or items.

The evaluation of the quotation received must include a preference points system as described in 5.11 of the Tender Data.

C3.3.3.2 Attendance on subcontractors

Approval given in terms of subcontracting shall not relieve the Contractor of any responsibility, duty or obligation imposed upon him by the Contract, and the Contractor shall in particular be and remain solely liable and responsible for all acts, omissions, negligence or breaches of contract on the part of the assignee or any of his employees, and for all acts, omissions or negligence of any Sub- Contractor or any of his employees.

Contractor

Witness for
Contractor

Employer

Witness for
Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

C3.4 Construction

C3.4.1 Standardised Specifications

SANS 1200 Standard Specifications and the Standard and Particular Specifications are applicable to this contract. It shall however be noted that reference is made in certain of the specifications to other standardised specifications which may or may not be included in this document. Where such specifications are not included, they shall however be deemed to be included in the Contract documents.

C3.4.2 Particular Specifications to Health and Safety, Environmental and Code of Conduct

The following particular specifications shall apply to this contract and are Annexed to this Contract

PROJECT SPECIFICATIONS – PART 1
PROJECT SPECIFICATIONS – PART 2
PROJECT SPECIFICATIONS – PART 3

Annexure A - Health and Safety Specifications for South African National Parks
Annexure B - Environmental Management Plan
Annexure C - Code of Conduct for working in the South African National Parks

C3.4.3 Variations and Additions to the Standard and the Particular Specifications

Variations and additions to the SANS 1200 Standard Specifications are listed above in C3.4.1b and the Particular Specifications of C 3.4.2 are attached in the Annexures.

C3.4.4 Known services

The Contractor shall make himself acquainted with all existing works. Under no circumstances shall the Contractor alter or in any way interfere with the existing works or underground services unless authorised by the Engineer.

Where existing works are of such a nature that the Engineer may require them to be moved by the Contractor, the cost of such work will be paid for at scheduled rates or on day works, plant and materials basis. The Contractor will be held responsible for damages to any existing works and any damages caused shall be made good at his own cost without delay.

The Contractor is to exercise care when the proposed work is to cross an existing service, or work is to be performed close to an existing service. Prior to commencement of the relevant portion of the proposed works the Contractor with the Engineer or his duly appointed representative shall also perform a visual inspection of the area in question. This inspection will not waive the Contractor of his obligations with respect care of the works referenced in the General Conditions of Contract.

C3.4.5 Damage to services

Damage that occurs to unknown services during construction will be paid by the Employer. However, all services that have been located and exposed, and are subsequently damaged by the Contractor or his subcontractor, shall be reinstated to the same state as it was before the damage occurred at the time and cost of the Contractor.

C3.4.6 Reinstatement of services and structures damaged during construction

The Contractor shall inform the Engineer immediately when a service or structure is damaged. The extent of the damage and a proposal how to reinstate the service or structure shall be submitted to the Engineer on a sketch with dimensions and time frames.

The Contractor shall not be allowed to reinstate any service or structure unless indicated so by the Engineer. The Contractor shall render all reasonable assistance to the service or structure owner with the reinstatement of the service or the structure if required.

The Contractor shall be liable to reinstate the service or structure to its original state or for the full cost thereof if reinstated by others.

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C3.4.7 Services and facilities provided by the employer

C3.4.7.1 Water and Power Supply

Water is available for construction from the Storm River Rest Camp; cost of transporting the water must be included in the contractor's rates.

The Contractor shall make his own arrangements for the supply of electricity that he may require for the execution of the works and the costs of any connections, additional reticulation and the supply of electricity shall be borne by the Contractor.

C3.4.7.2 Fuel

The Contractor must note that there is no fuelling stations within the Garden Route National Park's boundaries, all fuel for construction must be carted into the park. TotalEnergies Petroport Tsitsikama, N2, is 17km from the site.

C3.4.8 Facilities provided by the Contractor

The Contractor shall provide, maintain and remove his own facilities to the satisfaction of the Engineer. The Contractor shall provide the area around his office, stores and sheds (i.e. the "Camp") with adequate security fences to ensure that unauthorised persons do not enter the camp area and security personnel should be deemed necessary.

The tendered sums as scheduled by the Contractor, whether grouped or individually, shall include all costs for the installation, maintenance and removal of the fencing as specified, in addition to all other facilities specified and as required by the Contractor for his own purposes.

C3.4.8.1 Location of Contractor's Camp Site

The location of the Contractor's camp shall be pointed out at the tender briefing meeting.

The Contractor shall note that the site is within a popular public amenity. The Contractor shall comply with all SANParks and Local Authority regulations including those relating to health and fire. The Contractor shall ensure that all camp facilities, including those for fuelling, comply with all such regulations. Should the contract include the end of year builders holidays the camp shall be dis-established prior to end of year close-down and re-established at start up the following year. Provision for this is made in the Bill of Quantities.

The Contractor shall provide sufficient latrine facilities for its workers as required by local regulations and these shall be located in close proximity to the work area.

The Contractor must note that the site camp is within the Garden Route NP area and wild animals will be present in the area – including snakes, scorpions, baboons. This must be taken into account when planning the site camp. The camp site shall be properly and neatly fenced using temporary fencing with secure access control. The Contractor shall be responsible for providing and maintaining his own security arrangements for the duration of the Contract.

On completion of the Works, or when ordered by the Engineer, the Contractor shall remove all temporary buildings and latrines and restore the Site to a clean and sanitary condition to the satisfaction of the Engineer and rehabilitate the area in accordance with the EMP.

Access to the site will be in a controlled manner. People visiting the site will have to sign in and out on a daily basis.

C3.4.8.2 Housing

No housing is available on site for the Contractor's employees. It is the sole responsibility of the Contractor at his own cost to house his employees in facilities that must first be approved by SANParks close to the site.

C3.4.9 Facilities for the Engineer

C3.4.9.1 Office accommodation

No office facilities are required for the Engineer.

C3.4.9.2 Survey equipment and assistants

Both are required for the Contract.

C3.4.9.3 Site instruction book and Site diary

The Contractor shall keep a triplicate book for site instructions on the Site at all times and provide a Site diary for daily completion by the Contractor.

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C3.4.10 Laboratory Facilities

The Contractor shall provide and allow for his own facilities, apparatus and procedures for the testing of materials and the process control testing of materials and workmanship in order to ensure compliance with the requirements of the Specifications. The Engineer shall only carry out control tests.

C3.4.11 Other facilities and services

C3.4.11.1 Waste Disposal

The Contractor shall make arrangements for solid and liquid waste disposal with SANParks. Disposal will take place at an approved Site.

C3.4.11.2 Telephone Facilities

Cellular reception is available in the Garden route National Park.

C3.4.11.3 Ablution Facilities

Ablution facilities are not available on site. The Contractor shall therefore make the necessary arrangement to provide these facilities. Chemical serviced toilets shall be the minimum acceptable standard as indicated in the EMP. These must be placed in a position to be approved by the Engineer. The facilities must be to the Engineer's approval and must be maintained in a clean and sanitary condition.

C3.4.12 Notice boards, signs, barricades and advertisements

All notices, signs and barricades may be used only if approved by the Engineer. The Contractor shall be responsible for their supply, erection, maintenance and ultimate removal and shall make provision for this in his tendered rates.

The Engineer shall have the right to instruct the Contractor to move any sign or notice to another position, or to remove it from the Site of the Works if in his opinion it is unsatisfactory, inconvenient or dangerous.

C3.4.13 Dealing with water

The Contractor shall make provision and allow for all dewatering and temporary management of stormwater. All costs for this operation for the duration of the contract shall be deemed to be included in the Fixed and Value related charges.

C3.4.14 Dealing with high winds

The site is situated in a region where high winds and seasonal rain can be expected and with strong south-easterly winds during the summer months.

All heaps of materials either forming part of the excavations or imported for use in construction shall be kept covered during high winds to prevent contamination of surrounding in-situ soils

C3.4.15 Alterations, additions, extensions and modifications to existing works.

The Contractor shall within 20 days or 10% of the construction period after taking possession of the site (whichever is the lesser), satisfy himself that the dimensional accuracy, alignment, levels and setting out of existing structures or components thereof are compatible with the proposed works and shall notify the Engineer of any areas of dissatisfaction.

C3.4.16 Wayleaves, Permissions and Permits

The Contractor shall be responsible for obtaining all of the necessary wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and shall ensure that any wayleaves, permissions or permits obtained by the Employer's Agent prior to the award of the contract are transferred into the Contractor's name.

The Contractor shall abide by any conditions imposed by such wayleaves, permissions or permits.

The Contractor shall ensure that all wayleaves, permissions and permits are kept on site and are available for inspection by the relevant service authorities on demand.

The Contractor shall also ensure that any wayleaves in respect of electricity services are renewed timeously every three months.

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C3.4.17 Construction in restricted areas

All working space will be deemed restricted. The construction method used in these restricted areas largely depends on the Contractor's Plan. Notwithstanding, measurement and payment will be strictly according to the specified cross-sections and dimensions irrespective of the method used, and the rates and prices tendered will be deemed to include full compensation for any difficulties encountered by the Contractor while working in restricted areas. No extra payment or any claim for payment due to these difficulties will be considered.

C3.4.18 Spoiling areas.

No spoiling area is available within the park boundaries, hauling tariffs will be applicable.

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C3.5 Management

C3.5.1 Particular specifications

The Particular Specifications listed in Clause 3.6 of the Scope of Works apply to this Contract.

C3.5.2 Construction Programme and Methods

The Contractor must submit a program, time related items will only be paid in correlation to the approved program.

The programme to be submitted by the Contractor in terms of the General Conditions of Contract shall be in the form of a bar chart with a horizontal time scale and shall clearly show all significant activities, the duration of all activities, the interdependencies (if any) of activities and the critical path of the overall programme, clearly related to the items or groups of items in the Bill of Quantities and indicating the quantity of work that will be completed each month and shall ideally be drawn up using a commercially available computer programme. The programme shall take account of and include

- a) all special non-working days
- b) allowance for inclement weather as provided for in Clause 5.12.2.2 of Contract Data.
- c) Known physical conditions or artificial obstructions
- d) Searching for, dealing with and carrying out alterations to existing services, and

The Engineer can, in consultation with the Contractor, review and adjust the programme during the course of the contract to ensure that the annual budget is met.

C3.5.3 Sequence of the works

The Contractor shall include the sequence of works in the tender programme submitted with his tender offer. In determining the sequence of the works and in preparation of his Project Programme, the Contractor shall consider the following:

- a) Excavations shall remain open for the shortest possible time.
- b) During the December builders holiday all equipment and materials shall be removed from the work areas. The contractors camp site, unless authorized by the Engineer, during this period, shall be dismantled and removed from site for the period in question. The camp shall be re-established from the third week of January onwards. No open excavations shall be allowed during this period.
- c) The sequence of works shall be programmed to ensure that during the December builders holiday the large influx of tourist traffic over this period is not disrupted. The contractor must programme his works in accordance to the following sequence of works:

Sequence of Works
1. Tender Award
2. Site Handover
3. Establishment
4. Bridges 2 and 3: Demolition of superstructure, Construction of New Superstructure, Rehabilitation Works
5. Handover of Bridge 2 and 3 to Client
6. Bridges 1: Demolition of superstructure, Construction of New Superstructure, Rehabilitation Works
7. Handover of Bridge 1 to Client

Note that the above sequence of works must be adhered to. All works relating to Bridges 2 & 3 and Bridge 1 have to be undertaken in separately to ensure that the site is still accessible to tourists and Bridge 2 & 3 and Bridge 1 is still accessible at any point in time during the construction period

C3.5.4 Methods and procedures

The Contractor shall advise in his tender the methods and procedures that he proposes in performing the works. These methods and procedures shall not be deemed as terms of the Contract. The Contractor is also

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allowed to change his methods and procedures as he sees fit subject to the change being approved by the Engineer. Methods and procedures will not vary the specification and cannot be used to provide qualifications to the proposed agreement. The intention of the method statement is to provide the Engineer and the Employer with information as to how he proposes to perform the said works.

- a) Normal working hours
Normal working hours shall be between 07h00 until 18h00 (season dependant) on weekdays from Monday to Friday and from 07h00 until 13h00 on Saturdays. Note that the parks access gates are locked after hours and the Contractor shall make provision for transporting his staff off site in good time. The park seasonal hours are;
- Work on other days or at other times shall only be allowed after agreement of the Employer and written approval has been granted by the Engineer.
- b) Interference with the public
The Contractor shall ensure that none of his staff interfere in any way with the public visiting the park and shall be courteous at all times.
- c) The maximum speed for all vehicles in the park is 40km/h, all construction vehicles must adhere to the limit.

Any person ignoring this shall be removed permanently from site, all at the expense of the Contractor.

C3.5.5 Site usage

The Contractor's employees shall not be allowed to stay on site except for the duration of a working day. The only persons to be allowed on site for the duration of a calendar day shall be the site guard(s) or any personnel required to ensure proper traffic accommodation and control.

Access to the site will be in a controlled manner. People visiting the site will have to sign in and out on a daily basis.

C3.5.6 Recording of weather

The Contractor shall be responsible for keeping accurate records of weather conditions in the Daily Site Diary, to use as substantiation of any claim for extension of time in accordance with GCC, Clause 10.1.

The Contractor will inform the Engineer when he is unable to proceed with the works in accordance with the approved contract program. Subject to the approval of the Engineer, the rainfall and other relevant notes will be noted in the Daily Site Diary for the applicable day/s. After the event the Contractor shall provide a revised contract program motivating if the delay affects his schedule to the extent that he will need to motivate for an extension of time in accordance with the relevant GCC Clause 10.1.

The Engineer, together with the Employer, shall be responsible for granting the extension of time.

C3.5.7 Management meetings

Monthly Progress Meetings shall be held with the first meeting called the Site Handover meeting. The Contractor will be supplied with an appropriate agenda for the progress meetings and the meetings shall be chaired by the Engineer or his duly appointed representative.

The Contractor shall arrange for the Contractor's Project Manager and the Contractor's Technical Supervisor to attend these meetings when called for by the Engineer.

The Engineer or his duly appointed representative shall be responsible for issuing of the minutes.

C3.5.8 Payment certificates

The monthly payment certificate to be submitted by the Contractor in terms of the General Conditions shall be prepared by the Contractor at his own cost, strictly in accordance with the standard payment certificate prescribed by the Engineer, in digital electronic computer format. The Contractor shall, together with a copy of the digital electronic computer file of the statement, submit two (2) A4 size paper copies of the statement.

For the purposes of the Engineer's payment certificate, the Contractor shall subsequently be responsible, at his own cost, for making such adjustments to his statement as may be required by the Engineer for the purposes of accurately reflecting the actual quantities and amounts which the Engineer deems to be due and payable to the Contractor in the payment certificate.

The Contractor shall, at his own cost, make the said adjustments to the statement and return it to the Engineer within three (3) normal working days from the date on which the Engineer communicated to the Contractor the adjustments required. The Contractor shall submit to the Engineer two (2) sets of A4 size paper copies of such adjusted statement,

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together with a copy of the electronic digital computer file thereof.

Any delay by the Contractor in making the said adjustments and submitting to the Engineer the requisite copies of the adjusted statement for the purposes of the Engineer's payment certificate will be added to the times allowed to the Engineer in terms of the General Conditions to submit the signed payment certificate to the Employer and the Contractor and shall also be added to the period in which the Employer is required to make payment to the Contractor.

Payment for particular items scheduled shall conform to the applicable payment clauses of the Pricing Data, Project Specifications and the Particular Specifications.

Where retention money is applicable to a Contract, the retention money shall be deducted on the invoice from the total amount for work done and then the Value Added Tax (VAT) added to calculate the total amount payable on the invoice. If penalties are payable, they will be deducted prior to the addition of VAT but after the calculation of retention.

C3.5.9 Finishing and Tidying

As the works proceed the work areas shall be progressively and systematically finished off and tidied. Spoil, rubble and other materials shall not be allowed to accumulate.

The contractor shall recover all excess materials used in the works and remove from the park.

C3.5.10 Occupational Health and Safety Act

In terms of the provisions of Section 37(2) of the Occupational Health and Safety Act, Act No. 85 of 1993 (the Act) the Contractor as an employer in its own right and in its capacity as principal contractor for the execution of the works, shall have certain obligations and the following arrangement shall apply between the Contractor and the Employer to ensure compliance by the Contractor with the provisions of the Act:

- a) The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with all relevant provisions of the Act and the Construction Regulations 2014 promulgated in terms of the Act, and
- b) The Contractor undertakes that all relevant duties, obligations and prohibitions imposed by the Act and the Construction Regulations 2014 shall be fully complied with, and
- c) The Contractor shall be obliged to report forthwith to the Employer any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the Act or Construction Regulations 2014 pursuant to work performed on behalf of the Employer, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge, and
- d) The Contractor shall when called upon to do so, enter into and execute an agreement as provided for under Section 37(2) of the Act. The agreement in the relevant form shall be submitted to the Employer together with a letter of good standing from the Compensation Commissioner within fourteen days after receipt of the Letter of Acceptance. The site will not be handed over to the Contractor until the Employer has received the completed Agreement and the letter of good standing.

C3.5.11 Accommodation of Traffic

The Contractor shall maintain close liaison with the SANPARK'S, Garden Route NP management regarding the proposed works on vehicular access on the parks road network.

C3.5.12 Safety and Security

The Contractor shall be responsible for the safety and security of his personnel, materials on site and the works in general at all times. The Contractor shall therefore acquaint himself with the current situation in the areas (by liaising with the local police if necessary), and shall provide all security measures, including the employment of accredited security services, as he deems necessary to comply with the requirements of this clause.

The Contractor shall ensure that the general public is at all times protected from the works, Where the normal use by the public of, and access to roadways and all other public areas is not available due to the construction works, adequate notices and signage of such temporary closures and alternative routes shall be provided.

C3.5.13 Environmental Care

The Contractor shall refer to the SANParks Environmental Management Plan which forms part of the Contracts specifications.

The Contractor's attention is drawn to the extreme environmentally sensitive nature of the site. It is the specific requirement of this Contract that the Contractor shall at all times adhere strictly to the Environmental Management Plan that forms part of the project specification.

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No constructional activities of any kind shall be permitted without the express prior written authority of the Engineer. Such written authority shall only be given after the Contractor has provided full details and work methods of the constructional activity he proposes and his staffs have completed the awareness programme.

SANParks shall nominate an Environmental Officer for the whole or part of the contract period to monitor the Contractor's compliance with his specified obligations with regard to the Environmental Management Plan.

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C3.6 Annexes

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ANNEXURE C - CODE OF CONDUCT FOR WORKING IN THE SOUTH AFRICAN NATIONAL PARKS

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Project Specifications Part 1

THE WORKS

PS1: DESCRIPTION AND LOCATION

PS2: SITE CONDITIONS

PS3: SITE SERVICES

Suitable facilities for a site office will be made available by the landowner only on request. A suitable site for temporary caravan accommodation for the operators, key personnel as well as other staff, may be negotiated and arranged with the park's manager.

The contractor himself must provide for all the required site services, accommodation and sanitation in terms of local requirements, and he must include the costs thereof in applicable items in the Schedule of Quantities. Should no provision be made in the Schedule of Quantities for such costs, the tenderer has to include such costs in suitable other items as he might choose; no additional compensation for these will be granted.

PS4: APPLICABLE STANDARDIZED SPECIFICATIONS

The following standardized specifications, as obtainable from the South African Bureau of Standards, Private Bag X191, Pretoria 0001, are part of these contract documents and the agreement, and are available for inspection at the office of the Engineer:

SANS/SABS 1200A:	Preliminary and general
SANS/SABS 1200C:	Site Clearance
SANS/SABS 1200G:	Concrete (Structural)
SANS/SABS 1200H:	Structural Steelwork

PS5: PARTICULAR SPECIFICATIONS

The following particular specifications are included as part of this document under a separate section, and will be binding as applicable on the contract.

Specification PA:	Structural steel rehabilitation
Specification PB:	Surface and structural repair of concrete members
Specification PC:	Protective coating for concrete
Specification PD:	Concrete testing
Specification PE:	Protective treatment for structural steel elements
Specification PF:	Sustainable construction
Specification PG:	Environmental Requirements
Specification PH:	Occupational Health & Safety

Project Specifications Part 2

VARIATIONS AND ADDITIONS TO SABS/SANS 1200

Should any stipulation(s) in the Project Specifications be contradictory, with any stipulation(s) in the standardized specifications, then the stipulation(s) in these Project Specifications do apply.

SANS/SABS 1200C: SITE CLEARANCE

Amend Item 8.2.8 as follows:

Item	Description	Unit
PS8.2.8	Demolish and remove structures/buildings	Sum

The tendered sum shall include full compensation for the safe demolition of the superstructure which will include but not limited to, steel cables and sockets, parapet fences, walkway planks and hanger rods and the safe handling and storage of walkway planks which will be utilised under section PF of particular specifications. The tendered rate shall also include a detailed method statement indicating the method of demolition, equipment, plant and resources. The method statement will be submitted to the Engineer for approval. Any costs for any revisions required by the Engineer will be deemed to be included in the tendered sum.

Amend Item 8.2.9 as follows:

Item	Description	Unit
PS8.2.9	Transport materials and debris to unspecified sites and dump (Description)	Sum

The tendered sum shall include full compensation for handling and transporting all items specified under PS8.2.8 to a dump site.

Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in the Garden Route National Park – Tsitsikamma Section

Project Specifications Part 3

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PARTICULAR SPECIFICATIONS

PA – STRUCTURAL STEEL REHABILITATION

This Section covers the requirements for removal, refurbishment and re-attachment of corroded or damaged steel items on bridges.

Steel items shall be refurbished such that they fulfil their original design intent in terms of strength, safety and durability. Structural items shall meet the requirements of SANS 1200H and SANS 1200HC in terms of fabrication, weld quality, straightness and corrosion protection.

Where a damaged or corroded steel item, or where the removal of a steel item may compromise the safety or stability of part of a structure, the Contractor shall design and install appropriate temporary works certified by an ECSA registered professional Engineer or Technologist. Details shall be submitted to the Engineer for approval.

Corroded or badly fitting steel ancillary items shall be refurbished when instructed by the Engineer. The items to be refurbished shall be carefully removed from their installed positions without damaging the surrounding concrete or other steel items, removed from site and refurbished. Where a section of steel is cut out and replaced, the new steel shall be connected using full strength welds. The welds shall be ground flush with the steel surface.

Where steel members require straightening, this shall be done using jacking equipment. Items will then be prepared for painting or hot dip galvanising in accordance with PE - protective treatment for structural steel elements. Steel ancillary items will be returned to site and re-installed in their original positions, utilizing new galvanised mild steel bolts to suit their application if necessary. For structural items being refurbished, bolts and rivets removed shall not be reused but replaced with Class 8.8 bolts. Where items cannot be removed from site for refurbishment such as refurbishment of local damage to a major welded steel item, the work shall be carried out on site in near-factory conditions. All items shall be painted as specified on the drawings or instructed by the Engineer. Painting shall be done immediately after refurbishment in near-factory conditions. All paint damaged during installation shall be repaired after installation. Site welds, bolts and nuts shall be painted to the full paint specification after installation.

MEASUREMENT AND PAYMENT

(i) Preamble

The tendered rate for each item shall include full compensation for providing, maintaining and decommissioning upon completion, of all the plant, equipment, labour, tools, incidentals and supervision to carry out the activity or construct the works in the item, unless otherwise stated.

Any prime cost or provisional sums shall be paid in accordance with the provisions of the conditions of contract. The charge or mark-up tendered or allowed for is a percentage of the amount actually paid under the prime cost or provisional sum. This percentage shall cover all the Contractor's handling, supervision, profit and liability costs to provide the services in the prime cost or provisional sum item.

The requirements of SANS 1200AH shall apply.

Where pay item descriptions include any wording in brackets it is an indication that contract specific information is to be inserted in the Pricing Schedule included in the Contract Documentation.

(ii) Items that will not be measured separately

The following activities, whether required to complete the specified work or not, will not be measured and paid for separately and the Contractor shall include the cost thereof in other pay items as he deems appropriate:

1. No separate payment will be made for setting out the works.
2. No separate payment will be made for the protection or repair as required of any existing or new road furniture,

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structures, buildings, infrastructure or services damaged by the Contractor's activities.

3. No additional payment shall be made, nor shall any claim for additional payment be considered, for any specified work in confined or restricted areas. Any additional costs associated with working in confined or restricted areas shall be deemed to be included in the standard applicable pay items.
4. No separate payment will be made for the loading of any materials.
5. No separate payment will be made for transporting materials from commercial sources irrespective of the haul distance.
6. No separate payment will be made for the removal or any surplus material imported to complete the works.
7. For all Works performed, precautionary measures required in terms of the Occupational Health and Safety Act (Act 85 of 1993) and the latest amendments thereof as well as the latest Construction Regulations shall be deemed included in the rates tendered for the relevant products.

(iii) Items specifically for this Section of the specifications

Item	Description	Unit
PA-1	Refurbishment of (describe item)	number (No)

The unit of measurement shall be the number of whole items as described which are removed, refurbished and re-installed on the bridge or element. The tendered rate shall include full compensation for all labour and equipment required to remove the item, to refurbish/replace steel sections, all fabrication, transport, hot dip galvanising, and to re-install the item using new bolts where required. HSFG bolts and nuts are paid for under Pay Item PA-2. The tendered rate shall include all temporary works required to make the structure safe during refurbishment, and the making good of any damage that may have occurred to the structure during refurbishment.

Item	Description	Unit
PA-2	Replacement of rivets or bolts with HSFG bolts (diameter and class indicated)	number (No)

The unit of measurement shall be the number of rivets or bolts removed and replaced with new bolts. The tendered rate shall include full compensation for removing the rivet or bolt, reaming the hole to the correct size to receive the HSFG bolt, supplying the bolt, nut and washer and installing the bolt to the correct tension.

Item	Description	Unit
PA-3	Additional hot dip galvanized structural steel for strengthening/replacement of existing steel elements	ton (t)

The unit of measurement shall be the tonnage of steel required to strengthen or replace existing structural steel elements as instructed by the engineer. The tendered rate shall include full compensation for the removal of the existing structural steel as instructed by engineer and replacement with new structural steel with full strength penetration welds. The tendered rate shall also include full compensation for the supply, fabrication, process control, loading, transporting to the site, offloading and erecting the hot dip galvanized structural steel and disposal of the removed steel off site at an approved waste disposal facility.

PB – SURFACE AND STRUCTURAL REPAIR OF CONCRETE MEMBERS

This Section covers the requirements for the surface and structural repair of structural concrete members. It covers the preparation of the exposed concrete surface and reinforcement for the rehabilitation of the member, and the repair or replacement of concrete with cementitious mortars, epoxy systems and proprietary concrete repair compounds.

The method for removal of defective or contaminated concrete, partial removal of concrete sections and the initial preparation of contact surfaces shall be executed as follows: The concrete and reinforcement shall be cut back adequately to provide the prescribed concrete cover to the new finished surface as indicated on the drawings or as directed by the Engineer. The technique used shall be suited to its intended purpose and shall not cause damage

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to the remaining concrete member. Only techniques that do not damage the inherent structure, bond or strength of the remaining sound concrete shall be used. The fixed exposed contact surface shall be bounded by straight line edges cut at least 10 mm deep by a diamond cutting saw, angle grinder or other approved equipment.

The repair compound shall be mixed strictly in accordance with the manufacturer's specifications. Unless otherwise specified the product shall be thoroughly mixed in a forced-action mixer of adequate capacity. Alternatively, a suitably sized drum may be used with a slow speed (400/500 rpm) high-torque rotary drill fitted with an approved mixing paddle. The contents shall be properly mixed to ensure a smooth, uniform mix. The mixing capacity and placing capacity of equipment and labour shall be adequate and matched to enable placing operations to be carried out continuously within the recommended placement time of the product, or within 20 minutes of mixing ensuring a smooth, uniform mix. Tools and equipment shall be cleaned after each batch and all previously mixed material shall be removed from tools and equipment prior to charging and mixing a new batch of repair compound.

MEASUREMENT AND PAYMENT

Item	Description	Unit
PB-1	Cementitious mortar or concrete (Class) to (description)	litre (ℓ)

The unit of measurement is the litre of mortar or concrete measured in place, of specified class, used for the repair of specified concrete defects. The tendered rate shall include full compensation for all labour, materials, equipment, and plant as well as for all work and incidentals required to break out, prepare, prime all surfaces, apply repair mortars and cure the designated areas (include for wastage) all in accordance with the project specification and the repair material manufacture's procedures, methods and specifications. In addition, the tendered rates shall make full provision for all efforts to remove existing concrete behind the reinforcement with inadequate cover, and to force the reinforcement deeper into the existing member. The tendered rates shall cover all the cleaning and preparation of all surfaces in accordance with the supplier specifications, inclusive of the cleaning and treatment of existing reinforcement steel.

PC – PROTECTIVE COATING FOR CONCRETE

Coatings shall be applied to concrete surfaces according to Eurocode EN 1504-2. Coatings shall be suitable for the following protective and remedial principles in accordance with Eurocode EN 1504-9:

- Protection against ingress (Principle 1-Method 1.3),
- Moisture control (Principle 2-Method 2.3),
- Increasing physical resistance (Principle 5-Method 5.1),
- Resistance to chemicals (Principle 6-Method 6.1), or
- Increasing resistivity (Principle 8-Method 8.3).

SURFACE PREPARATION

All concrete surfaces that are to receive protective coatings or treatments shall be prepared strictly in accordance with the material manufacturer's instructions. The preparation shall include for everything that is necessary to prepare the surface to receive the protective coatings or treatments. In particular, all traces of curing compounds and formwork release agents shall be removed.

Permitted techniques as follows:

- High-pressure water-jetting

This technique shall be utilized to remove curing compounds or membranes, shutter release compounds and water-soluble contaminants without inadvertently damaging the concrete appearance and without producing an exposed aggregate finish. This method generally should not produce any significant increase in texture, profile, or pattern in the concrete.

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(ii) Abrasive blasting

Abrasive methods shall be required when the removal of a significant amount of concrete surface is required.

Water blasting with abrasives can be used to remove dirt or other foreign matter and concrete laitance, typically exposing the fine aggregates. Where permitted by the Engineer, dry grit blasting has the ability to remove the concrete surface. This technique may produce large quantities of airborne particulates, such as dust, and suitable precautions should be taken to protect labour, equipment and the environment. Wet sandblasting generally produces less airborne particulates than dry sandblasting, however some inefficiency results from the interaction of the water shroud with some of the abrasive agents. The process is generally limited to cleaning the concrete surface.

Evaluation, inspection and approval of concrete surfaces will be conducted as per below:

Weak, micro-cracked, damaged, delaminated and deteriorated concrete, including that caused by the selection of inappropriate techniques of cleaning, roughening or removal that reduces bond or structural integrity, shall be subsequently removed or remedied. The finished surface shall be visually inspected and tested by tapping with a hammer to detect loose concrete. Concrete removal shall be kept to a minimum and shall not reduce the structural integrity beyond the structure's ability to perform its function. Acceptable surfaces shall be free of oil, grease, loosely adhering concrete, and other contamination. Where required, projections or voids in the concrete surface shall be corrected prior to surface preparation. The Contractor shall ensure that technical representatives, appointed or employed by the material suppliers, carry out regular inspections of the preparation work and provide written confirmation that the work is in accordance with the material supplier's instructions. The reports shall be specific and definitive, and generalised statements will not be acceptable.

Where surface preparation is found by the technical representatives to be inadequate the report shall contain specific advice to enable the Contractor to attain a required standard. The Contractor shall provide the Engineer with copies of all technical inspection reports before any surface treatment or protective coating is applied to a structural element. Where the time between surface preparation and treatment exceeds two days, during windy and or wet weather the prepared surfaces shall be reinspected and approved by the technical representative prior to application of the surface treatment or protective coating. The moisture content of patch repair areas must be specifically checked by the technical representative to ensure that coatings are not applied over surfaces that contain excessive moisture.

PROTECTIVE SURFACE TREATMENT

Surface treatment or coatings may consist of a system of several coats of more than one type of coating. Where such a system is applied, the various components shall be compatible and sourced from one manufacturer.

The suitability of the protective surface coating for a particular application shall be proved by testing and submission of an approved industry track record of usage under similar circumstances. The Contractor shall submit details of proprietary protective surface coatings and proposed performance guarantee documentation to the Engineer for approval prior to its use in the permanent works.

CORROSION INHIBITOR

Corrosion inhibitors are emulsion type impregnating fluids that are applied to the outer surface of existing concrete members. Inhibitors migrate into concrete and are absorbed onto the surface of embedded reinforcing steel thus delaying the onset of corrosion and reducing the rate of corrosion that is in progress.

Corrosion inhibitors shall consist of an aqueous solution of amino alcohols and salts of amino alcohols. Corrosion inhibitors that are applied to the concrete surface shall be capable of penetrating the concrete down to the depth of reinforcement. The effective migration of the inhibitor shall be assessed based on the manufacturer's standard qualitative or quantitative test method to confirm the depth and rate of penetration of

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the corrosion inhibitor.

The corrosion inhibitor shall be suitable to control anodic areas according to EN 1504-9 Principle 11-Method 11.3.

MEASUREMENT AND PAYMENT

The tendered rate for each item shall include full compensation for providing, maintaining and decommissioning upon completion, of all the plant, equipment, labour, tools, incidentals and supervision to carry out the activity or construct the works in the item, unless otherwise stated.

Item	Description	Unit
PC-1	Cleaning and preparation of concrete surface (method and surface finish indicated)	square metre (m2)

This item covers concrete areas that will not be treated with protective coatings and treatments. The unit of measurement shall be the square metre of surface area cleaned by the method indicated. The tendered rate shall include full compensation for all material, plant and equipment, all labour and incidentals required to execute the work as specified.

Item	Description	Unit
PC-2	Application of protective coatings and treatments (type and application rate indicated)	square metre (m2)

The unit of measurement shall be the square metre of surface area to be protected or treated as specified. For payment purposes, the surface area shall be measured once only irrespective of the number of layers of protective coatings or applications of surface treatment is required to achieve the specified application rate. The tendered rate shall include full compensation for all surface preparations, labour, materials, equipment, additional safety measures, storage, mixing and applications of the protective coatings and treatments, cleaning and disposal of unused or rejected material and all incidentals necessary to execute the work, including wastage, as specified, all to the satisfaction of the Engineer.

Item	Description	Unit
PC-3	On site monitoring and supply of written product performance Guarantee (guarantee period indicated)	lump sum

The unit of measurement shall be the lump sum. The lump sum shall be paid as follows:

(i) 50 % shall be paid pro rata as the application of protective coatings and treatments progress, and

(ii) the remaining 50 % shall be paid on the receipt and acceptance by the Engineer of written product performance guarantee documentation. The tendered rate shall include full compensation for all verification and testing of the protective coatings and treatments, site inspections, approval and reporting of all work concerning protective coatings and treatments, and the issuing of product performance guarantee.

PD – CONCRETE TESTING

This Section covers the test methods and requirements to determine cover over reinforcement and to evaluate specific concrete properties, such as compressive strength, ingress of aggressive chemicals and environmental agents, and common reinforcement corrosion methodologies, that are generally assessed from the surface of an existing structural member. Specialised techniques not included in this specification, such as petrographic tests, Alkali-silica reaction (ASR) tests, thermography, radiography, ground penetrating radar and vibration- or acoustic-based structural assessments, shall be provided in the Contract Documentation.

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a) Carbonation depth

The depth of carbonation shall be determined in accordance with EN 14630, as a general method to determine the loss of alkalinity caused by carbonation or exposure to other acidic agents. Where other acidic causes may be present, further laboratory testing shall be required to establish the mechanism of loss of alkalinity.

(i) Extraction of core sample

Core samples shall be drilled at locations, to the depths, indicated on the sampling plan. The core sample shall be dislodged from the parent concrete with due care, such that the sample length is maximised. Blunt force, such as hitting the sample with a chisel, shall not be utilised to dislodge the sample from the substrate. All core holes shall be repaired to the satisfaction of the Engineer.

(ii) Preparation of core sample for carbonation depth measurement along the outer drilled core surface The core sample shall be cleaned with a nylon bristle scrubbing brush and clean potable water within 24 hours of extracting the core from the structure and the prepared surface shall be kept damp.

(iii) Preparation of core sample for carbonation depth measurement on the inner fractured core surface The core sample shall be split along its drilled axis up to 7 days after extracting the core from the structure and cleaned with a nylon bristle scrubbing brush and clean potable water and the prepared surface shall be kept damp.

(iv) Reference pH indicator solution

Core surfaces prepared for testing shall be maintained in a surface damp condition prior to the application of a pH indicator solution. The pH indicator solution shall be applied within 1 hour after preparation of the core sample. The pH indicator solution shall be stored in a sealed airtight container prior to, and after, use. Where phenolphthalein pH indicator solution is used, the colourless depth from the exposed surface to the interface at which the concrete turns fuchsia-coloured (colour variations from pink to deep red are common) shall be recorded as the carbonation depth. Where thymolphthalein pH indicator is used, the colourless depth from the exposed surface to the interface at which the concrete turns blue-coloured shall be recorded as the carbonation depth.

(v) Measurement, calculation and reporting of carbonation depth

The carbonation depth shall be measured and recorded within 30 seconds of spraying with an indicator solution. Both the arithmetic mean and maximum carbonation depth shall be measured and reported to the nearest mm.

1. Carbonation depth measurement along the outer drilled core surface.

Where core sample outer diameter exceeds 25 mm but less than 50 mm, the carbonation depth shall be measured at four discrete locations equally distributed around the perimeter of the core sample, and the arithmetic mean calculated and reported as the mean carbonation depth. Where core sample outer diameter, exceeds 50 mm, the carbonation depth shall be measured at eight discrete locations equally distributed around the perimeter of the core sample and the arithmetic mean calculated and reported as the mean carbonation depth.

2. Carbonation depth measurement on the inner fractured core surface or fragment removed from the structure.

Where a fragment or core sample outer diameter exceeds 25 mm, but less than 50 mm, the carbonation depth shall be measured at three discrete locations equally distributed along the fractured surface of one portion of the sample, and the arithmetic mean calculated and reported as the mean carbonation depth. Where a fragment or core sample outer diameter exceeds 50 mm, the carbonation depth shall be measured at four discrete locations equally distributed along the fractured surface of one portion of the sample and the arithmetic mean calculated and reported as

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the mean carbonation depth.

(vi) Reuse of core sample for further testing

1. After carbonation depth measurement along the outer drilled core surface.

The core may not be reused to perform any chemical, electro-chemical or corrosion-survey measurements due to probable contamination of the sample and shall be discarded. However, the core sample may be reused to determine compressive strength, if required and of suitable dimensions.

2. After carbonation depth measurement on the inner fractured core surface The portion of core used for carbonation testing may not be reused to perform any chemical, electro-chemical or corrosion-survey measurements due to probable contamination of the sample and shall be discarded. The untested portion of core may be used for other chemical tests.

b) Chloride content

The total acid soluble chloride content of hardened concrete or mortar shall be determined in accordance with EN 14629. This method may be used on samples of powder obtained from either by drilling or from cores or fragments removed from concrete structures using nominal dry processes.

(i) Taking core samples, or fragments removed from the structure, and processing into powder

The determination of chloride profiles related to the distance from the concrete surface, core samples or fragments removed from the structure, may be cut into slices as specified in the sampling plan, using dry processes, or may be ground in increments to obtain powder samples. The slices of concrete shall be ground to a fine powder to pass a 1,0 mm sieve, and then homogenised for the particular depth increment and sample under investigation. The ground sample shall be dried in an oven to constant weight at $105 \pm 5^\circ\text{C}$ and then allowed to cool to room temperature, for example in a desiccator.

(ii) Collecting powder samples

Powder samples shall be collected using a hand-held rotary drill, and the diameter of the drilling tool along with the number of drill holes shall ensure that a suitable sample size is determined. The minimum total sample size of collected powder is 20 grams to ensure that it is representative of all the concrete constituents at the sampling location. For concrete containing aggregates of a maximum size of 20 mm, a 20 mm drill should be used. Typically, a drill diameter of 20 mm and two holes is normally sufficient to provide 1,0 g of powder per mm depth of increment. For larger aggregate sizes a larger drill diameter and sample size should be used.

(iii) Determining and reporting the chloride content

The chloride content shall be determined using either Volhard's method or potentiometric titration in accordance with EN 14629.

The chloride content shall be reported for each depth increment in accordance with the sampling plan.

c) Compressive Strength Determined from Cores

Concrete core specimens shall be drilled, prepared and tested for compressive strength in accordance with SANS 3001-CO2-3. The correction for embedded reinforcement transversely in the sample, if required, shall be permitted. The correction for excessive voids shall not be permitted.

i) When compressive strength is evaluated relative to the specified characteristic cylinder strength, the desirable core sample length to diameter ratio shall be 2:1. The correction for length to diameter shall not be permitted.

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ii) When compressive strength is evaluated relative to the specified characteristic cube strength, the desirable core sample length to diameter ratio shall be 1:1 and the correction for length to diameter ratio shall be permitted. The average compressive strength determined from cored specimens shall be calculated from a sample comprising a minimum of three core specimens.

MEASUREMENT AND PAYMENT

Item	Description	Unit
PD-1	Carbonation depth testing	
PD-1.1	Using extracted core samples or fragment removed for (description of location on structure)	number (No)

The unit of measurement shall be the number of carbonation tests carried out in accordance with Clause PD-a). The tendered rate shall include full compensation for all labour, material and testing equipment required to execute the work, the recording of results, including furnishing of record drawings, and the repair of all specimen and test locations.

Item	Description	Unit
PD-2	Chloride profile testing	
PD-2.1	Using extracted core samples or fragment removed for (description of location on structure)	number (No)

The unit of measurement shall be the number of chloride tests carried out in accordance with Clause PD-b). The tendered rate shall include full compensation for all labour, material and equipment required to execute the work including all testing and reporting by an approved laboratory, including furnishing of record drawings, and the repair of all specimen and test locations.

Item	Description	Unit
PD-3	Concrete compressive strength	
PD-3.1	Using extracted core samples (description of location, core size, length)	number (No)

The unit of measurement shall be the number or metre length of concrete core, transport to a laboratory, preparation of the specimen and testing, in accordance with Clause PD(c) above. The tendered rate shall include full compensation for all labour, material and testing equipment required to execute the work, the recording and reporting of results, including furnishing of record drawings, and the repair of all specimen and test locations.

PE – PROTECTIVE TREATMENT FOR STRUCTURAL STEEL ELEMENTS

This part of the Works Specifications contains specifications for protective treatment not covered by the Standard Specifications. The number of each clause and each payment item in this part of the Works Specification is prefixed with a G to differentiate these clauses and items.

G1001 SCOPE

This section covers the painting and protection of structural steel for the bridge.

G1002 GENERAL

The contractor shall establish implementation procedures which shall ensure the integrity of the protective treatment systems to be applied to the various elements of the bridge.

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The contractor shall prepare, for approval by the engineer, method statements, procedures and Inspection and Test Plans covering each aspect of protective treatment from paint manufacture, storage of paint, paint system application procedure trials, the various stages of steel preparation, paint coat application, ambient conditions control, inspection, testing, restoration and repair, compliance with all health and safety requirements and reporting of results.

Surface preparation and protection against corrosion of steelwork shall be carried out in accordance with the undernoted clauses with due account taken of the design and fabrication of the bridge.

The contractor shall establish measures to contain people, plant, materials, dust and debris during preparation and application of protective coatings.

G1003 GENERAL REQUIREMENTS FOR SURFACE PREPARATION (SHOP & SITE WORK)

Prior to blast cleaning or abrading steel surfaces or overcoating painted or galvanised surfaces, contamination shall be removed by wet cleaning. Solvents shall not be used.

Clean water shall be used for cleaning and rinsing provided it does not leave harmful residues.

Only cleaning agents which do not leave harmful residues on the surface after final rinsing shall be used for cleaning.

Surface preparation shall be continued until the required standard has been achieved. The surfaces are required to be free from condensation, oil, grease, dust residues and detrimental contamination such as chlorides and sulphides. These can be tested using the procedures of BS EN ISO 8502.

Weld spatter shall be removed from areas to be galvanised or protected by metal spray or paint. Weld spatter shall be removed before blast cleaning.

After dry surface preparation of internal surfaces and before any wet cleaning, all dust and debris shall be removed by sweeping and vacuum cleaning.

Before application of each coat of paint, the Contractor shall ensure that the surfaces:

- meet the required standard of preparation;
- are free from harmful residues including mortar, concrete, dust, grit and paint degradation products;
- are free from detrimental contamination;
- are free from moisture detrimental to the coating to be applied.

Joints shall be sealed in accordance with Clause G1007(b)(viii) & (ix)

Paint coats shall be free from embedded metallic or other foreign particles and such adherent matter on metallic coatings or painted surfaces shall be immediately removed and coatings damaged in the process restored. The final shops coats on external surfaces shall be wet cleaned on site to remove any harmful residues and contaminants.

G1004 MATERIALS AND METHODS FOR SURFACE PREPARATION

(a) Dry Blast Cleaning in the Shops

The following materials shall be used:

Chilled-iron grit complying with BS EN ISO 11124-2, high carbon cast-steel or grit complying with BS EN ISO 11124-3 with a hardness value greater than 650 HV, fused aluminium oxide complying with BS EN ISO 11126-7; non metallic abrasive such as fused aluminium oxide to BS EN ISO 11126-7 almandite garnet to BS 7079-F10, copper slag to BS EN ISO 11126-3 or recycled glass complying with BS EN ISO 11126-7.

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Grades for metallic abrasives shall comply with the following:

Profile (see sub-clause 1904.1)	Grade
Fine	G050 or S060
Medium	G070 or S100
Coarse	G100 or S120

The particle size of metallic abrasive in plant or equipment shall not exceed the maximum of the relevant grade as specified above.

Before the start of blast cleaning and during blast cleaning the contractor shall ensure that the abrasive is free from matter which could leave detrimental contamination on the surfaces to be coated.

(b) Surface Preparation by Abrading in the Shops or on Site

Any matter or paint which is difficult to remove by abrading alone shall be dislodged by scraping, by hand or power wire-brushing and shall be completed before abrading the areas so affected.

Abrading shall be by use of abrasive paper or other material or a flexible abrasive disc mounted on a power driven flexible pad and may be used to remove weld spatter. Wet abrading may be used for the preparation of finishes over sound undercoats, over unsound systems over galvanising, or galvanising. Wet abrading shall not be allowed to come into contact with exposed thermally sprayed metal coatings.

All equipment, tools, abrasive sheets and discs shall be suitable for the purpose. The use of hard grinding wheels for abrading shall not be acceptable. A burnished appearance caused by polishing in paint, rust or dirt is not acceptable.

Corroded steel or unsound metal coatings which have been prepared by abrading to bright steel or bright metal coating, and blast cleaned, where appropriate, shall be protected by the primer and next coat of the paint system prior to cleaning or preparation of adjacent surfaces.

(c) Surface Preparation by Wet Cleaning in the Shops or on Site

Wet cleaning shall be carried out by scrubbing with a stiff-bristled brush using water and an approved cleaning agent or a pressure washer and immediately after cleaning, surfaces shall be thoroughly rinsed.

(d) Surface Preparation by Dry Cleaning in the Shops or on Site

Surfaces shall be cleaned by scrubbing with a dry stiff-bristled brush.

(e) Surface Preparation by Dry Blast Cleaning on Site

Metallic grit abrasives shall comply with section (a) of this clause and shall be used for dry blast cleaning of small areas to be metal sprayed, as at site welds, at areas prepared to clean steel or areas where a metal spray is to be restored, as indicated in Clause G1006(b). The contractor shall ensure that the grade and particle shape of proposed non-metallic abrasives are adequate for the purpose intended: non-metallic abrasives shall not be recycled.

(f) Surface Preparation by low or high pressure Wet Blast Cleaning on Site

Subject to the engineer's approval an adjustable low pressure air/water/abrasive system shall be used with the air/water pressure at the nozzle limited to 7.0 kgf/cm² maximum and shall be fully adjustable. The quantity of non-metallic abrasive to be fed into the air/water mixture shall be fully adjustable by remote control and the air, water abrasive mixture thoroughly mixed and projected by a single bore nozzle. Inhibitors are not permitted.

Subject to the engineer's approval an adjustable high pressure water system shall be used with the water pressure at the nozzle limited to 562 kgf/cm² for high pressure or between 1750 and 2860 kgf/cm² for ultra high pressure. The system shall incorporate a mechanical metering device controlled by the operator at the nozzle, to regulate from zero to the maximum quantity of non-metallic abrasive being fed into the water.

(g) Surface Preparation by Combined Wet/dry Blast Cleaning on Site

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Wet blast cleaning using the low pressure air/water/abrasive system in compliance with the above Clauses shall be followed by dry blast cleaning as specified above.

The specified standard of surface preparation shall be achieved by wet blast cleaning and washing; dry blast cleaning shall be used to remove flash rusting or to restore surface preparation to the required standard.

(h) Other Requirements

Within 1 hour of wet blast cleaning, the whole of the cleaned surface shall be thoroughly washed using the blast cleaning equipment with air and water and any remaining deposits of abrasive and debris removed by the same process before the end of the working day. After washing, the surfaces shall be free from all particles of dust and debris. Tests for freedom from detrimental contamination shall be made after the washing.

Where it is intended that surface preparation is to be by dry blast cleaning and, on adjacent surfaces, by wet cleaning and or abrading, then after dry surface preparation of internal surfaces and before any wet cleaning the wet cleaning and any abrading shall be carried out first.

When combined wet/dry blast cleaning has been specified instead of dry blast cleaning only, the above sequence may be reversed. Wet blast cleaned areas shall be cleaned and rinsed prior to dry blast cleaning.

(i) Grinding after surface preparation in the Shops or on Site

Subject to approval of the engineer grinding wheels and discs shall be of the size, shape and grade of coarseness and speed appropriate to the particular operation.

G1005 WORKMANSHIP STANDARDS FOR THE SURFACE PREPARATION OF STEEL BY BLAST CLEANING, ABRADING, GRINDING AND CLEANING

The surface profile to be achieved by blast cleaning, either 'Fine', 'Medium' or 'Coarse', as appropriate, shall be within the limits set by the Surface Profile Comparator for the Assessment of Abrasive Blast Cleaned Surfaces, conforming to BS EN ISO 8503: Part 1.

Blast cleaned surfaces shall be virtually free from sharp spikes of parent metal defined as 'rogue peaks' formed by the impact of abrasive particles and which project above the blast cleaning profile. Any 'rogue peaks' which in the opinion of the engineer would be detrimental to the protective system shall be removed.

'Hackles' and inclusions caused by the rolling process, visible after blast cleaning, which in the opinion of the engineer would be detrimental to the protective system, shall be removed. Affected surfaces shall be prepared by grinding or abrading to bright steel in compliance with Clause I1008 where appropriate. Sharp edges shall be rounded. If metal spray is to be applied the surfaces shall then be blast cleaned.

Steel surfaces to be prepared by any of the methods described in the Contract shall be such that after surface preparation the surfaces are free from detrimental contamination.

(a) Visual cleanliness

Surface preparation by blast cleaning shall be to one or more of the following standards of visual cleanliness:

- 'Clean steel' SA3 to BS EN ISO 8501 – 1

Appearance: There shall be a blast cleaning pattern overall. The surface profile shall be free from mill scale, rust and foreign matter when viewed through a X10 illuminated magnifying glass.

- 'Clean steel' SA2½ to BS EN ISO 8501 - 1

Appearance: There shall be a blast cleaning pattern overall. The surface profile shall be free from mill scale, rust and foreign matter when viewed by normal vision.

- 'Bare Steel' (blast cleaned or abraded)

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Appearance: The surface shall be free from all rust scale, loose rust and loose mill scale.

After surface preparation by blast cleaning to SA3 or SA2½ the surface profile shall be virtually free from embedded abrasive particles when viewed through a A10 illuminated magnifying glass of a type approved by the engineer. Surfaces assessed as unsatisfactory in this respect by the engineer shall be blast cleaned again with fresh abrasive. Another abrasive complying with the Specification may be used if necessary.

(b) 'Harmful residues' or 'detrimental contamination':

Surfaces shall be deemed to be free from 'harmful residues' or 'detrimental contamination' after surface preparation when, in the opinion of the engineer, any such remaining matter will not reduce the required durability of the specified protective system.

(c) 'Bright steel':

Surfaces free from defects or prepared to this standard by grinding or abrading shall have an overall bright appearance.

G1006 WORKMANSHIP STANDARDS FOR THE SURFACE PREPARATION OF COATED STEELWORK BY BLAST CLEANING, ABRADING, GRINDING AND CLEANING

(a) Before overcoating

Before overcoating, surfaces shall be free from:

- i) any visible gloss which may, in the opinion of the engineer, prevent adequate adhesion of the next coat
- ii) any unsound paint down to sound paint
- iii) any unsound paint down to clean steel
- iv) any unsound paint down to bright steel
- v) any unsound paint down to sound metal coating
- vi) any unsound paint down to bright metal coating
- vii) any unsound metal coating down to sound metal coating
- viii) any unsound metal coating down to bright metal coating
- ix) any unsound metal coating down to clean steel
- x) any unsound metal coating down to bright steel
- xi) detrimental contamination

(b) Definitions of terms

Definitions of terms used in describing the above standards of workmanship are as follows:

- i) 'clean steel', as in Clause G1005 (a)
- ii) 'bright steel', as in Clause G1005 (c)
- iii) 'free from detrimental contamination', as in Clause G1005 (b)
- iv) 'bright metal coating' resulting from abrading, a metal coating whose surfaces are free from all corrosion products and of bright appearance overall
- v) 'unsound metal coating', a metal coating showing signs of disruption, inadequate adhesion or penetration by rust or other corrosion products
- vi) 'sound metal coating', a metal coating which complies with Clause G1010(b) including such a metal coating which has been blast cleaned but which has a reduced thickness in accordance with Clause G1009
- vii) 'unsound paint', paint showing signs of disruption, rusting through, having inadequate adhesion or covering rust scale, loose rust, loose mill scale or other detrimental products
- viii) 'sound paint', paint which is sound down to a metal substrate.

Definitions of terms used in Clauses G1007, G1008 and G1009 are as follows:

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- i) 'restored' coatings. When paint or similar coatings or metal spray coatings are to be restored, the standard of surface preparation and coating material shall comply with the original standard. Damaged or failed paint systems over metal spray shall be restored using dry blast cleaning. The thickness of any underlying metal spray or paint coating which may have been reduced in thickness during surface preparation shall be brought up to specification.
- ii) 'restored' surface preparation. The original standard shall be obtained. When further metal spray coating is to be applied, the surface of the existing metal spray coating shall be restored by dry blast cleaning with metallic grit abrasive to sound metal coating.
- iii) 'local failure'. An isolated breakdown of a protective coating or system due to extraneous causes excluding mechanical damage.

(c) Permitted residual metal sprayed aluminium and zinc

When 'clean steel' is exposed through a metal spray coating during remedial surface preparation, remnants of sound aluminium metal spray coating may, subject to the agreement of the engineer, be retained in a blast cleaning profile; also, subject to the agreement of the engineer, be retained in a blast cleaning profile; also, subject to the agreement of the engineer, traces of zinc metal may remain occluded within the surface of a blast cleaning profile after the removal of a zinc metal spray coating.

G1007 TREATMENT AT JOINTS

(a) Fasteners, Joint Material and Parent Metal in Joints, Before Assembly or Welding, in the Shops or on Site

(i) Fasteners (Bolts, nuts and washers)

Surfaces of uncoated fasteners shall be free from all traces of oil or grease before assembly.

Threaded fasteners at joints in galvanised steelwork, or galvanised steelwork which is to be painted, shall be galvanised. Galvanised fasteners which are to be painted shall be etched before assembly.

Metal coatings on surfaces of fasteners which are to be painted shall be:

- free from all traces of oil or grease and then etched; or
- treated at the same time as the parent material where fasteners are already assembled.

Fasteners that have been etched shall be pressure-rinsed with water and allowed to dry before assembly or packing for delivery at least one hour and not more than four hours after satisfactory application of an etch primer.

Fasteners that have become difficult to tighten because of corrosion shall be replaced.

(ii) Joint Material and Parent Material in Joints

The standard of initial blast cleaning of joint material and parent material in joints shall be at least equal to that for the parent material. Before a joint is made on site, contact surfaces shall be restored to clean steel, SA 2½ or to sound metal coating.

(iii) Joints made with High Strength Friction Grip and Tension Control Bolts

In steelwork painted only overall:

The blast primer applied to the parent material shall be taken 10mm to 15mm inside the perimeter of the joints. The outer surfaces and edges of site joint material may, at the option of the Contractor, also be given a coat of the blast primer.

In steelwork with thermally sprayed metal coating at joints only, and painted overall:

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The thermally sprayed metal coating shall be applied to the contact surfaces of the joints and to the outer surfaces and edges of joint material. The thermally sprayed metal coating on the contact surfaces of the parent material shall be taken 10mm to 15mm outside the perimeter of the joints. The blast primer applied to the parent material shall be taken 10mm to 15mm inside the perimeter of the joints. The thermally sprayed metal coating on the outer surfaces and edges of site joint material shall be given a coat of aluminium epoxy sealer (2 pack).

In steelwork with thermally sprayed metal coating overall and sealed only or painted overall:

The thermally sprayed metal coating shall be applied to the contact surfaces of the joints and to the outer surfaces and edges of joint material. The sealer applied to the parent material shall be taken 10mm to 15mm inside the perimeter of the joints. The thermally sprayed metal coating on outer surfaces and edges of site joint material shall be given a coat of aluminium epoxy (2 pack) sealer.

In steelwork hot dip galvanized only or hot dip galvanized and painted overall:

All material at joints shall be hot dip galvanized. When an adhesion promoter and a first undercoat are applied before a joint is made they shall be taken 10mm to 15mm inside the perimeter of the joint; these coats shall also be applied to edges and outer surfaces of the joint material.

The thickness of a protective paint coat applied to the outer surfaces of joint material prior to assembly of any high strength friction grip or tension control bolted joint shall not exceed 20 microns dry film thickness.

(iv) Non friction Grip Bolted Joints

At shop joints in all steelwork other than in galvanised steelwork the blast primer alone or metal spray plus sealer shall be applied initially to parent and joint material. Immediately before assembly of a joint which is to be painted the first undercoat shall be applied to the contact surfaces and the joint made while the paint is wet.

At site joints in all steelwork other than in galvanised steelwork all surfaces except those of fasteners, shall receive in the shops the shop protective system which is applied to the parent material.

At shop and site joints in galvanised steelwork an etch primer and shop coats may be applied to the joint material before or after shop joints are made. When galvanised steelwork is painted on site etch primer and paint shall be applied to joint material after the joint has been made.

(v) Welded Joints

At shop and site joints in all steelwork, surfaces to be welded shall be blast cleaned to SA 2½ or to bright steel and shall be free of any protective or other coating.

(b) Shop Treatment of Parent Material Adjacent to Joints to be Assembled or Welded later on Site

(i) At High Strength Friction Grip and Tension Control Bolted Joints

The paint coats with the exception of the primer or first coat of paint, shall be stepped back at 30mm intervals commencing 10mm from the perimeter of the joints.

(ii) At Non Friction Grip Bolted Joints

Shop paint coats are required to be stepped back.

(iii) Welded Joints

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Metal spray coating shall be separated from the weld by a distance of not less than 200mm and a maximum of 300mm from the joint. The separation area shall be masked during metal spraying. Galvanising shall be removed a minimum of 10mm back from the edges of weld areas. Paint coats shall be stepped back at 30mm intervals commencing at least 100mm from the joint, or from the edge of the metal spray.

(iv) Completed Joints

Within 14 days of a joint being completed, exposed surfaces of parent and joint material shall be prepared as specified in the undernoted clauses.

(v) Bolted Joints

Steelwork to be painted overall with blast cleaned or primed surfaces shall be prepared by dry blast cleaning to provide the required standard of surface preparation.

Steelwork metal sprayed at joints only, and to be painted overall, primed or sealed metal sprayed coatings shall be prepared by dry blast cleaning to the required standard.

Steelwork metal sprayed overall, and sealed only or painted overall, metal spray coatings shall be prepared in accordance with the undernoted clauses.

Steelwork galvanised or galvanised and painted overall, the surfaces shall be free from detrimental contamination.

(vi) At Welded Joints

In all steelwork welds shall be prepared by the methods and to the standards described for shop or site work as appropriate. Surfaces of areas adjacent to the weld shall be similarly prepared. For site welds in galvanised steelwork, surfaces shall be treated in accordance with the above Clauses.

(vii) Surfaces of Fasteners

Uncoated and temporarily coated fasteners shall be free from all traces of oil and grease and blast cleaned to clean steel, SA 2½, Medium profile, before painting.

Metal coated fasteners which have been etch primed before assembly shall be dry cleaned after final surface preparation of the joint and then painted.

Fasteners which are to be metal sprayed after assembly shall be blast cleaned to clean steel, SA3, medium profile, with chilled cast iron grit, cast steel grit or aluminium oxide.

(viii) Sealing of Joints and Plies

Bolted joints or built-up sections shall be free from any water which has penetrated the plies.

After drying out is complete and surfaces are dry after surface preparation, fine gaps around the perimeter of joints or along plies shall be sealed by application of undercoat paint. All wider gaps shall be sealed with a sealant compatible with the paint system.

(ix) Sealing of Gaps at Nibs of Load Indicating Fasteners or Washers

Gaps shall be sealed by brush application of primer and successive undercoats, of the types used on adjacent areas

G1008 TREATMENT AT AREAS OF MECHANICAL DAMAGE/SURFACE DEFECTS

Scores and indentations in the surface of a steel substrate or of a metal coating shall be treated by abrading or grinding to bright steel or bright metal coating, to produce a surface without sharp edges or abrupt change in contour. Damage to unprepared surfaces shall be treated before blast cleaning. A blast cleaning profile shall be

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restored on areas to be metal sprayed but not necessarily areas to be painted only. Other surface defects in the steel substrate are subject to the approval of the engineer.

In the case of damage to paint coatings only, surface preparation shall be by blast cleaning or abrading and the paint coatings restored.

When a two-pack epoxy paint system is restored over a steel substrate prepared by abrading, the adhesion of the first coat of paint to the substrate shall be checked in accordance with BS EN 24624 or BS EN 22063 Annex A, method 1, before overcoating with the next coat in the system.

The first coat over abraded surfaces shall be an aluminium epoxy (2 Pack) primer.

Areas of metal spray to be repaired shall be dry blast cleaning immediately before further application of metal spray.

In the shops, a damaged metal spray coating, together with any damaged sealer or paint coats, shall be restored.

On site, with the exception of the small areas permitted above a damaged metal spray coating, together with any damaged sealer or paint coats shall be repaired with a minimum thickness of 150 microns of metal spray.

On site, small areas of isolated damage in a metal spray coating plus paint system, need not be restored; after surface preparation the metal spray shall be replaced by 100 microns of the first undercoats, omitting the sealer. Adjacent paint coats, excluding the sealer shall then be restored over the repaired area.

In the shops, in the case of galvanising only, small isolated areas of up to 40mm² may, after surface preparation, be repaired with low melting point zinc alloy.

Isolated areas of damage larger than 40mm² in galvanising which is to be painted later or which has already been painted may be repaired with low melting point zinc alloy after surface preparation. Alternatively, the whole of the affected area including exposed steel substrate shall, after surface preparation, be given a coat of adhesion promoter which, when wet cleaned in accordance with Clause 1.5.3 and finally dry, shall be overcoated with two coats of Zinc Phosphate High Build Quick Drying Epoxy (2 pack) blast primer or Extended Cure Epoxy (2 pack) primer, minimum dry film thickness of 75 microns each. The adhesion promoter shall not be applied over existing paints.

On site, surface of galvanised components found to have minor damage shall be prepared and coated with zinc rich primer of 100 microns mdft, complying with BS 4652 Type 2 or 3. Alternatively, the components shall be regalvanised.

In all cases where paint coats only are to be repaired, or metal spray coats replaced or repaired, or galvanising is to be replaced by paint, the edges of paint coatings or metal coatings adjacent to the affected area shall be bevelled back into sound paint or metal coating. This work shall be carried out before any final blast cleaning described above.

Unless otherwise agreed by the engineer, etch primer applied outside the agreed areas shall be removed immediately by wet cleaning.

In the shops exposure and overcoating times shall not exceed those specified in Clause I1015

On site, unless otherwise agreed by the engineer, overcoating shall be started immediately after surface preparation of the affected area and continued as soon as each coat is dry enough for overcoating.

Final coats shall be feathered into existing paintwork to ensure uniformity of appearance.

G1009 TREATMENT OF LOCAL FAILURE IN PROTECTIVE COATINGS

In the shops, failed paint coatings and failed metal spray coatings shall be restored. Abrading down to sound paint only, is permissible. If a metal spray coating is damaged or reduced to less than 80% of the specified minimum thickness during abrading, it shall be restored.

On site, failed paint coatings and metal spray coatings shall be restored except that:

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- abrading down to sound paint or to bright steel; or
- blast cleaning to clean steel, SA2½,

are permissible methods of surface preparation when restoring paint systems over a steel substrate.

In the shops, and on site unless otherwise agreed by the engineer, galvanised components showing signs of failure of the coating shall be regalvanised.

On site, in exceptional circumstances agreed by the engineer, defective galvanising may be replaced by sealed aluminium metal spray of 100 microns minimum thickness in areas blast cleaned to clean steel, SA2½, medium profile using chilled cast iron grit abrasive. Blast cleaning and aluminium metal spray shall taper off 50mm into sound galvanising.

In the shops and on site, failed paint coatings over galvanising shall be restored. Unless otherwise agreed by the engineer, surface preparation shall be by abrading. Areas of sound galvanising exposed through a paint system shall be abraded only as necessary to ensure satisfactory application of etch primer and paint. If the galvanising is damaged or reduced to less than 80% of the specified minimum thickness during abrading, the component shall be regalvanised.

In all cases of local failure, the extent of the failure and the required surface preparation, including extent of initial wet or dry cleaning down, shall be agreed with the engineer. Restoration of protective coatings shall not be started until the standard of surface preparation, including the cleanliness of the surface, has been passed as satisfactory by the engineer. Final coats shall be feathered into existing paintwork to ensure uniformity of appearance.

G1010 METAL COATINGS

(a) Galvanised Coatings

Galvanised coatings except for wire products shall comply with BS EN ISO 1461 and with the following:

- Inhibited hydrochloric acid with a strength not exceeding 14% and within a temperature range of 15°C to 25°C or inhibited sulphuric acid with a strength not exceeding 19% and within a temperature range of 60°C to 80°C shall be used for pickling.
- Components shall not be immersed in the pickling acid longer than is necessary for cleaning the surfaces prior to galvanising.
- The surfaces of components to be galvanised shall be dried before immersion in the molten zinc.
- When an aqueous flux is to be used, all traces of acid shall be washed off immediately after pickling.
- Galvanised coatings shall be virtually free from imperfections, including porosity, to the satisfaction of the Engineer.
- Detrimental surface contamination of galvanised coatings which are to be painted shall be removed by wet cleaning in compliance with Clause G1004(c). Surfaces to be painted shall not receive chromate passivation treatment.
- Vent holes drilled in hollow sections prior to galvanising shall be plugged to the satisfaction of the engineer.

(b) Sprayed Metal Coatings

Sprayed metal coatings shall comply with BS EN 22063 and with the following:

- Aluminium coating shall be of a material with minimum quality in accordance with type A1 99.5 (1050A) of ISO 209-1. Zinc coating shall have a composition in accordance with type Zn 99.99 of ISO 752.
- The thickness of the coating shall be not less than 100 microns.
- The strength of adhesion of metal spray coatings shall not be less than the following:

Aluminium	50kgf/cm ²
Zinc	50kgf/cm ²

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- Metal spray coatings shall be applied continuously over each 0.5m² per gun or the area of the component whichever is the lesser until the specified thickness has been achieved.
- The application of thermally sprayed metal in separate layers will not be permitted.
- All surfaces to be metal sprayed, including that of the reference panel having equivalent hardness to that of the parent material, shall be blast cleaned with chilled cast iron grit with a hardness value greater than 650HV, or aluminium oxide with a hardness value greater than 9 Mohs, and the standard shall be clean steel, SA3, medium profile.

(c) Sherardized Coatings

Sherardized coatings shall comply with Class 1, Table 1 of BS 4921 : 1988.

(d) Electroplated Coatings

Electroplated coatings shall comply with BS 3382: Part 2. Additionally BS 3382: Part 2 shall be deemed to cover the electroplating of components up to and including 36mm in diameter. Electroplated surfaces which are to be painted shall not receive chromate passivation treatment.

(e) Other Requirements

Before proceeding with the galvanising process the contractor shall provide full details of the surface preparation and coating methods he proposes to adopt and shall not put the work in hand until the engineer's approval has been obtained. When instructed by the engineer, similar requirements shall apply in the case of other metal coatings.

When a metal coating is required on only part of a component it shall be applied before the rest of the component receives paint.

G1011 TESTING OF METAL SPRAY COATINGS

At the start of the Works, and later at intervals specified by the engineer (with the exception of coatings on steel in bearings, curved surfaces, repairs to mechanical damage, local failure of metal spray at site joints or areas restored on site), the contractor shall demonstrate by means of a pull off test, of a type approved by the engineer, that the minimum adhesion requirement is being attained. In the excepted areas the contractor shall demonstrate to the satisfaction of the engineer that the adhesion is satisfactory when tested in accordance with BS EN 22063. Areas affected by the tests shall be restored.

The pull off tests shall be carried out initially on panels 150mm x 150mm x 6mm which are of the same grade of steel as the parent material and which before blast cleaning had the same surface condition. The panels shall be blast cleaned and metal sprayed together with the parent material to the same standard and using the same technique.

The contractor shall make arrangements for the engineer to witness the preparation of the panels and all testing. When instructed by the engineer, the contractor shall carry out further tests on similarly prepared and metal sprayed panels.

If the adhesion requirement on any test panel is not met, the contractor shall carry out a further test on the parent material adjacent to the panel position. In the case of adhesion failure on the steelwork itself by either method of test, unsound metal spray coating shall be restored and the tests repeated.

If more than two local areas of faulty adhesion occur on any one component, the whole of the metal spray coating on the component shall be considered as having failed, and it shall be restored. Clause G1006(c) is not applicable in the case of adhesion failure.

G1012 PAINT AND SIMILAR PROTECTIVE COATINGS

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The term paint shall be deemed to refer also to similar protective coatings including specialist coatings such as grease paints.

All paints incorporated in the Permanent Works shall conform to the formulations which have been registered by the manufacturer. All materials comprising the paint system shall be supplied from a single manufacturer

All paints shall be supplied in sealed containers of not more than 5 litres capacity and these shall be used in order of delivery. Each container shall be clearly marked on the side to show the name of the manufacturer, registered description of the material (including purpose, eg. whether primer, undercoat or finish), colour, paint manufacturer's reference number, batch number and date of manufacture. Where date of manufacture is coded, the contractor shall provide the engineer with the code key.

The contractor shall ensure that the properties of the paints he has selected are suitable for the conditions in the shops and on site, including temperature and humidity, and that he is able to apply the paints satisfactorily to all parts of the structure in these conditions.

All paints forming any one protective system or overlapping systems, shall be obtained from the same manufacturer, as named by the contractor on the approved Paint System Data Sheet, see Clause G1022, submitted by the contractor.

G1013 TESTING OF PAINTS

(a) Provision of Samples

The contractor shall provide unopened 5 litre samples, known as 'A' samples, for quality assurance purposes, of each type of paint to be used for the Permanent Works. In addition the contractor shall supply 500ml samples, known as 'B' samples, for application control purposes.

(b) 'A' Samples

'A' samples are required in all cases where more than 500 litres of any one coat of paint is to be applied. For 2 pack systems separate samples of the base and activator are required.

The first 'A' samples shall be taken from the first batch of each type of paint delivered to the fabricator's shop or to site and accepted by the engineer as being representative of paint to be used for the Works. First batches of paint of less than 200 litres shall be discarded as not being representative and shall not be used in the Permanent Works.

Additional 'A' samples of the paints shall be provided by the contractor depending on the weight of structural steelwork in the Permanent Works in accordance with the following:

- 250 tonnes to 500 tonnes : one set of samples;
- over 500 tonnes : a further set of samples for each part of or whole 500 tonnes.

When instructed by the engineer the contractor shall also provide an 'A' sample:

- of any replacement batch of paint subject to testing as above;
- returned paint described under Clause G1014;
- when the paint, in the opinion of the engineer, is showing unsatisfactory application characteristics under Clause G1015.

Immediately after selection by the engineer, the 'A' samples shall be despatched by the contractor to the testing authority in accordance with the engineer's instructions.

Paint shall be supplied in sufficient time to allow for sampling and testing before the start of application.

Unless permitted by the engineer, painting, except for procedure trials, shall not start until the engineer confirms that the first 'A' samples are satisfactory.

(c) 'B' Samples

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The contractor shall take 'B' samples when instructed by the engineer, and only under his supervision. The samples shall be taken from painters' kettles or from nozzles of airless spray guns directly into clean, new 500ml tins which shall be filled and then sealed and handed to the engineer. On return of the samples to the contractor, the contractor shall despatch them immediately to the testing authority in accordance with the engineer's instructions.

(d) Provision of 500ml tins, Packing and Transport of 'A' and 'B' Samples

The contractor shall provide 500ml tins with lids and lid clips, for 'B' samples at the start of painting or before any procedure trials required by Clause G1016. The quantity supplied shall be sufficient to avoid any delay in taking 'B' samples throughout the work.

The contractor shall ensure that the lids of all tins of sample paint are securely clipped down when they are despatched for testing.

The contractor shall be responsible for handling, packing as necessary, prompt despatch and transit of 'A' and 'B' samples.

G1014 STORAGE REQUIREMENTS AND KEEPING PERIODS FOR PAINTS

On delivery to the shops or site, paint shall be unloaded directly into one or more secure paint stores. Unless otherwise agreed by the engineer, paint shall be stored within 100 metres of the painting area. Insulation and means of heating and ventilating shall be provided as necessary to maintain the temperature of paint stores between 5°C and 27°C.

If at any time or place paint in tins, painters' kettle or airless spray containers is allowed to reach temperatures outside the 5° and 27° limits, the paint shall be discarded and not used in the Permanent Works. The contractor shall also implement any additional storage restrictions recommended by the paint manufacturer.

Paint which has not been used within the shelf life recommended by the manufacturer or within 18 months of the date of manufacture, whichever is the lesser, shall be discarded and not used in the Permanent Works.

Chemically or moisture cured paints shall not be used after the expiry of the pot life or at the end of each working day/night whichever is the less. All other paints in opened tins or open containers including painter's kettles shall be returned to store and kept in sealed containers with not more than 10% ullage.

Exceptionally, and subject to agreement by the engineer, components of Polyamide-cured Epoxy paints may have their keeping period extended to 24 months provided that the contractor returns the paints to the paint manufacturer and ascertains that the manufacturer examines the contents of each tin and reconstitutes the paints as necessary so that such paints are equal in all respects to the paints described in the Contract.

Each tin of reconstituted paint returned to the shops or site by the manufacturer shall have an additional label affixed stating 'Extended Keeping Period to (date)'. The previous date marking shall remain and not be obscured. Testing in compliance with Clause G1013 shall apply to reconstituted paints.

G1015 APPLICATION OF PROTECTIVE COATINGS

(a) General

Paint shall be supplied from the contractor's paint store to the painters ready for application, the only adjustment of formulation permitted being as described in sub-Clause 1.5.16. Any addition of solvent shall be made in the store in the presence of the engineer, and shall not exceed 5% by volume on the paint.

Paint shall be applied only to surfaces which have been prepared and cleaned as described in this Series. A coat of paint in a system shall be applied by one of the following methods:

- brush (B)

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- airless spray (AS)
- air pressure spray

Paint shall not be applied under the following conditions:

- when the ambient temperature falls below 5°C or the relative humidity rises above 70% in an enclosed workshop or 90% on site;
- during rain, snow, fog, mist or in a dust laden atmosphere;
- when the amount of moisture likely to be deposited on the surface by condensation or rain before or after painting, may have a harmful effect on the paint;
- when wind-borne dust may have a harmful effect on the paint.

All shop painting of steelwork shall be carried out in a fully enclosed workshop unless otherwise agreed by the engineer.

Before starting the procedure trials described in Clause G1016, and as required by the engineer, the contractor shall furnish the engineer with details of the overall wet film thickness for each coat he proposes to apply. He shall also provide information as to the total amount of paint he expects to use for each coat of each system for which procedure trials are required. The calculation of the amount of paint to be used shall be based on the volume solids plus an allowance for waste.

The following requirements on paint film thicknesses shall apply:

- Wet film thickness gauges shall be used where practicable to check that the wet film thickness is not less than:
- minimum dry film thickness (mdft) x 100/volume solids %
- During the application of a paint system the contractor shall ensure that the progressive total thickness of the applied coats will allow the specified minimum total dft of the system to be attained without exceeding, overall, the proposed wet film thicknesses referred to above by more than 20%.
- In no cases shall the total dry film thickness of a paint system or the mdft of the last undercoat and finish be less than that specified in the Paint System Sheet.
- The local dry film thickness for any primer shall not exceed the specified mdft by more than 30% and for other paints by more than 75%.

Each coat of paint of a specified system shall have satisfactory adhesion as demonstrated by an adhesion test approved by the engineer.

Each coat of paint of a specified system at whatever thickness applied shall be virtually free from surface defects, particularly cratering, pin-holing, blistering, rivelling, sagging, bittiness, dry spray and cissing. The finished system shall be an even and uniform appearance. When required by the engineer, the finishing paint in visually sensitive areas shall be from the same batch.

When required by the engineer, the degree of gloss of a finishing coat shall be agreed before the procedure trials. A painted tin plate reference panel, 150mm x 100mm, shall be provided by the Contractor for this purpose.

All successive coats in a system including the stripe coats shall be in contrasting colours to aid identification.

Two pack chemically cured paints shall not be applied when the steel or ambient temperatures are below those advised by the paint manufacturer, nor shall such paints be applied when the temperature is likely to fall below the advised temperatures during the curing period.

(b) Stripe Coats

Unless otherwise described in Clause two stripe coats shall be applied to all welds and all fasteners including washers and to all external corners except those of rolled hollow sections. The first stripe coat, using second undercoat paint, shall be applied over the primer, sealer or etch primer. The second stripe coat, using first or second undercoat paint, shall be applied before the last undercoat of the complete system in the shops or on site as appropriate. The first stripe coat on etch primer fasteners shall be applied by brush; other stripe coats may be applied by brush or airless spray as appropriate.

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A solvent shall be used to remove final traces of grease from etch primer fasteners.

The contractor shall enter the details of the stripe coats he has selected in Clause giving the colour and method of application.

Square solid infill bars shall, after the second undercoat has been applied, be given an extra coat of first undercoat in lieu of stripe coats.

(c) Exposure Times for Prepared Steel Surfaces and for Metal Coatings Exposure Times and Treatment of Etch Primer and Overcoating Times for Paints

Clean steel prepared by dry blast cleaning or bright steel prepared by abrading or by grinding shall be primed within 4 hours.

Clean steel prepared by wet blasting cleaning only, shall be primed within 4 hours of being dry enough for painting.

Clean steel prepared by combined wet/dry blast cleaning shall be primed within 4 hours of dry blast cleaning.

Steel or steelwork blast primed at the mills or in the shops shall be overcoated within 8 weeks. The primed surfaces shall only be exposed outside for a maximum of 2 weeks of the 8 week period. Prepared surfaces affected by detrimental contamination or corrosion which in the opinion of the engineer will reduce the required durability of the protective system shall be restored when directed by the engineer.

Shop steelwork which has been metal sprayed shall be primed and sealed within 4 hours. The next coat shall be applied within 72 hours.

Shop prepared steel surfaces, unsealed metal spray coatings and undercoats, except final shop undercoat, shall not be exposed outside.

All etch primer surfaces, except those of fasteners which have been treated in compliance with Clause G1007(a)(i), shall, after initial drying, be wet cleaned in compliance with Clause G1004(c), taking care not to remove adhering etch primer, and allowed to dry before overcoating. The first coat of paint shall be applied within 48 hours of the etch primer surfaces being first dry enough for painting over.

Where galvanised steel is to be protected by a paint system etch primer shall be applied not later than 7 days after delivery to site unless otherwise agreed by the engineer.

A first shop undercoat shall be overcoated within 72 hours. Unless otherwise agreed with the engineer, further shop coats shall be applied within 72 hour intervals per coat.

The application of sealant in gaps may be carried out either before or after application, as appropriate, of the first coat of paint to be applied to the completed joints or assembled plies.

Prepared steel surfaces and sprayed metal coatings which have been restored, also paint coats and galvanising which have been prepared after surface damage or deterioration shall be overcoated with the sealer primer or first undercoat as appropriate before the surfaces have been affected by moisture and in any case within 4 hours.

On site, steel surfaces and metal spray coatings shall be primed or sealed within 4 hours and shall have the following coat applied within 72 hours unless otherwise agreed with the engineer. The next coat shall be applied within a further 72 hours unless otherwise agreed with the engineer.

G1016 PROCEDURE TRIALS

The contractor shall carry out to the approval of the engineer shop and site procedure trials of the protective system when more than 50 litres of any coat of paint are to be applied to the steelwork.

Procedure trials are not required for systems applied to joints or for galvanising only. The procedure trials shall be completed at least ten days before the start of application of the systems on the main steelwork. The trials shall be carried out with the labour and equipment to be used for the work.

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The contractor shall provide for the shop trials, samples of steel from 2m² to 10m² representing the main steelwork, galvanised when necessary, as required by the engineer. The contractor shall demonstrate his ability to carry out surface preparation by blast cleaning and by using power assisted tools, to apply metal spray coatings and the paints he has selected. He shall provide sufficient paint for the trials. Metal spray application and painting of the main steelwork shall not be started in the shops or on site until procedure trials have been completed to the satisfaction of the engineer.

Any adjustment to the registered paint formulations shown to be required by the trials, other than an adjustment to the solvent shall be agreed with the engineer and made at the paint manufacturer's works.

Unless otherwise agreed by the engineer the contractor shall carry out further procedure trials whenever he employs replacement skilled labour or proposes to use equipment of a different type.

G1017 STORAGE AND TRANSPORT OF STEEL AND FABRICATED STEELWORK

Steel awaiting fabrication for the Permanent Works and uncoated steelwork shall be adequately protected from contaminants liable to cause heavy rusting and possibly pitting of the surfaces.

Steelwork shall not be loaded for transport until the paint system is sufficiently hard for handling.

During storage, steelwork shall be kept clear of the ground and shall be laid out or stacked so as to prevent water or dirt accumulating on or against any of the surfaces. Suitable packings shall be placed between layers of stacked steelwork. When cover is provided it shall be ventilated sufficiently to keep condensation to a minimum.

Components weighing less than one tonne shall be kept in a storage area away from their erection point in order to minimise damage to protective coatings.

Lengths of parapet and individual lighting columns shall be supported on timber, and precautions taken to prevent damage to their protective coatings and ingress of water. They shall only be positioned adjacent to their erection point immediately before erection. If the planned erection time is delayed by more than 72 hours the components shall be returned to the storage area.

If in the opinion of the engineer, damage to coatings is excessive, or may be difficult to deal with satisfactorily after erection, the contractor shall restore the coatings before erection.

G1018 SURFACES IN CONTACT WITH CONCRETE

Metal spray coatings and all shop paint coats shall be returned 25mm into the concrete/steelwork contact area.

Where aluminium metal spray, which has been sealed only, is returned into the contact area, it shall be given a coat of Phosphate Epoxy Ester Undercoat of 40 microns mdf, not later than 48 hours before concreting. Application of the paint outside the contact area shall be prevented, by masking if necessary.

Galvanised coatings shall be applied overall and may come into contact with concrete.

G1019 ACCESS AND LIGHTING

Without prejudice to the Conditions of Contract, access for inspection by the engineer shall be provided and erected by the contractor. The access shall be agreed with the engineer as being adequate in all respects for inspection purposes.

Manual surface preparation and coating application work shall not be carried out when light intensity at the workface is less than 500 lux. When the natural light intensity falls below this level the contractor shall install and maintain temporary lighting which shall provide a minimum light intensity of 500 lux over at least 1.0m² at the workface during the work and also for inspection when required by the engineer.


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G1020 ADDITIONAL REQUIREMENTS FOR THE PROTECTION OF STEEL IN BRIDGE BEARINGS

Work described in this Clause shall be carried out in compliance with the foregoing clauses, as appropriate.

All external surfaces of the bearings shall be given full protective treatment. When seeking approval of a particular bearing manufacturer the contractor shall provide full details of the protective treatment of the proposed bearing. This shall include the proposed treatment of all metal surfaces within the bearing and all screwed or other fastenings Information, including the name of the paint manufacturer, required for completing the Paint System Sheet, for the bearings, shall be obtained by the contractor from the bearing manufacturer.

Etch primer and MIO Epoxy paints when required for application on site shall be obtained from the manufacturer of the shop applied coats. Paint applied to the bearings on site to match the bridge steelwork paint system shall be obtained from the manufacturer of that system.

G1021 POWDER COATING

Aluminium sheeting and sections shall be powder coated in accordance with SABS 1796:2003 – Coatings of durable organic powder for external architectural aluminium. Powder coating used shall be of the ‘SuperDurable’ type and comply with SABS 1578:2003 – Durable organic powder for coating of external architectural aluminium.

The powder coating shall have a 25 year life in the service environment and this shall be guaranteed in writing by the powder coating supplier and powder coating applicator. An insurance backed guarantee shall be offered to the Client.

A SABS 1578 certified mark holder only shall apply the powder. The applicator must show in writing approval from the powder manufacturer for the pre-treatment process and powder application process to be used.

Unless otherwise advised by the powder manufacturer the thickness of the applied and cured powder coating shall be at least 80 microns. All powder coated sheeting shall be totally free of pinholes. Colour and gloss shall be uniform on all sheeting.

The powder coating shall be nominally semi-gloss, the actual gloss level and colour shall be agreed with and approved by the engineer before any powder coating is manufactured.

Powder coating supplier and applicator shall have a quality system in accordance with ISO 9002.

Documentation in support of the Guarantee shall be accordance with Association of Architectural Aluminium Manufacturers of South Africa (AAAMSA) recommendations as a minimum.

Once powder coating and inspection is completed all approved coated sheeting shall be protected adequately using bubble wrap or polythene adhesive film to minimise damage during transportation, storage and during and after installation.

Powder coated sheeting shall be stored in accordance with the powder coating manufacturer’s recommendations. Any situation that might result in water marking of the powder coating shall be avoided.

Damaged powder coating shall be repaired strictly in accordance with the powder manufacturer’s recommendations and Guarantee requirements. The engineer shall decide if any damaged sheet is to be replaced rather than repaired.

The powder manufacturer shall advise the engineer what, if any, cleaning and maintenance procedures are required to ensure the Guarantee once sheeting is installed. This information shall be supplied before any powder coating commences.

G1022 PAINT SYSTEM DATA SHEET

A minimum of 56 days prior to first application of protective coatings the contractor shall submit for approval a copy of the Paint System Data Sheets.

A sample Paint System Data Sheet is shown on the following page.

The contractor shall submit details of other bridges on which the proposed paint system has been applied, and in particular details of its durability. The contractor shall submit copies of the manufacturers instruction for application of the proposed paint system.

This document is for information purposes ONLY

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PAINT SYSTEM SHEET
Sheet No.

1. CONTRACT TITLE:	STRUCT. NO.:	GRID REF:				2. DATE OF ISSUE OF DOCUMENTS TO TENDERERS:
3. ENVIRONMENT AND ACCESSIBILITY:			4. REQUIRED DURABILITY OF SYSTEM NO MAINTENANCE : MINOR MAINTENANCE: MAJOR MAINTENANCE:			
5. PAINT SYSTEM TO BE APPLIED OVER:						
6. DETAILS	1st Coat	2nd Coat	3rd Coat	4th Coat	5th Coat	6th Coat
Registered Description						
Item No. & Colour						
Date Registered						
Brand Name and Manfr's Ref No.						
Data Sheet No.						
Where applied						
How applied						
Min dry film thickness (mdft)						
Max local dft (See Cl. I1015(a))						
7. STRIPE COAT DESCRIPTION (including Item No and Colour) Shop: Site:					8. PAINT MANUFACTURER'S OFFICIAL STAMP:	
9. MINIMUM TOTAL DRY FILM THICKNESS OF PAINT SYSTEM (See Note) NOTE: The calculated sum of the mdft, neglecting the thickness of primers under 25 microns applied to blast cleaned steel, sealed or unsealed aluminium metal spray, shall not be less than 84% of the minimum total dry film thickness of the paint system					10. APPROVED BY: DATE:	

 Contractor

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 Employer

 Witness for Employer

G1023 SPECIFIED PAINT SYSTEMS

(a) General

The undernoted systems shall be applied to the specified surface areas.

Subject to the approval of the engineer, alternative systems may be proposed by the contractor, provided that they can be demonstrated to have equivalent durability.

The top coat shall be applied either at site or in the shop. The contractor shall ensure that the final appearance of painted steelwork is uniform. The paint systems for external systems below include provision for an aesthetic paint layer. This paint layer is not considered part of the system for durability but is to be applied to ensure uniform appearance of exterior steel surfaces. At the discretion of the engineer this layer may be omitted if the system top coat after completion of painting to all areas gives a satisfactory appearance.

Where quoted item numbers relate to the UK Highways Agency Design Note BD 35.

(b) System 1: Not used in this contract.

Durability – major maintenance: 25-30 years

Surface Preparation - Blast clean to BS 7079 or BS EN ISO 11126 Sa 3 Medium Profile

Shop - Aluminium metal spray - 100 microns mdft

Shop - 1st coat Item 159 Aluminium Epoxy Sealer - applied at 12 to 20 sq.m/litre

Shop - 2nd coat Item 111 Zinc Phosphate HB QD Epoxy Blast Primer - mdft 100 microns

Shop - 3rd coat Item 112 MIO HB QD Epoxy undercoat/finish- mdft 125 microns

Shop/Site - 4th coat Item 169, semi-gloss, Acrylic Polyurethane (2 pack) finish - mdft 50 microns, colour RAL 7035

Stripe coat - 3rd coat on 2nd coat by brush at 75 microns mdft

Minimum system total dry film thickness - 425 microns including metal spray

Minimum total dry film thickness of paint system - 300 microns

Aesthetic top coat - Item 169, semi-gloss, Acrylic Polyurethane (2 pack) finish - mdft 50 microns, colour RAL 7035

HSFG joints – contact faces aluminium metal spray only; fasteners - aluminium metal spray after joint is made. Complete with system as above.

(c) System 2: To be used on this contract.

Durability – major maintenance: 25 years

Surface Preparation - Blast clean to BS 7079 or BS EN ISO 11126 Sa 3 Medium Profile

Shop – 1st coat zinc rich epoxy primer to 50-75 microns dft

Shop – 2nd coat epoxy MIO undercoat to 100 microns mdft

Shop – 3rd coat epoxy MIO undercoat to 100 microns mdft

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Shop/Site – 4th coat item 169, semi-gloss, acrylic polyurethane (2 pack) finish - dft 50 microns, colour RAL 7035

Stripe coat 3rd coat over 2nd coat

Minimum total dry film thickness 325 microns

Aesthetic top coat - Item 169, semi-gloss, Acrylic Polyurethane (2 pack) finish - mdft 50 microns, colour RAL 7035

(d) System 3: Not used in this contract.

Durability – major maintenance: 25 years

Surface Preparation - Blast clean to BS 7079 or BS EN ISO 11126 Sa 2^{1/2} Medium Profile

Shop – 1st coat Item 111 Zinc Phosphate HB QD Epoxy Blast Primer - mdft 125 microns

Shop – 2nd coat Item 112 MIO HB QD Epoxy undercoat/finish- mdft 100 microns

Stripe coat 2nd over 1st

Minimum total dry film thickness 250 microns

(e) System 4: Not used in this contract.

Durability – major maintenance: 25 years

Surface preparation - Galvanize in accordance with BS EN ISO 14713/BS EN ISO 1461, degrease with a water emulsifiable degreaser and wash with fresh water, allow to dry. Sweep blast in accordance with BS EN ISO 12944 with a fine grade of non-metallic grit, such as garnet, at low air pressure taking care only to roughen and not remove the zinc coating.

1st coat – Epoxy MIO (formulated for application to galvanized steel) - mdft 75 microns

2nd coat – Epoxy MIO (formulated for application to galvanized steel) - mdft 75 microns

3rd coat – Acrylic polyurethane - dft 50 microns, colour RAL 7035

Stripe coat 2nd over 1st

Minimum total dry film thickness 175 microns and a maximum of 300 microns

(f) System 5: Not used in this contract.

Durability – major maintenance: 25 years

Surface preparation - Galvanize in accordance with BS EN ISO 14713/BS EN ISO 1461

A certificate guaranteeing the paint system for the minimum stipulated durability period is to be issued to the Engineer prior to commencement of painting. Should any issues regarding the protective system be identified by the Client during the stipulated durability period, the Main Contractor will at his own cost be required to identify the problem and propose a remedial solution to the Engineer for approval. The Main Contractor will thereafter be required to rehabilitate the entire structure.

G1024 MEASUREMENT AND PAYMENT

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Item	Description	Unit
G10.01	Steelwork Protective system (system to be specified):	
	(a) Structural member inclusive of bracing, fixing bolts and plates. RAL colour to be confirmed..... m ²	

The unit of measurement shall be the calculated square area of steelwork to be protected. The item shall be measured once and shall include all shop and site coats specified to generate the itemized paint system.

The following protective systems are described:

1. Protective system 1
2. Protective system 2
3. Protective system 3
4. Protective system 4
5. Protective system 5
6. Aesthetic paint overcoat above system 1
7. Aesthetic paint overcoat above system 2

The following locations are identified:

1. Steel Trusses

The tendered rate shall include full compensation for the following:

- a) despatching paint samples to testing authority;
- b) shop procedural trials;
- c) site procedural trials;
- d) compilation and where necessary re-compilation of painting programmes;
- e) masking and other measures to protect adjacent untreated work and the removal of masking and other measures upon completion;
- f) grounding down welds and removal of weld splatter;
- g) joint fillers and treatments of joints;
- h) curing agents;
- i) preparing materials for application
- j) preparation of surfaces and coating at the place of fabrication and on Site including blast cleaning, solvents, detergents and where approved by the Engineer, acid washing;
- k) re-preparation where steelwork or coatings have become contaminated;
- l) complying with any special requirements in respect of ambient conditions including the containment of dust and debris and for intervals between successive operations and applications;
- m) labelling;
- n) storage;
- o) stripe coats;
- p) de-nibbing;
- q) heat treatment;
- r) obtaining the correct dry film thickness of paint or other coating and forwarding results to the Engineer;
- s) measures to protect uncoated steelwork;
- t) preparation and supply of system and data sheets;
- u) facilities and assistance to enable inspection by the Engineer;
- v) thorough cleaning of finished paint work prior to opening of the structure

PF – SUSTAINABLE CONSTRUCTION

The contractor is to reuse the timber walkway planks to create additional benches and viewing platforms as instructed by the Engineer/Client. The woodwork is to be designed by competent person and incorporating African art that ties into the aesthetics of the nature reserve to the satisfaction of the Engineer and Client.

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MEASUREMENT AND PAYMENT

Item	Description	Unit
PF-1	Sustainable construction works	Prov Sum
PF-2	Percentage mark-up on Item K1.1 (State % and extend as an amount)	%

The provisional sum shall include:

- Employment of local labour to design and fabricate the above wooden items. The design should clearly indicate the aesthetic intention and show the structural system (specifically the viewing platform). Platform to be designed to carry a safe working load of 500 kg/m² and to be signed off by a ECSA professionally registered engineer.
- Production of design drawings to the satisfaction of the engineer and client.
- All doweling and fixing components into rock/reinforced concrete
- Temporary works
- Protective coatings
- Handling and transporting
- Installation

PG – ENVIRONMENTAL REQUIREMENTS

The contractor's attention is focused, with specific reference, on the environmental requirements in terms of Government notices R385, R386 and R387 of 21 April 2006, promulgated as Chapter 5 of the National Environmental Management Act, 1998 (Act 107 of 1998), also known as the "NEMA" process and the Environmental Management Plan (Annexure B).

Note, although the work is classified as maintenance and repair without the need for an environmental management plan, we do advise that the client appoint an *Environmental Control Officer*, to oversee the process giving practical and reasonable input regarding general environmental requirements as well as monitoring and reporting on such implementation.

PH – OCCUPATIONAL HEALTH & SAFETY

The contractor takes full responsibility for his in-house Health and Safety obligations, in terms of the requirements of the Occupational Health and Safety Act of 1993 (Act 85 of 1993), including the Occupational Health and Safety Amendment Act (Act 181 of 1993) along with the accompanying regulations and the Health and Safety Specifications for South African National Parks (Annexure A).

In addition, a Health & Safety Agent will be appointed responsible for Health and Safety on the site, in the interests of the client and to whom the contractor will be accountable in terms of the applicable legislation.

Annexure A

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**Health and Safety Specifications for South African
National Parks (As attached)**

This document is for information purposes ONLY

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**HEALTH & SAFETY
SPECIFICATIONS
FOR**

**MAINTENANCE AND REHABILITATION OF THE SUSPENSION
BRIDGES AT STORMS RIVER MOUTH REST CAMP IN THE GARDEN
ROUTE NATIONAL PARK – TSITSIKAMMA SECTION**

CONTRACT No. CI-GK-0165

CONTENTS

- i) PURPOSE OF THE HEALTH AND SAFETY SPECIFICATION
- ii) IMPLEMENTATION OF THE HEALTH AND SAFETY SPECIFICATION
- iii) APPLICATION AND INTERPRETATION
- iv) DEFINITIONS
- v) GENERAL REQUIREMENTS
 - 5.1 Duties of Principal Contractor / Contractor in terms of Construction Regulations 2014
 - 5.2 Management and Supervision of Construction Work
 - 5.3 Notification of Intention to Commence Construction Work
 - 5.4 Construction Work Permit
 - 5.5 Assignment of Contractor's Responsible Persons to Manage Health and Safety on Site
 - 5.6 Competency for Contractor's Responsible Persons
 - 5.7 Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA)
 - 5.8 Occupational Health and Safety Policy
 - 5.9 Health and Safety Organogram
 - 5.10 Risk Assessments
 - 5.11 Safe Work Procedures
 - 5.12 Health and Safety Representative(s)
 - 5.13 Health and Safety Committee
 - 5.14 Medical Certificate of Fitness
 - 5.15 Health and Safety Training
 - 5.15.1 Induction
 - 5.15.2 Awareness
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 - 5.17 General Record Keeping
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 - 5.21 Accident / Incident Reporting and Investigation
 - 5.22 Hazards and Potential Situations
 - 5.23 Occupational Health and Safety Signage
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 - 5.25 Stacking of Materials
 - 5.26 Housekeeping and General Safeguarding on Construction Sites
 - 5.27 Construction Vehicles and Mobile Plant
 - 5.28 Electrical Installations and Machinery on Construction Sites
 - 5.29 Use and Temporary Storage of Flammable Liquids on Construction Sites
 - 5.30 Water environments
 - 5.31 Fire precautions on Construction Sites

Date: September 2024

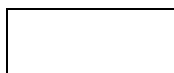
Contact: Zamakhosi Mkhonza

**Address: PO Box 787
Pretoria, 0001**

Tel No: (012) 426 5199

Email Fax: 086 695 9139

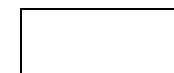
Email: zamakhosi.mkhonza@sanparks.org



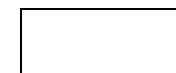
Contractor



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Contractor



Employer



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- 5.32 Construction Employees' Facilities
- 5.33 Fall protection
- 5.34 Temporary works
- 5.35 Excavation
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- v) Activities requiring approved Method Statements
- vi) Activities requiring Permits
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8. BASELINE RISK ASSESSMENT

9. HEALTH AND SAFETY SPECIFICATION ACKNOWLEDGEMENT RECEIPT

vi) TRAINING, INSPECTIONS & RECORDS

- Additional Requirements
- Annexure A: Task Completion Form
- Annexure B: Contractors Responsible Persons

7. PROJECT DETAILS

- i) Project Directory
- ii) Project Details
- iii) Existing Environment
- iv) Project Health and Safety Requirements

Contractor

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1. PURPOSE OF THE HEALTH AND SAFETY SPECIFICATION

This Health and Safety Specification has been prepared to comply with the requirements of the Construction Regulations 2014.

The purpose of this site specific Health and Safety Specification is to comply with legal requirements and to provide health and safety information about specific project risks known by the Client, Designer and Client Agent to be applicable to this project. This document also provides minimum health and safety requirements, standards and expectations that the principal contractor and contractors must adhere to.

The Contractor must take into account all information in this specification and ensure that their tenders include adequate resource and competence to deal with the matters detailed herein so that all relevant contents are dealt with in a way which is in compliance with legislation and the ethical concerns for the safeguarding of employees, contractors and other persons affected by the construction activities.

The Health and Safety Specification will be implemented during construction of the works and any construction activity that the Client has control over.

This will also assist in ensuring that all the costs related to the compliance with Occupational Health Act 85 of 1993 and the Construction Regulations 2014, as well as this Health and Safety Specification, are taken into consideration at Tender stage.

No advice, approval of any document required by the Health and Safety Specification such as hazard identification and risk assessment action plans or any other form shall be construed as an acceptance by the Client of any obligation that absolves the Contractor from achieving the required level of performance and compliance with legal requirements.

Further, there is no acceptance of liability by the Client which may result from the Contractor failing to comply with the Health and Safety Specification unless the Client has issued an instruction to any requirement, i.e. the Contractor remains responsible for achieving the required performance levels.

2. IMPLEMENTATION OF THE HEALTH AND SAFETY SPECIFICATION

This Health and Safety Specification forms an integral part of the Contract, and Contractors shall make it an integral part of their Contracts with Sub Contractors and Suppliers. Contractors employed by the Client are to ensure that the provisions of the Health and Safety Specification are applied both on the site and in respect of all off site activities relating

to the project, in particular in transport activities and project dedicated off site fabrication works.

The Contractor shall enforce the provisions of the Health and Safety Specification amongst all sub-contractors and suppliers for the project.

The Contractor shall sign the acknowledgment on the last page of this safety specification that he/she has familiarized him/herself with the content of the Health and Safety Specification and shall comply with all obligations in respect thereof.

The successful Contractor will be required to compile a Health and Safety Plan based on the requirements of the Occupational Health Act 85 of 1993 and these Specifications, which will need to be approved by Client prior to commencement with construction work.

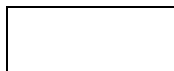
3. APPLICATION AND INTERPRETATION

This document is to be read and understood in Conjunction with the following inter alia:

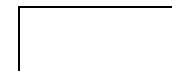
- Occupational Health and Safety Act (Act 85 of 1993)
- SABS codes and standards referred to by the Occupational Health and Safety Act
- Regulations as per the Occupational Health and Safety Act (Act 85 of 1993) with specific reference but not limited to:
 - General Safety Regulations (GN 928, 25 June 2003)
 - General Machinery Regulations (GN R1521, 5 August 1988)
 - Electrical Machinery Regulations (GN R250, 25 March 2011)
 - Electrical Installation Regulations (GN R242, 6 March 2009)
 - Driven Machinery Regulations (GN R1010, 18 July 2003)
 - Regulations for Hazardous Chemical Agents (GNR 280, 29 March 2021)
 - Regulations for Hazardous Biological Agents (GNR 1887, 16 March 2022)
- Basic Conditions of Employment Act (Act 75 of 1997)
- SANParks Environmental Management Plan
- SANParks Code of Conduct of working in a National Park

4. DEFINITIONS

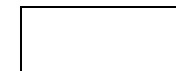
ALL REFERENCES TO CLIENT IN THIS HEALTH AND SAFETY SPECIFICATION ALSO REFER TO CLIENT AGENT, WHERE SO APPOINTED.



Contractor


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Definitions (as per the Construction Regulations 2014) applicable to this Health and Safety Specification:

"agent" means a competent person who acts as a representative for a client;

"angle of repose" means the steepest angle of a surface at which a mass of loose or fragmented material will remain stationary in a pile on the surface, rather than sliding or crumbling away;

"bulk mixing plant" means machinery, appliances or other similar devices that are assembled in such a manner so as to be able to mix materials in bulk for the purposes of using the mixed product for construction work;

"client" means any person for whom construction work is being performed;

"competent person" means a person who has, in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No.67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and is familiar with the Act and with the applicable regulations made under the Act;

"construction manager" means a competent person responsible for the management of the physical construction processes and the coordination, administration and management of resources on a construction site;

"construction site" means a work place where construction work is being performed;

"construction supervisor" means a competent person responsible for supervising construction activities on a construction site;

"construction vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and off the construction site for the purposes of performing construction work;

"construction work" means any work in connection with-

- i) the construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or
- ii) the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work ;

"construction work permit" means a document issued in terms of regulation 3;

"contractor" means an employer who performs construction work;

"demolition work" means a method to dismantle, wreck, break, pull down or knock down of a structure or part thereof by way of manual labour, machinery, or the use of explosives;

"design" in relation to any structure, includes drawings, calculations, design details and specifications ;

"designer" means a competent person who-

- i) prepares a design;
- ii) checks and approves a design;
- iii) arranges for a person at work under his or her control to prepare a design, including an employee of that person where he or she is the employer; or
- iv) designs temporary work, including its components;
- v) an architect or engineer contributing to, or having overall responsibility for a design;
- vi) a building services engineer designing details for fixed plant;
- vii) a surveyor specifying articles or drawing up specifications;
- viii) a contractor carrying out design work as part of a design and building project; or
- ix) an interior designer, shop-fitter or landscape architect;

"excavation work" means the making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping;

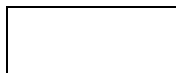
"explosive actuated fastening device" means a tool that is activated by an explosive charge and that is used for driving bolts, nails and similar objects for the purpose of providing fixing;

"fall arrest equipment" means equipment used to arrest a person in a fall, including personal equipment, a body harness, lanyards, deceleration devices, lifelines or similar equipment;

"fall prevention equipment" means equipment used to prevent persons from falling from a fall risk position, including personal equipment, a body harness, lanyards, lifelines or physical equipment such as guard-rails, screens, barricades, anchorages or similar equipment;

"fall protection plan" means a documented plan, which includes and provides for -

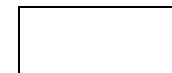
- i) all risks relating to working from a fall risk position, considering the nature of work undertaken;
- ii) the procedures and methods to be applied in order to eliminate the risk of falling; and
- iii) a rescue plan and procedures;



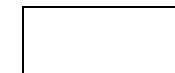
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"fall risk" means any potential exposure to falling either from, off or into;

"health and safety file " means a file, or other record containing the information in writing required by these Regulations;

"health and safety plan" means a site, activity or project specific documented plan in accordance with the client's health and safety specification;

"health and safety specification" means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work;

"material hoist" means a hoist used to lower or raise material and equipment, excluding passengers;

"medical certificate of fitness" means a certificate contemplated in regulation 7(8);

"mobile plant" means any machinery, appliance or other similar device that is able to move independently, and is used for the purpose of performing construction work on a construction site;

"National Building Regulations" means the National Building Regulations made under the National Building Regulations and Building Standards Act, 1977 (Act No. 103 of 1977), and promulgated by Government Notice No. R. 2378 of 30 July 1990, as amended by Government Notices No's R. 432 of 8 March 1991, R. 919 of 30 July 1999 and R. 547 of 30 May 2008;

"person day" means one normal working shift of carrying out construction work by a person on a construction site;

"principal contractor" means an employer appointed by the client to perform construction work;

"Professional Engineer or Professional Certificated Engineer" means a person holding registration as either a Professional Engineer or Professional Certificated Engineer in terms of the Engineering Profession Act, 2000 (Act No. 46 of 2000);

"Professional Technologist" means a person holding registration as a Professional Engineering Technologist in terms of the Engineering Profession Act, 2000;

"provincial director" means the provincial director as defined in regulation 1 of the General Administrative Regulations, 2003;

"scaffold" means a temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both;

"shoring" means a system used to support the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation;

"structure" means-

- i) any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure;
- ii) any falsework, scaffold or other structure designed or used to provide support or means of access during construction work; or
- iii) any fixed plant in respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling;

"suspended platform" means a working platform suspended from supports by means of one or more separate ropes from each support ;

"temporary works" means any falsework, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction work;

"the Act" means the Occupational Health and Safety Act , 1993 (Act No. 85 of 1993);

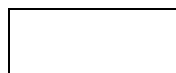
"tunneling" means the construction of any tunnel beneath the natural surface of the earth for a purpose other than the searching for or winning of a mineral.

5 GENERAL REQUIREMENTS

5.1 Duties of Principal Contractor / Contractor in terms of Construction Regulations 2014

A Principal Contractor must:

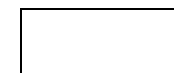
- i) provide and demonstrate to the client a suitable, sufficiently documented and coherent site specific health and safety plan, based on the client's documented



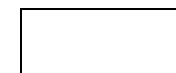
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health and safety specifications, which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the principal contractor as work progresses;

- ii) open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, which must be made available on request to an inspector, the client, the client's agent or a contractor; and
- iii) on appointing any other contractor, in order to ensure compliance with the provisions of the Act –
 - 1. provide contractors who are tendering to perform construction work for the principal contractor, with the relevant sections of the health and safety specifications pertaining to the construction work which has to be performed;
 - 2. ensure that potential contractors submitting tenders have made sufficient provision for health and safety measures during the construction process;
 - 3. ensure that no contractor is appointed to perform construction work unless the principal contractor is reasonably satisfied that the contractor that he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely;
 - 4. ensure prior to work commencing on the site that every contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993;
 - 5. appoint each contractor in writing for the part of the project on the construction site
 - 6. take reasonable steps to ensure that each contractor's health and safety plan is implemented and maintained on the construction site;
 - 7. ensure that the periodic site audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;
 - 8. stop any contractor from executing construction work which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site or which poses a threat to the health and safety of persons;
- iv) where changes are brought about to the design and construction, make available sufficient health and safety information and appropriate resources to the contractor to execute the work safely;
- v) discuss and negotiate with the contractor the contents of their health and safety plan and finally approve that plan for implementation;
- vi) ensure that a copy of both the principal contractor and contractor's health and safety plan is available on request to an employee, an inspector, a contractor, the client or the client's agent;
- vii) hand over a consolidated health and safety file to the client upon completion of the

construction work, to include a record of all drawings, designs, materials used and other similar information concerning the completed structure;

- viii) in addition to the documentation required in the health and safety file include and make available a comprehensive and updated list of all the contractors on site accountable to the principal contractor, the agreements between the parties and the type of work being done;
- ix) ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

A contractor must prior to performing any construction work-

- i) provide and demonstrate to the principal contractor a suitable and sufficiently documented health and safety plan, based on the relevant sections of the client's health and safety specification and provided by the principal contractor, which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the contractor as work progresses;
- ii) open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, and which must be made available on request to an inspector, the client, the client's agent or the principal contractor;
- iii) before appointing another contractor to perform construction work be reasonably satisfied that the contractor that he or she intends to appoint has the necessary competencies and resources to perform the construction work safely;
- iv) co-operate with the principal contractor as far as is necessary to enable each of them to comply with the provisions of the Act;
- v) as far as is reasonably practicable, promptly provide the principal contractor with any information which might affect the health and safety of any person at work carrying out construction work on the site, any person who might be affected by the work of such a person at work, or which might justify a review of the health and safety plan.

Where a contractor appoints another contractor to perform construction work, the duties that apply to the principal contractor will apply to the contractor as if he or she were the principal contractor.

A principal contractor must take reasonable steps to ensure co-operation between all contractors appointed by the principal contractor to enable each of those contractors to comply with these Regulations.

No contractor may allow or permit any employee or person to enter any site, unless

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that employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

A contractor must ensure that all visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site and must ensure that such visitors have the necessary personal protective equipment.

A contractor must at all times keep on his or her construction site records of the health and safety induction training and such records must be made available on request to an inspector, the client, the client's agent or the principal contractor.

A contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3 (a template of which can be found in the Construction Regulations, 2014).

5.2 Management and Supervision of Construction Work

A principal contractor must, in writing, appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate must be appointed by the principal contractor.

A principal contractor must upon having considered the size of the project, in writing appoint one or more assistant construction managers for different sections thereof: Provided that the designation of any such person does not relieve the construction manager of any personal accountability for failing in his or her management duties in terms of this regulation.

Where the construction manager has not appointed assistant construction managers, or, in the opinion of an inspector, a sufficient number of such assistant construction managers have not been appointed, that inspector must direct the construction manager in writing to appoint the number of assistant construction managers indicated by the inspector, and those assistant construction managers must be regarded as having been appointed.

No construction manager appointed in terms of the Regulations may manage any construction work on or in any construction site other than the site in respect of which he or she has been appointed.

A contractor must, after consultation with the client and having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction health and safety officer in writing to assist in the control of all health and safety related aspects on the site: Provided that, where the question arises as to whether a construction health and safety officer is necessary, the decision of an inspector is decisive.

No contractor may appoint a construction health and safety officer to assist in the control of health and safety related aspects on the site unless he or she is reasonably satisfied that the construction health and safety officer that he or she intends to appoint is registered with a statutory body approved by the Chief Inspector and has necessary competencies and resources to assist the contractor

A construction manager must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.

A contractor must, upon having considered the size of the project, in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor, and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor: Provided that the designation of such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties.

Where the contractor has not appointed such an employee, or, in the opinion of an inspector, a sufficient number of such employees have not been appointed, that inspector must instruct the employer to appoint the number of employees indicated by the inspector.

No construction supervisor appointed may supervise any construction work on or in any construction site other than the site in respect of which he or she has been appointed: Provided that if a sufficient number of competent employees have been appropriately designated on all the relevant construction sites, the appointed construction supervisor may supervise more than one site.

5.3 Notification of Intention to Commence Construction Work

The Contractor shall notify the Provincial Director of the Department of Labour of the intention to commence construction work at least 7 days prior to the works commencing if the intended construction work will:

- i) include excavation work
- ii) Include work at height where there is a risk of falling
- iii) Include the demolition of a structure, or

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- iv) Include the use of explosives to perform construction work.

If the construction work involves construction of a single storey dwelling for a client, and such client will be residing in such dwelling upon completion, the contractor must also notify the Provincial Director of the Department of Labour at least 7 days before the works commence.

This must be done on a form similar to an Annexure 2 (template of which can be found in the Construction Regulations, 2014). A copy of the notification letter to the Provincial Director shall be forwarded to the Client for record purposes.

5.4 Construction Work Permit

It must be noted that from August 2015 all projects that meet the following criteria will require a construction work permit to be applied for at least 30 days prior to the work being carried out:

- i) Exceeds 180 days
- ii) Will involve more than 1800 person days of construction work
- iii) Works contract is of a value equal to or exceeding thirteen million rand, or Construction Industry Grading Board (CIDB) grading level 6

It is the client's responsibility to apply for this permit from the Provincial Director and construction work may not commence until the permit has been issued by the Provincial Director.

A copy of this permit will be required to be kept in the principal contractors safety file, and the site specific number issued by the Provincial Director must be displayed at the site entrance.

5.5 Assignment of Contractor's Responsible Persons to Manage Health and Safety on Site

The Contractor shall submit management and supervisory appointments as well as any relevant appointments in writing (as stipulated by the Construction Regulations 2014 and the Occupational Safety and Health Act 1993), prior to commencement of work (refer to **Annexure B** at the end of this Health and Safety Specification).

5.6 Competency for Contractor's Responsible Persons

The Contractor's responsible persons shall be competent in health and safety and be familiar with the Occupational Health and Safety Act 1993, and applicable regulations. Valid proof of pertinent health and safety courses attended by such persons will be required to be presented to the Client.

5.7 Compensation of Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

The successful Contractor shall submit to the Client a valid letter of good standing with the Compensation Insurer prior to appointment.

5.8 Occupational Health and Safety Policy

The Contractor shall submit their Health and Safety Policy, prior to construction commencement, signed by the Chief Executive Officer. The Policy must outline objectives and how they will be achieved and implemented within the operations.

5.9 Health and Safety Organogram

The Contractor shall submit an organogram, prior to construction commencement, outlining the Health and Safety Site Team that will be assigned to the project, if successful with the tender. In cases where appointments have not been made, the organogram shall reflect the position. The organogram shall be updated, when there is a change in the site team.

5.10 Risk Assessments

Baseline Risk Assessment

The Client shall cause a baseline risk assessment to be conducted by a competent person before the design process and tender process commence, and the assessed risks shall form part of the health and safety specifications.

The Contractor must, before commencement of any construction work, and during construction work, have risk assessments performed by a competent person appointed in writing, which risk assessments form part of the health and safety plan to be applied on the site and must include:

- i) The identification of the risks and hazards to which persons may be exposed to;
- ii) An analysis and evaluation of the risks and hazards identified; based on a documented method
- iii) A documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards that have been identified;
- iv) A monitoring plan; and
- v) A review plan

The Contractor must ensure that, as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in a risk assessment.

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The Contractor must ensure that all employees under his control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures and/or control measures **before any work commences** and thereafter **at the times determined in the risk assessment monitoring and review plan of the relevant site**.

The Principal Contractor must ensure that all contractors are informed regarding any hazard that is stipulated in the risk assessment **before any work commences** and thereafter **at the times determined in the risk assessment monitoring and review plan of the relevant site**.

The Contractor must consult with the health and safety committee or with a representative trade union or representative group of employees if no health and safety committee exists, on the monitoring and review of the risk assessments for the site.

The Contractor must ensure that copies of risk assessment for this site are available on site for inspection purposes by interested parties (inspector, the client, client's agent, any contractor, any employee, a representative trade union, a health and safety representative or safety committee member.

A Contractor must review the relevant risk assessment where changes are effected to the design and/or construction that result in a change to the risk profile, or when an incident has occurred.

Preventative measures must first address the elimination of the hazard or risk. Should PPE be required to reduce risk, the equipment or clothing to be used must be SABS approved.

In general the Contractor must ensure that the Risk Assessment involves identifying the hazards present in a work activity on site. This is followed by an evaluation of the extent of the risk involved taking into account those precautions already being taken.

The following general principle should be followed when conducting a risk assessment:

- i) All relevant risks and/or hazards should be systematically addressed;
- ii) The risk assessment should address what actually happens in the workplace during the work activity;
- iii) All employees and those who may be affected must be considered, including maintenance staff, security guards, visitors and subcontractors;
- iv) The risk assessment should highlight those groups and individuals who may be required to work alone or who have disabilities;
- v) The risk assessment process should take into account the existing safety measures and controls.
- vi) The level of detail on a risk assessment should be appropriate to the level of risk.

5.11 Safe Work Procedures

Safe Work Procedures are to form part of the H&S Plan and **must be compiled for all the identified activities**.

The safe work procedures must address the following elements:

- i) The work method to be followed to conduct work safely
- ii) Mitigation of identified risks
- iii) Reducing and controlling risks and hazards that have been identified
- iv) Responsibilities of competent persons
- v) Required personal protective equipment
- vi) Correct equipment/tools/machinery to be used
- vii) Reference to relevant registers to be completed
- viii) Reference to applicable risk assessment

5.12 Health and Safety Representative(s)

The Contractor shall ensure that Health and Safety Representative(s) is/are elected and trained to carry out his / her functions. The appointment must be in writing. The Health and Safety Representative shall carry out regular inspections, keep records and report to the supervisor to take appropriate action. He / she shall attend Health and Safety Committee Meetings. The Health and Safety Representative shall be part of the team that will investigate incidents, accidents and non-conformances.

5.13 Health and Safety Committee

Where two or more health and safety representatives have been appointed on site, the Contractor shall ensure that monthly health and safety meetings are held with such representatives and minutes are kept on record. Meetings must be organized and chaired by the Contractor's Health and Safety Committee Chairperson. Minutes of these meetings must be available for the employees of the contractor to refer to.

5.14 Medical Certificate of Fitness

The contractor must ensure that their employees on site have a valid medical certificate of fitness, specific to the construction work being performed, issued by an occupational health practitioner in the form of an Annexure 3 template (refer to the Construction Regulations 2014 on the Department of Labour website for a sample of this form).

5.15 Health and Safety Training

The Contractor shall quarterly conduct a training needs analysis to ascertain what health and safety training is required. A plan of action should be devised and forwarded to the

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Client for records. Once the identified people have attended the training, the Contractor must provide the Client with copies of certificates obtained.

5.15.1 Induction

No Contractor may allow or permit any employee or person to enter site unless they have undergone health and safety induction training pertaining to the hazards prevalent on site at the time of entry. This includes visitors to site. The Contractor must ensure that visitors to site have the necessary protective equipment (PPE). A copy of attendance registers of all employees who attend inductions shall be kept.

5.15.2 Awareness

The Contractor shall conduct periodic toolbox talks on site, preferably weekly or before any hazardous work takes place. The talks shall cover the relevant activity and an attendance register must be signed by all attendees. This record of who attended and the content of the topic will be kept on the site health and safety file as evidence of training.

5.16 Competency

After the Contractor has identified the training to be conducted as part of the competency requirement, and based on Risk Assessment, he shall send the relevant persons on appropriate courses and keep certificates of training for reference. Familiarity with the Health and Safety Act and Regulations is an integral part of the definition of competence.

5.17 General Record Keeping

The Contractor shall keep and maintain Health and Safety records to demonstrate compliance with the Health and Safety Specification and the Occupational Health and Safety Act. The contractor shall ensure that all records of incidents, spot fines, training etc. are kept on site. All documents shall be available for inspection by the Client, or the Department of Labour's Inspectors.

5.18 General Inspection, Monitoring and Reporting

The Contractor shall carry out inspections as required by **Annexure C** in this Health and Safety Specification, as well as by health and safety legislation.

5.19 Emergency Procedures

The Contractor shall submit a detailed Emergency Procedure for approval by the Client prior to commencement on site. The procedure shall detail the response plan including the following:

- i) List of key personnel;
- ii) Details of emergency services;
- iii) Actions or steps to be taken in the event of the emergency; and
- iv) Information on hazardous materials / situations, including each material's hazardous potential impact or risk on the environment or human and measures to be taken in the event of an accident.

Emergency procedure(s) shall include, but shall not be limited to, fire, spills, accidents to employees, use of hazardous substances, dangers as a result of riot / service deliver protests / intimidation, etc. The Contractor shall advise the Client in writing of any on-site emergencies, together with a record of action taken, within 24 hours of the emergency occurring. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc) must be maintained and available to site personnel.

5.20 First Aid Box and First Aid Equipment

The Contractor shall provide first aid box/es and appoint, in writing, First Aider(s) for this project in line with the results of the Contractor's risk assessment for the project, this health and safety specification as well as the provisions of the General Safety Regulations. The appointed First Aider(s) are to be sent for accredited first aid training before starting on site. Valid certificates are to be kept on site.

First Aid box/es must be adequately stocked at all time, accessible and be controlled by a qualified First Aider. If required by the Client, the Contractor shall have a stretcher on site to be used in case of a serious incident.

5.21 Accident / Incident Reporting and Investigation

The Contractor shall, in addition to the prescribed requirements of the Occupational Health and Safety Act and General Safety Regulations, investigate, record and report all Section 24 reportable incidents to the Client within 24 hours of the incident occurring. Incident investigations shall be conducted by the Contractor's appointed Accident Investigator – this Investigator must be a competent person or persons who have sufficient knowledge to carry out an investigation.

In the event of a fatality or a permanent disabling injury the Contractor must submit proof of reporting of incident to Department of Labour as well as proof of preventative measures to

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the Client. The Client reserves the right to conduct investigations into any incidents that they deem fit and the Contractor is required to provide full co-operation in this regard.

5.22 Hazards and Potential Situations

The Contractor shall immediately notify other Contractors of any hazardous or potentially hazardous situations, which may arise during performance of the activities.

5.23 Occupational Health and Safety Signage

The Contractor shall ascertain and provide adequate on-site health and safety signage. This signage shall include, but shall not be limited to, Hard Hat / Helmet Area; Safety Shoes to be worn on site; Dust Masks to be worn in areas where there might be exposure to excessive dust; Ear Plugs / Muffs to be worn where there might be noise exposure over 85 db; Gloves; Safety Goggles; Safety Harness, Workers in Excavation, traffic management, etc. The Contractor shall be responsible to maintain the quality and replacement of signage.

5.24 Management Of Contractors by Principal Contractor

The Principal Contractor shall ensure that all contractors under his control are complying with the respective Health and Safety Plans, as well as Health and Safety Legislation.

5.25 Stacking of Materials

In addition to the provisions for the stacking of articles in the General Safety Regulations, 2003, the contractor must ensure that –

- i) a competent person is appointed in writing with the duty of supervising all stacking and storage on a construction site;
- ii) adequate storage areas are provided;
- iii) there are demarcated storage areas; and
- iv) storage areas are kept neat and under control.

5.26 Housekeeping and General Safeguarding on Construction Sites

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, promulgated by Government Notice No. R. 2281 of 16 October 1987, ensure that suitable housekeeping is continuously implemented on each construction site, including-

- i) the proper storage of materials and equipment;
- ii) the removal of scrap, waste and debris at appropriate intervals;

- iii) ensuring that materials required for use, are not placed on the site so as to obstruct means of access to and egress from workplaces and passageways;
- iv) ensuring that materials which are no longer required for use, do not accumulate on and are removed from the site at appropriate intervals;
- v) ensuring that waste and debris are not disposed of from a high place with a chute, unless the chute complies with the requirements set out in the regulations;
- vi) ensuring that construction sites in built-up areas adjacent to a public way are suitably and sufficiently fenced off and provided with controlled access points to prevent the entry of unauthorized persons; and
- vii) ensuring that a catch platform or net is erected above an entrance or passageway or above a place where persons work or pass under, or fencing off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe in the case of danger of possibility of persons being struck by falling objects.

5.27 Construction Vehicles and Mobile Plant

A contractor must ensure that all construction vehicles and mobile plant-

- i) are of an acceptable design and construction;
- ii) are maintained in a good working order;
- iii) are used in accordance with their design and the intention for which they were designed, having due regard to safety and health;
- iv) are operated by a person who-
- v) has received appropriate training, is certified competent and in possession of proof of competency and is authorised in writing to operate those construction vehicles and mobile plant;
- vi) has a medical certificate of fitness to operate those construction vehicles and mobile plant, issued by an occupational health practitioner in the form of Annexure 3.
- vii) have safe and suitable means of access and egress;
- viii) are properly organized and controlled in any work situation by providing adequate signalling or other control arrangements to guard against the dangers relating to the movement of vehicles and plant, in order to ensure their continued safe operation;
- ix) are prevented from falling into excavations, water or any other area lower than the working surface by installing adequate edge protection, which may include guard-rails and crash barriers;
- x) are fitted with structures designed to protect the operator from falling material or from being crushed should the vehicle or mobile plant overturn;
- xi) are equipped with an acoustic warning device which can be activated by the operator;
- xii) are equipped with an automatic acoustic reversing alarm; and
- xiii) are inspected by the authorised operator or driver on a daily basis using a relevant checklist prior to use and that the findings of such inspection are recorded in a register kept in the construction vehicle or mobile plant.

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A contractor must ensure that-

- i) no person rides or is required or permitted to ride on a construction vehicle or mobile plant otherwise than in a safe place provided thereon for that purpose;
- ii) every construction site is organized in such a way that, as far as is reasonably practicable, pedestrians and vehicles can move safely and without risks to health;
- iii) the traffic routes are suitable for the persons, construction vehicles or mobile plant using them, are sufficient in number, in suitable positions and of sufficient size;
- iv) every traffic route is, where necessary, indicated by suitable signs;
- v) all construction vehicles and mobile plant left unattended at night, adjacent to a public road in normal use or adjacent to construction areas where work is in progress, have appropriate lights or reflectors, or barricades equipped with appropriate lights or reflectors, in order to identify the location of the vehicles or plant;
- vi) all construction vehicles or mobile plant when not in use, have buckets, booms or similar appendages, fully lowered or blocked, controls in a neutral position, motors stopped, wheels chocked, brakes set and ignition secured;
- vii) whenever visibility conditions warrant additional lighting, all mobile plant are equipped with at least two headlights and two taillights when in operation;
- viii) tools, material and equipment are secured and separated by means of a physical barrier in order to prevent movement when transported in the same compartment with employees;
- ix) vehicles used to transport employees have seats firmly secured and adequate for the number of employees to be carried; and
- x) all construction vehicles or mobile plant travelling, working or operating on public roads comply with the requirements of the National Road Traffic Act, 1996.

5.28 Electrical Installations and Machinery on Construction Sites

A contractor must, in addition to compliance with the Electrical Installation Regulations and the Electrical Machinery Regulations, ensure that –

- i) before construction commences and during the progress thereof, adequate steps are taken to ascertain the presence of and guard against danger to workers from any electrical cable or apparatus which is under, over or on the site;
- ii) all parts of electrical installations and machinery are of adequate strength to withstand the working conditions on construction sites;
- iii) the control of all temporary electrical installations on the construction site is designated to a competent person who has been appointed in writing for that purpose;
- iv) all temporary electrical installations used by the contractor are inspected at least once a week by a competent person and the inspection findings are recorded in a register kept on the construction site; and

- v) all electrical machinery is inspected by the authorized operator or user on a daily basis using a relevant checklist prior to use and the inspection findings are recorded in a register kept on the construction site.

5.29 Use and Temporary Storage of Flammable Liquids on Construction Sites

A contractor must, in addition to compliance with the provisions for the use and storage of flammable liquids in the General Safety Regulations, 2003, ensure that –

- i) where flammable liquids are being used, applied or stored at the workplace concerned, it is done in a manner that does not cause a fire or explosion hazard, and that the workplace is effectively ventilated;
- ii) no person smokes in any place in which flammable liquid is used or stored, and the contractor must affix a suitable and conspicuous notice at all entrances to any such areas prohibiting such smoking;
- iii) an adequate amount of efficient fire-fighting equipment is installed in suitable locations around the flammable liquids store with the recognized symbolic signs;
- iv) only the quantity of flammable liquid needed for work on one day is taken out of the store for use;
- v) all containers holding flammable liquids are kept tightly closed when not in actual use and, after their contents have been used up, are removed from the construction site and safely disposed of;
- vi) where flammable liquids are decanted, the metal containers are bonded and earthed; and
- vii) no flammable material, including cotton waste, paper, cleaning rags or similar material is stored together with flammable liquids

5.30 Water environments

- A Contractor must ensure that where construction work is done over or in close proximity to water, provision is made for-
 - (a) preventing persons from falling into water; and
 - (b) the rescuing of persons in danger of drowning.
- A Contractor must ensure that where a person is exposed to the risk of drowning by falling into the water, the person is provided with and wears a lifejacket.

5.31 Fire precautions on Construction Sites

A contractor must, in addition to compliance with the Environmental Regulations for Workplaces, 1987, ensure that –

- i) all appropriate measures are taken to avoid the risk of fire;

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- ii) sufficient and suitable storage is provided for flammable liquids, solids and gases;
- iii) smoking is prohibited and notices in this regard are prominently displayed in all places containing readily combustible or flammable materials;
- iv) in confined spaces and other places in which flammable gases, vapours or dust can cause danger-
 - 1. only suitably protected electrical installations and equipment, including portable lights, are used;
 - 2. there are no flames or similar means of ignition;
 - 3. there are conspicuous notices prohibiting smoking;
 - 4. oily rags, waste and other substances liable to ignite are without delay removed to a safe place; and
 - 5. adequate ventilation is provided;
- i) combustible materials do not accumulate on the construction site;
- ii) welding, flame cutting and other hot work are done only after appropriate precautions have been taken to reduce the risk of fire;
- iii) suitable and sufficient fire-extinguishing equipment is placed at strategic locations or as may be recommended by the Fire Chief or local authority concerned, and that such equipment is maintained in a good working order;
- iv) the fire equipment contemplated above is inspected by a competent person, who has been appointed in writing for that purpose, in the manner indicated by the manufacturer thereof;
- v) a sufficient number of workers are trained in the use of fire- extinguishing equipment;
- vi) where appropriate, suitable visual signs are provided to clearly indicate the escape routes in the case of a fire;
- vii) the means of escape is kept clear at all times;
- viii) there is an effective evacuation plan providing for all -
 - 1. persons to be evacuated speedily without panic;
 - 2. persons to be accounted for; and
 - 3. plant and processes to be shut down; and
 - 4. a siren is installed and sounded in the event of a fire.

5.32 Construction Employees' Facilities

A contractor must, in terms of the Construction Regulations 2014, provide:

- i) Shower facilities after consultation with the employees or employees representatives, or at least one shower facility for every 15 persons;
- ii) at least one sanitary facility for each sex and for every 30 workers;
- iii) changing facilities for each sex;
- iv) and sheltered eating area.

A contractor must provide reasonable and suitable living accommodation for the workers at construction sites who are far removed from their homes and where adequate transportation between the site and their homes, or other suitable living accommodation, is not available.

5.33 Fall protection

The Contractor must:

- i) designate a competent person to be responsible for the preparation of a fall protection plan
- ii) ensure that the fall protection plan contemplated above is implemented, amended where and when necessary and maintained as required; and
- iii) take steps to ensure continued adherence to the fall protection plan.

A fall protection plan contemplated above must include-

- i) a risk assessment of all work carried out from a fall risk position and the procedures and methods used to address all the risks identified per location;
- ii) the processes for the evaluation of the employees' medical fitness necessary to work at a fall risk position and the records thereof;
- iii) a programme for the training of employees working from a fall risk position and the records thereof;
- iv) the procedure addressing the inspection, testing and maintenance of all fall protection equipment; and
- v) a rescue plan detailing the necessary procedure, personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.

A contractor must ensure that a construction manager appointed under regulation 8(1) is in possession of the most recently updated version of the fall protection plan.

A contractor must ensure that all unprotected openings in floors, edges, slabs, hatchways and stairways are adequately guarded, fenced or barricaded or that similar means are used to safeguard any person from falling through such openings;

Also that no person is required to work in a fall risk position, unless such work is performed safely as contemplated in above and fall prevention and fall arrest equipment are approved as suitable and of sufficient strength for the purpose for which they are being used, having regard to the work being carried out and the load, including any person, they are intended to bear; and securely attached to a structure or plant, and the structure of plant and the means of attachment thereto are suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and person who could fall, and fall arrest equipment is used only where it is not reasonably practicable to use fall prevention equipment.

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5.34 Temporary works

A contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on site before use.

A contractor must ensure that all temporary works operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose.

A contractor must ensure that-

- i) all temporary works structures are adequately erected, supported, braced and maintained by a competent person so that they are capable of supporting all anticipated vertical and lateral loads that may be applied to them, and that no loads are imposed onto the structure that the structure is not designed to withstand;
- ii) all temporary works structures are done with close reference to the structural design drawings, and where any uncertainty exists the structural designer should be consulted;
- iii) detailed activity specific drawings pertaining to the design of temporary works structures are kept on the site and are available on request to an inspector, other contractors, the client, the client's agent or any employee;
- iv) all persons required to erect, move or dismantle temporary works structures are provided with adequate training and instruction to perform those operations safely;
- v) all equipment used in temporary works structure are carefully examined and checked for suitability by a competent person, before being used;
- vi) all temporary works structures are inspected by a competent person immediately before, during and after the placement of concrete, after inclement weather or any other imposed load and at least on a daily basis until the temporary works structure has been removed and the results have been recorded in a register and made available on site;
- vii) no person may cast concrete, until authorization in writing has been given by the competent person contemplated above;
- viii) if, after erection, any temporary works structure is found to be damaged or weakened to such a degree that its integrity is affected, it is safely removed or reinforced immediately;
- ix) adequate precautionary measures are taken in order to-
- x) secure any deck panels against displacement; and
- xi) prevent any person from slipping on temporary works due to the application of release agents;
- xii) as far as is reasonably practicable, the health of any person is not affected through the use of solvents or oils or any other similar substances;
- xiii) upon casting concrete, the temporary works structure is left in place until the concrete has acquired sufficient strength to safely support its own weight and any imposed load, and is not removed until authorization in writing has been given by the competent person

- xiv) the foundation conditions are suitable to withstand the loads caused by the temporary works structure and any imposed load in accordance with the temporary works design.
- xv) provision is made for safe access by means of secured ladders or staircases for all work to be carried out above the foundation bearing level;
- xvi) a temporary works drawing or any other relevant document includes construction sequences and methods statement;
- xvii) the temporary works designer has been issued with the latest revision of any relevant structural design drawing;
- xviii) a temporary works design and drawing is used only for its intended purpose and for a specific portion of a construction site; and
- xix) the temporary works drawings are approved by the temporary works designer before the erection of any temporary works.

No contractor may use a temporary works design and drawing for any work other than its intended purpose.

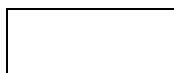
5.35 Excavation

A contractor must-

- i) ensure that all excavation work is carried out under the supervision of a competent person who has been appointed in writing for that purpose; and
- ii) Evaluate, as far as is reasonably practicable, the stability of the ground before excavation work begins.

A contractor who performs excavation work-

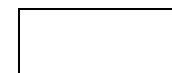
- i) must take reasonable and sufficient steps in order to prevent, as far as is reasonably practicable, any person from being buried or trapped by a fall or dislodgement of material in an excavation;
- ii) may not require or permit any person to work in an excavation which has not been adequately shored or braced: Provided that shoring and bracing may not be necessary where-
- iii) the sides of the excavation are sloped to at least the maximum angle of repose measured relative to the horizontal plane; or
- iv) such an excavation is in stable material: Provided that-
- v) permission has been given in writing by the appointed competent person contemplated above upon evaluation by him or her of the site conditions; and
- vi) where any uncertainty pertaining to the stability of the soil still exists, the decision from a professional engineer or a professional technologist competent in excavations



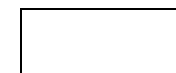
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is decisive and such a decision must be noted in writing and signed by both the competent person and the professional engineer or technologist, as the case may be;

vii) must take steps to ensure that the shoring or bracing contemplated above is designed and constructed in a manner that renders it strong enough to support the sides of the excavation in question;

viii) must ensure that no load, material, plant or equipment is placed or moved near the edge of any excavation where it may cause its collapse and consequently endangers the safety of any person, unless precautions such as the provision of sufficient and suitable shoring or bracing are taken to prevent the sides from collapsing;

ix) must ensure that where the stability of an adjoining building, structure or road is likely to be affected by the making of an excavation, steps are taken to ensure the stability of such building, structure or road and the safety of persons;

x) must cause convenient and safe means of access to be provided to every excavation in which persons are required to work, and such access may not be further than six meters from the point where any worker within the excavation is working;

xi) must ascertain, as far as is reasonably practicable, the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed, and must before the commencement of excavation work that may affect any such service, take the steps that are necessary to render the circumstances safe for all persons involved;

1. must ensure that every excavation, including all bracing and shoring, is inspected-
2. daily, prior to the commencement of each shift;
3. after every blasting operation;
4. after an unexpected fall of ground;
5. after damage to supports; and
6. after rain,

by the competent person, in order to ensure the safety of the excavation and of persons, and those results must be recorded in a register kept on site and made available on request to an inspector, the client, the client's agent, any other contractor or any employee;

i) must cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or whereby the safety of persons may be endangered, to be –

1. adequately protected by a barrier or fence of at least one metre in height and as close to the excavation as is practicable; and
2. provided with warning illuminates or any other clearly visible boundary indicators at night or when visibility is poor, or have resort to any other suitable and sufficient precautionary measure where this is not practicable;

ii) must ensure that all precautionary measures stipulated for confined spaces as determined in the General Safety Regulations, 2003, are complied with by any person entering any excavation;

iii) must, where the excavation work involves the use of explosives, appoint a competent person in the use of explosives for excavation, and must ensure that a method statement is developed by that person in accordance with the applicable explosives legislation; and

iv) must cause warning signs to be positioned next to an excavation within which or where persons are working or carrying out inspections or tests.

5.36 Demolition Work

Not applicable on this project.

5.37 Tunnelling

Not applicable on this project.

5.38 Scaffolding

A contractor must appoint a competent person in writing who must ensure that all scaffolding work operations are carried out under his or her supervision and that all scaffold erectors, team leaders and inspectors are competent to carry out their work.

A contractor using access scaffolding must ensure that such scaffolding, when in use, complies with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act.

5.39 Bulk mixing plant

A contractor must ensure that the operation of a bulk mixing plant is supervised by a competent person who has been appointed in writing and is –

- i) aware of all the dangers involved in the operation thereof; and
- ii) conversant with the precautionary measures to be taken in the interest of health and safety.

No person supervising or operating a bulk mixing plant may authorize any other person to operate the plant, unless that person is competent to operate a bulk mixing plant.

A contractor must ensure that the placement and erection of a bulk mixing plant complies with the requirements set out by the manufacturer and that such plant is erected as designed.

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A contractor must ensure that all devices to start and stop a bulk mixing plant are provided and that those devices are placed in an easily accessible position and constructed in a manner to prevent accidental starting.

A contractor must ensure that the machinery and plant selected is suitable for the mixing task and that all dangerous moving parts of a mixer are placed beyond the reach of persons by means of doors, covers or other similar means.

No person may remove or modify any guard or safety equipment relating to a bulk mixing plant, unless authorized to do so by the appointed person.

A contractor must ensure that all precautionary measures stipulated for confined spaces as determined in the General Safety Regulations, 2003, are complied with when entering any silo.

A contractor must ensure that a record is kept of all repairs or maintenance to a bulk mixing plant and that the record is available on site to an inspector, the client, the client's agent or any employee.

5.40 Rope Access Work

Not applicable on this project.

5.41 Regulations for Hazardous Chemical Agent (HCS)

In addition to the requirements in the HCS Regulations, the principal contractor must provide proof in the Health and Safety Plan that:

- i) Material Safety Data Sheets (MSDS's) of the relevant materials / Regulations for Hazardous Chemical Agent are available prior to use by the contractor. All MSDS's shall be available for inspection by the agent at all times.
- ii) Risk assessments are done at least once every 6 months.
- iii) Exposure monitoring is done according to OESSM and by an Approved Inspection Authority (AIA) and that the medical surveillance programme is based on the outcomes of the exposure monitoring.
- iv) How the relevant HCS's are being/going to be controlled by referring to:
 1. Limiting the amount of HCS
 2. Limiting the number of employees
 3. Limiting the period of exposure
 4. Substituting the HCS

5. Using engineering controls
6. Using appropriate written work procedures

- i) The correct PPE is being used.
- ii) HCS are stored and transported according to SABS 072 and 0228.
- iii) Training with regards to these regulations was given.

The Health and Safety plan should make reference to the disposal of hazardous waste on classified sites and the location thereof (where applicable).

The First Aider must be made aware of the MSDS and trained in how to treat HCS incidents appropriately.

5.42 Hazardous Biological Substances (HBS)

Because of the possible exposure of workers to raw sewage the H&S Plan shall include details of the following:

- i) The conducting of Risk Assessment specifically aimed at exposure to HBA which shall include the following
 1. Nature and dose of HBA
 2. Where HBA may be present and in what physical form
 3. The nature of work or process
 4. Steps in the event of failure of control measures
 5. The effect of the HBA
 6. The period of exposure
 7. Control measures to be implemented
- ii) Monitoring of exposure of workers shall be conducted to establish whether any worker is infected with an HBA associated with working or being exposed to raw sewage, in terms of the following:
 1. By an occupational medical practitioner
 2. Before entering the site to establish the workers baseline
 3. During the period of the contract the risk assessment indicate possible exposure
 4. After completion of the contract
- i) Medical surveillance should such be required after the above-mentioned by an occupational health practitioner.
- ii) Indication on how all records of assessment, monitoring, etc will be kept, taking into account that records have to be kept for a period of 40 years.
- iii) How exposure to HBA is to be controlled
- iv) The provision of personal protective equipment
- v) What information and training is to be provided to employees regarding the following:

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1. The contents of these regulations
2. Potential risks to health
3. Control measures to be implemented
4. The correct use and maintenance of personal protective equipment
5. The results of the risk assessment.

5.43 Noise Induced Hearing Loss

Where noise is identified as a hazard the requirements of the NIHL regulations must be complied with and the following must be included / referred to in the Health and Safety Plan:

- i) Proof of training with regards to these regulations.
- ii) Risk assessment done within 1 month of commencement of work.
- iii) That monitoring carried out by an AIA and done according to SABS 083.
- iv) Medical surveillance programme established and maintained for the necessary employees.
- v) Control of noise by referring to:
 1. Engineering methods considered
 2. Admin control (number of employees exposed) considered
 3. Personal protective equipment considered/decided on
 4. Describe how records are going to be kept for 40 years.

5.44 Explosives and Blasting

Not applicable on this project.

5.45 Personal Protective Equipment (PPE)

The Contractor shall carry out PPE or clothing needs analysis in accordance with his risk assessment, to determine the necessary PPE or clothing to be used during construction. The Contractor shall make provision and keep adequate quantities of SABS approved PPE or clothing on site at all times.

The Contractor must ensure that personnel are trained in the correct use of PPE to be used.

The Contractor must ensure that lost, stolen, worn out or damaged PPE is replaced as required and receipt signed for by employees on site.

5.46 Asbestos

Not applicable on this project.

Should asbestos be identified as a hazard whilst work is carried out, the following must be included in the health and safety plan:

- i) Notification to the Provincial Director in writing, prior to commencement of asbestos work.
- ii) Proof of a structured medical surveillance programme, drawn up by an occupational medicine practitioner.
- iii) Proof that an occupational health practitioner carried out an initial health evaluation within 14 days after commencement of work.
- iv) Copies of the results of all assessments, exposure monitoring and the written inventory of the location of the asbestos at the workplace.
- v) Only proof that medical surveillance has been conducted and not the actual records itself since these areas of a confidential nature.
- vi) How records are going to be kept safe for the stipulated period of 40 years.
- vii) Proof that asbestos demolition (if applicable) is going to be done by a registered asbestos contractor and provide proof that a plan of work for such demolition is submitted to an Approved Asbestos Inspection Authority 30 days prior to commencement of the demolition.
- viii) Provide proof that the plan of work was approved by the asbestos AIA and submitted to the provincial director 14 days prior to commencement of demolition work together with the approved standardised procedures for demolition work

5.47 Lead

Not applicable on this project.

Should lead be identified as a hazard whilst work is carried out, the following must be included in the health and safety plan:

- i) Proof that an occupational health practitioner carried out an initial health evaluation within 14 days after commencement of work.
- ii) Copies of the results of all assessments, exposure monitoring and the written inventory of the location of the lead at the workplace.
- iii) Only proof that medical surveillance has been conducted and not the actual records since these are of a confidential nature.
- iv) How records are going to be kept safe for the stipulated period of 40 years.

5.48 Pressure Vessels (Including Gas Bottles)

Not applicable on this project.

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5.49 Fire Extinguishers and Fire Fighting Equipment

The Contractor shall provide adequate, regularly serviced fire extinguishers located at strategic points on site. The Contractor shall keep spare serviced portable fire extinguishers. The Contractor shall have adequate persons trained or competent to use the Fire Fighting Equipment.

Safety signage shall be posted up in all areas where fire extinguishers are located.

5.50 Lifting Machinery and Tackle

Not applicable on this project.

5.51 Ladders and Ladder work

The Contractor shall ensure that all ladders are numbered and inspected regularly keeping record of inspections. It should be noted that Aluminium ladders are preferred to wooden ladders.

5.52 General Machinery

The Contractor shall comply with the Driven Machinery Regulations, which include inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE or clothing and training those that use machinery and enforce compliance.

5.53 Portable Electrical Tools

The Contractor shall ensure that use and storage of all explosive actuating fastening devices and portable electrical tools are in compliance with relevant legislation.

The Contractor shall consider that:

- i) A competent person undertakes routine inspections;
- ii) Only authorised persons use the tools;
- iii) There are safe working procedures applied;
- iv) Awareness training is carried out and compliance is enforced at all times; and
- v) PPE and clothing is provided and maintained.

5.54 High Voltage Electrical Equipment

The Contractor shall ensure that, where the work is under, on or near high-voltage electrical equipment the Electrical Installation Regulations, together with safety instructions (Regulations of the Owner of the Equipment) are complied with. Such equipment includes:

- i) Eskom and the Local Authority equipment
- ii) The Contractor's own power supply; and
- iii) Electrical equipment being installed but not yet taken over from a Contractor by The Client.

5.55 Public Health and Safety

The Contractor shall ensure that each person working on or visiting a site, and the surrounding community, shall be made aware of the dangers likely to arise from on site activities and the precautions to be observed to avoid or minimize those dangers. Appropriate health and safety signage shall be posted at all times.

5.56 Night Work

Not applicable on this project.

5.57 Lighting

Where poor or lack of illumination is identified as a hazard the lighting regulations must be complied with and the following must be included in the H&S Plan:

- i) How lighting will be ensured/ provided where daylight is not sufficient and /or after hours are worked.
- i) Planned maintenance programme for replacing luminaries.
- ii) Proof of illumination levels of artificial illumination equipment.

5.58 Environmental Conditions and Flora and Fauna

The Contractor must be mindful of adverse weather conditions upon the health and safety of the workforce. This includes inclement weather, strong wind, heat stress, extreme cold, etc. The Contractor's risk assessment process must take into account the risks associated with such weather conditions. The same is true when working in an environment where there is a risk to employees' health and safety from presence of poisonous flora, or wildlife (including bees, snakes, etc). The Contractor's risk assessment process must take these risks into account.

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5.59 Occupational Health

Exposure of workers to occupational health hazards and risks are very common in any work environment, especially in construction. Occupational health hazards and risks exposure is a major problem and all Contractors are to ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards and risks.

The occupational hazards and risks may enter the body in three ways:

- i) Inhalation through breathing e.g. cement dust;
- ii) Ingestion through swallowing maybe through food intake;
- iii) Absorption through the skin (pores) e.g. painting or use of thinners.

The contractor is required to ensure that all his personnel are medically fit prior to being allowed onto the work site.

All Contractors should ensure that Occupational Hygiene surveys are conducted as per the Occupational Health and Safety Act to ensure employees are not exposed to hazards. Risk Assessments should identify areas where surveys are to be conducted.

5.60 Suspended Platforms

Not applicable on this project.

5.61 Material Hoists

Not applicable on this project.

5.62 Explosive Actuated Fastening Device

Not applicable on this project

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6. TRAINING, INSPECTIONS AND RECORDS

The Contractor must be aware of the following additional requirements:

What	When	Output
Awareness training (Toolbox Talks)	At least fortnightly and before hazardous work is carried out	Attendance Register
Health and Safety Committee Meetings	Monthly	Minutes signed by employer
Health and Safety Reports	Monthly	Report covering: a) Incidents / Accidents and investigation b) Non conformance c) Health and Safety Training d) HIRA Updates e) Internal & External Audits
General Inspections	As per Health and Safety Specifications & OHSA	Report of Health and Safety Specifications and OHSA compliance: a) Scaffolding b) Lifting Machinery c) Excavations d) Construction vehicle
General Inspections	Monthly	Covering: a) Fire Fighting Equipment b) Portable Electrical Equipment c) Hand Tools d) Ladders
Record Keeping	On-going	Covering: a) General Complaints b) Fines c) General Incidents d) MSDS e) Surveillance Medicals f) Inspection Registers g) Department of Labour Notices

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ANNEXURE A

The contractor shall submit the info below in an Annexure 2 prior to construction commencement.

Item No.	Health and Safety Specification Requirement	OHS Act Requirement	Submission date
1	Notification of Intention to Commence Construction	Construction Regulation 2014	At least 7 days before commencement on site
2	Construction Work Permit	Construction Regulation 2014	At least 30 days prior to project commencement
3	Assignment of Responsible Person to Manage Electrical Works Via Health and Safety Organogram	Construction Regulation 2014	Before commencement on site
4	Competency for Health and Safety Positions	Client / Client Agent requirement	Before commencement on site
5	Letter of Good Standing	Compensation of Occupational Injuries & Disease Act (COIDA) 130 of 1993	Before commencement on site
6	Occupational Health and Safety Policy	Client / Client Agent requirement	Before commencement on site
7	Risk Assessment, Safety Plan, Demolition Method Statement	Client / Client Agent requirement	Before commencement on site

ANNEXURE B: APPOINTMENTS

The Contractor shall make the following appointments:

No.	Description	No.	Description
1	Chief Executive Officer (OSHACT 16(1))	17	Material Hoist Inspector (CR19(8)(a))
2	Contract Director/Manager (OSHACT 16(2))	18	Material Hoist Operator (CR19(6))
3	Construction Manager (CR 8(1))	19	Bulk Mixing Plant Supervisor (CR20(1))
4	Construction Supervisor (CR 8(7))	20	Bulk Mixing Plant Operator (CR20(2))
5	Assistant Construction Supervisor (CR 8(8))	21	Controller of Explosive Actuated Fastening Devices (CR21(2)(g)(1))
6	Construction Safety Officer (CR 8(5))	22	Construction Vehicle and Mobile Plant Operator (CR23(1)(d)(i))
7	Construction risk assessor (CR 9(1))	23	Controller of Temporary Electrical Installations (CR24('c))
8	Fall Protection Competent Person (CR 10(1))	24	Stacking Supervisor (CR28(a))
9	Traffic Safety Officer	25	Fire Extinguishing Equipment Inspector (CR29(h))
10	Safety Representative (where > 20 employees on site)	26	Fire Fighters (CR29(i))
11	Temporary work Designer (CR 12(1))	27	First Aider (GSR 3)
12	Temporary work Supervisor (CR12(2))	28	Fall Protection Plan Developer (CR 10(1)(a))
13	Excavation Supervisor (CR13(1)(a))	29	Incident Investigator (OSHACT 9(2))
14	Demolition Supervisor (CR14(1))	30	Competent Person – Confined Spaces (GAR 5(1))
15	Scaffold Supervisor (CR16(1))	31	Health and Safety technical Committee (CR 31)
16	Suspended Platform Supervisor (CR17(1))	32	General Machinery Competent Person (GMR 2)

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7. PROJECT DETAILS

PROJECT DIRECTORY:		
Client:	SANParks 643 Leyds Street, Muckleneuk, PRETORIA, 0001 Contact: Ms A van Wyk	Tel: (012) 426 5126 email: antionet.vanwyk@sanparks.org
Client Agent	I&SP Unit 643 Leyds Street, Muckleneuk, PRETORIA, 0001 Contact: Mr E Barends	Tel: 021 983 9304 e-mail: elrich.barends@sanparks.org

PROJECT DETAILS:
Description of Works Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in the Garden Route National Park – Tsitsikamma Section
Anticipated Construction Duration 10 Months Contract
Provisional Start Date January 2025
Provisional Completion Date November 2025

EXISTING ENVIRONMENT:
Hazards particular to this project by virtue of location: Wild Animals: The site is located in the Garden Route National Park boundary and the park do have dangerous animals e.g. baboons, snakes. Special care must be taken and lookouts must be posted when working outside of construction vehicle. A lookout for baboons, snakes and scorpions is going to be required to protect the workers. Members of public and children: All necessary steps to be taken to protect the public from any dangers associated with the construction works being undertaken. Public Roads: The use of the roads network to be carefully planned to accommodate public, tenants and traffic.
Overhead, Above Ground and Underground Services crossing the site: Overhead: Not Applicable. Underground: Not Applicable Ground Level: Not Applicable Services Drawings available: Not applicable Way leaves required: Not Applicable Permits required: Not Applicable Isolation required: Not Applicable
Existing structures and surrounding land use (with a significant impact on Health and Safety): 3 cable-supported footbridges located at the mouth of the Storms River in the Tsitsikamma Section of the Garden Route National Park in the Eastern Cape, South Africa.
Existing ground conditions and ground survey report: Unknown
Existing Traffic Systems: Conditions: Tar Roads Restrictions to access: Applicable Speed restrictions: Normal road restrictions: 40km/h

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PROJECT HEALTH AND SAFETY REQUIREMENTS:
Significant health and safety hazards identified by Designer and Client Agent:

Accommodation of Traffic (Management Plan): The Principal Contractor must supply a proper and comprehensive Traffic Management Plan for the various sites within this identification, ie. the Site camp and surrounds as well as the work area and surrounds.

Members of the Public: The works is in a very busy area. The Principal Contractor is responsible for the safety of the workers as well as the public. The Principal Contractor will have to have sufficient warning & information signage to assist with the information to the public. The Principal Contractor will be responsible to have sufficient directional signage and to have proper road traffic management in place.

Wild animals: There are baboons, antelope, scorpions and probably snakes roaming the area and the principal Contractor will have to ensure that they or the workers do not get killed or hurt during the construction phase.

Normal construction hazards expected are as follow:

Bricklaying
 Brush Cutting
 Compacting and filling / Compactors Operations
 Concrete / Concrete pumping
 Electric Tools
 Excavations
 Fire
 Hand Tools
 Hazardous Substances
 Manual Handling of plant/material/equipment
 Members of public
 Noise and Dust
 Plant / Vehicle and Equipment Operations
 Site Establishment
 Snakes
 Animals
 Steel fixing
 Temporary Works
 Transportation of workers

NOTE: Please refer to the end of this Health and Safety Specification for the Baseline Risk Assessment of these risks.

ACTIVITIES REQUIRING APPROVED METHOD STATEMENTS

Excavations
 Casting of Concrete
 Steel Fixing

ACTIVITIES REQUIRING PERMITS

Permit to Dig / Permit to Enter Excavations: Not applicable on this project

Permit to Work with Electricity: Not applicable on this project

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Confined Space Permit:	Not applicable on this project
Hot Works Permit:	Not applicable on this project
Permit to work under Power Lines:	Not applicable on this project
Blasting:	Not applicable on this project
Temporary Works:	Yes - Authorization in writing by competent person

GENERAL ARRANGEMENTS		
Restrictions on times:	Monday - Friday 07:00 to 17:00	Saturday 07:00-13:00
Access to site by Construction Vehicles:	Yes, principal contractor to manage.	
Access to site by Construction workers & Visitors:	Visitors and personnel to report to site office.	
Site camp location and set up:	Restrictions / requirements, storage areas and security to be advised in consultation with principal agent.	
Ablution and Welfare:	Contractor to provide as per regulations.	
Environmental Conditions:	Contractor must take into account that the Garden Route National Park is an echo sensitive conservation area and implement control measures to mitigate risks. All regulations in the Environmental Management Plan attached to the bid must be adhere too.	
Induction Training:	All workers to receive induction training prior to commencement on site. Special reference to SANParks EMP and Code of Conduct.	

PROTECTION OF SITE AGAINST UNAUTHORISED ACCESS BY PUBLIC	
Excavation Fencing:	Note that excavations accessible to public, or adjacent to public roads / through fares, must have (1) barrier / fence of at least 1m in height, and (2) warring illuminates at night or when visibility is poor, or have other suitable precautionary measures if both of these are not practicable. The entire site is to be fenced off with ready fencing. There needs to be access control as well as security personnel on site at all times.
Warning Notices:	Construction site, Visitors to report to the site office. Pedestrian arrow signage towards the other side of the road, Fire Extinguisher, First Aid, Emergency Assembly area and Emergency telephone numbers. Reflective vests, safety boots and dust masks signage to be displayed.
PERSONAL PROTECTIVE EQUIPMENT (PPE)	
The Client requires the Contractor to ensure that employees (and other under his/her control) wear the following minimum PPE:	
Overalls:	Yes, required
Safety Harnesses:	May be required
Hard Hats:	Yes, required
Safety Footwear:	Yes, required
Reflective Vests:	Yes, required
Goggles / Gloves / ear and respiratory protection	As per job function
Specialist equipment:	As per job function

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HAZARDOUS SUBSTANCES

The following materials and substances have, or may have, to be used in the works and are identified as potentially posing special health and / or safety hazards during the project. Appropriate measures will need to be specified for their control:

Petrol	Cement
Diesel	Other

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BASELINE RISK ASSESSMENT (As attached)

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Baseline Risk Assessment

PROJECT: CI-GK-0165 Maintenance and Rehabilitation of the Suspension bridges in Storms River Mouth Rest Camp - Garden Route National Park

Risk Rating is measured by determining the Likelihood (L) and Consequence (C) and using the Matrix to determine the Risk Rating (R).

Risk Ranking below 9 is deemed Tolerable, between 10 and 16 is deemed Medium Risk and above 16 is deemed High Risk

Steps in operation	Ref No.	Hazard	Risk	Risk Rating			Measures	Other Controls
				L	C	R		
General Onsite Activities	A1	Access to Site	Pedestrian & people equipment interaction causing injury	4	2	12	Occupational Health and Safety Act 24(1)	Area to be secured and barricaded / fenced
			Dust Inhalation	3	1	4	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
			Unauthorised entry	3	2	8	Occupational Health and Safety Act 12(2)	Site Visit Register, signage, Permit for vehicle access
			Slip,trip,and fall	3	2	8	Occupational Health and Safety Act 12(1)(b)(c)	Induction Training & PPE
	A2	Placing of office/containers if lifting is involved	Heavy objects swinging out of control causing injury/damage	2	4	14	Driven Machinery 18(11)	Safe work area, Induction Training, Trained operator, Lifting Plan
			Crane/lifting tackle failure causing object to fall	2	4	14	General Machinery Regulations 7(a)9b)	Inspection Register, Trained operator
			Accidental collision with overhead power lines	2	4	14	General Machinery Regulations 7(a)(b)	Assign a flag man, determine safe work area
			Lifting machine/crane falling over	2	4	14	General Machinery Regulations 5(1)(2)	Assign a flag man, determine safe work area
	A3	Hand Loading and offloading of heavy machinery & equipment	Items rolling/slipping falling causing injury	4	2	12	General Machinery Regulations 2(1)	Induction training, PPE
			Incorrect Lifting procedure resulting in injury	3	2	8	General Machinery Regulations 3(2)	Induction training, Proper lifting procedure, PPE
	A4	Machine loading and offloading of heavy machinery & equipment	Failure of machinery causing injury	3	3	13	Driven Machinery 18(1)(a)(b)	Supervision
			Equipment falling	3	3	13	General Machinery Regulations 2(2)	PPE
			Collision of vehicles	3	3	13	General Machinery Regulations 7(a)(b)	Flag men

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Steps in operation	Ref No.	Hazard	Risk	L	C	R	Controls Measures	Other Controls
	A5	Traffic	Equipment interaction	3	4	18	Construction Regulation 23(1)(d)(i)(ii)	Traffic management plan
			Pedestrian collision	3	4	18	Construction Regulation 23(2)(c)	Pedestrians Walkways
	A6	Lack of employees facilities	Lack of drinking water, dehydration of workers	3	5	22	Construction Regulation 30(1)(a)	Provision of drinking water & Induction training
			Lack of sanitary facilities, unhygienic conditions	3	5	22	Construction Regulation 30(1)(b) and 30(2)	Provision of chemical toilets & proper housekeeping
	A7	Stacking & Storage	Fall, slip resulting in potential injury/damage	4	3	17	Construction Regulation 28(d)	Storage plan, induction training and restricted access
			Obstructing critical equipment and walkways	4	3	17	Construction Regulation 27 (a)(c)(g)	Storage plan, induction training and restricted access
			Flammable liquids catching fire	3	3	13	Construction Regulation 25(a)(b)(c)	Storage plan, induction training and fire fighting equipment
			Hazardous storage of materials	3	3	13	Hazardous Chemical Regulation(25)9A(2)	Storage plan, regular inspections
	A8	Handling of chemicals and fuels	Exposure	3	3	13	Hazardous Chemical Regulation 9A(1)(a-p)	PPE
			Inhalation	3	3	13	Hazardous Chemical Substances Regulation (36)(37)(38)	
			Burns to Skin	3	3	13	Hazardous Chemical Substances Regulations 9A(2); Material Data Sheet	
	A9	Temporary Low voltage Electrical installation	Exposure to live wires-electrocution	2	5	19	Construction Regulation 24(a)(b)	Lockable DB box, Inspection register
			Faulty earth leakage	2	5	19	SANS 10142	Competent person to do installation & inspection
			Short circuit causing fire	2	4	14	Construction Regulation 24(b)	Weekly inspection, Induction Training & Fire fighting equipment
	A10	Issue of PPE	Incorrect PPE	4	2	12	General Safety Regulation 2(1)	PPE Register
	A11	Usage of PPE	Incorrect use of PPE	4	2	12	General Safety Regulation 3(2)	PPE Register, Induction Training, supervision
			Negligence to use PPE	4	2	12	General Safety Regulation 5	PPE Register, Induction Training, supervision

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Steps in operation	Ref No.	Hazard	Risk	L	C	R	Controls Measures	Other Controls
	A12	Adverse storms	Struck by lightning	2	5	19	Induction Training Safe Operation Procedure	Proper warning system
	A13	Adverse heat	Dehydration, Sunburn, heat stroke	3	4	18	Induction Training Safe Operation Procedure	Proper drinking water, PPE
	A14	Working in excessive winds	Exposure to dust	3	4	18	Hazardous Chemical Substances Regulation (36)(37)(38)	PPE
	A15	House keeping	Objects lying around can result in slip/fall	4	2	12	Construction Regulation 27(a)(b)	Regular cleaning of site
			Unhygienic conditions	3	3	13	Construction Regulation 27(d)	Induction Training
			Pollution of area	3	2	8	Construction Regulation 27(e)	Proper waste bins and waste removal
	A16	Fire prevention	Open Fires	3	3	13	Construction Regulation 29(a)	SANParks EMP & Code of conduct
			Inadequate fire fighting equipment	4	3	17	Construction Regulation 29(g)(h)	Inspection register, supervision
			Run away fires	4	4	21	Emergency evacuation plan	SANParks EMP & Code of conduct
			Accidental Fires	3	4	18	Construction Regulation 29(a)(d)(iii)	Designated smoking areas
	A17	Environmental pollution	Pollution of ground,air,workspace	3	2	8	Environmental Regulation 6(d)	SANParks EMP & Code of conduct
			Littering	4	2	12	SANParks Environmental Management Plan	Induction Training, Provide proper trash bins
	A18	Working near hazardous animals incl snakes, spiders & scorpions	Poisons bites/ attack by large animals	3	3	13	SANParks Environmental Management Plan	Induction Training, SANParks ranger where required, Proper treatment in first aid kit
Plant or vehicle & equipment	B1	Construction vehicles	Equipment Failure	4	4	21	Construction Regulation 23(1)(k)	Vehicle check list and regular maintenance
			Unroadworthy vehicles	3	4	18	Construction Regulation 23(2)(i)(j)(k)	Vehicle check list and regular maintenance
			Speeding/ Operation	3	4	18	Construction Regulation 23(2)(l)	Safe traffic route, imply penalties, traffic calming measures

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Steps in operation	Ref No.	Hazard	Risk	L	C	R	Controls Measures	Other Controls
			Potential accident/collision	4	4	21	General Machinery Regulations 7(a)	Induction Training, Reflective vests, safe work area
			Material/equipment fall from vehicle	4	4	21	Construction Regulations 23(1)(b)(g)(h)	Properly secure all goods
			Vehicle/plant not used for correct purpose	3	3	13	Construction Regulations 23(1)(b)(c)	Supervision, controlled access to vehicle/plant
	B2	Licencing of operators	Unauthorized operation of equipment	3	3	13	Construction Regulation 23(1)(d)(i)(ii)	Valid operator, restricted access to machinery, supervision
			Expired licenses	3	1	6	Construction Regulation 23(1)(d)(i)(ii)	Keep OHS file up to date
	B3	Parking of vehicles	Runaway vehicle	3	4	17	Safe Operation Procedures (SOP)	Vehicle check list, use stop block behind tyres
			Parking in unsafe areas	3	1	4	Construction Regulation 23(2)(i)(j)	Demarcate proper parking areas
Transportation	C1	Transportation of employees	Interaction with other vehicle-collision	4	4	21	Construction Regulation 23(1)(b)(j)	Supervisor
			Equipment not roadworthy	3	1	4		Vehicle checklist, vehicle must meet required standards
			Equipment not licensed	3	1	4	Construction Regulations 23(a)(b)	Supervision and monitor
			Operator of vehicle transporting employees not licensed and authorized	3	1	4	Construction Regulation 23(2)(i)(j)	Supervision and monitor if Driver has Valid PDP
			Vehicle not equipped to transport employees	3	1	4	Construction Regulation 23(d)(i)(j)	Vehicle checklist, vehicle must meet required standards
			Not Adhering traffic legislation	3	1	4	Construction Regulation 23(2)(j)	Supervision, implement fines
	C2	Transportation of material or equipment with people	Material/equipment fall from vehicle	4	4	21	Construction Regulation 23(g)(h)	Properly secure all goods
			Potential accident/collision	4	4	21	Construction Regulation 23(2)(g)(h)(j)	Induction Training, Reflective vests, safe work area
	C3	Towing a Trailer	Vehicle accident	4	4	21	Construction Regulations 23(e); Occupational Health and Safety Act 24(1)(c)(iii)(iv)	Awareness, trained operator

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Steps in operation	Ref No.	Hazard	Risk	L	C	R	Controls Measures	Other Controls
			Towing coupler failure	3	3	13	Construction Regulation 22(e)	Inspection Register
Hand Tools	D1	Injury Due to	Incorrect tools used	4	3	17	Hand tool register, Induction Training,	Supervision
			Defective tools	4	3	17	Safe Operation Procedure	Supervision
			Struck by flying debris	3	3	13	Safe Operation Procedure	PPE
	D2	Electrical portable hand tools	Electrocution	3	5	22	Electrical Machinery Regulations 10(1) (a)(b)	Tool inspection register, inspect extension cord
			Exposure to noise	3	3	13	Noise Induced Hearing Loss Regulations (7)(1)(a)(b)(c)(d)	PPE
			Vibration	2	2	5	Safe Operation procedure, Toolbox Talks	
			Accidental injury	4	3	17	Safe Operation procedure, Toolbox Talks	PPE, Supervision
			Shaving flying into eyes	3	3	13	Safe Operation procedure	PPE, Supervision
	D3	Explosive actuated fastening device	Malfunction of equipment causing injury/damage	3	3	13	Explosive Regulations 15(a)(b)	Tool inspection register, inspect extension cord
			Accidental injury	3	3	13	Explosive Regulations 15(b)	PPE, Supervision
			Accidental discharge	3	3	13	Explosive Regulations 15(a)(b)	Safety mechanism working, Store in unloaded condition
Site Clearance	E1	Site/Bush Clearing	Moving machinery accident	4	3	17	Construction Regulation 23(2)(b)	Reflective vests, restricted access, induction training
			Injury due to hand tools	4	3	17	Safe Operation Procedures (SOP)	Induction Training, PPE, First Aider
			Snakes/ Spider bites	3	3	13	SANParks Environmental Management Plan	Induction Training, Proper First Aid treatment available

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Steps in operation	Ref No.	Hazard	Risk	L	C	R	Controls Measures	Other Controls
			Dangerous animals in vicinity	3	3	13	SANParks Environmental Management Plan	Induction training, armed rangers escort
			Electrical cables and other services in way of work area	3	4	17	Construction Regulation 24(c)	Properly mark & demarcate existing services
	E2	Removal of waste	Moving machinery accident	4	4	22	Construction Regulation 23(1)(b)(c)	Reflective vests, restricted access, induction training
			Waste material falling of vehicle	3	3	13	Construction Regulations 23(h)	Secure load, stay within maximum vehicle load capacity
			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
Excavation & back filling	F1	Hand Digging of holes/trenches	Injury due to defective tools	4	3	18	Construction Regulation 13(a)	Hand tool register, Induction Training
			Injury due to improper work method	4	3	18		Induction training, supervision
			Trip/fall into holes	3	3	13		Demarcate area, induction training, PPE
	F2	Machine Digging of holes/trenches	Collapse of trench	3	3	13	Construction Regulation 14(4)(iii)	Excavation inspection register by component person daily
			Collapse of adjacent structure	3	3	13	Construction Regulation 11(1)(a)	Safeguard adjacent structures
			Malfunction of machinery	3	3	13	General Machinery Regulations 2(2)	Machinery Inspection Register
			Unauthorized driver	2	2	5	General Machinery Regulations 2(1)	Trained operator, supervision, restricted access to machinery
			Unnecessary Damage to environment	3	2	9	SANParks Environmental Management Plan	Induction Training, designated work area
	F3	Tipping of material	Material falling on to person	3	3	13	Construction Regulation 23(g)	PPE, Safe Work area, Flag men
			Malfunction of equipment causing injury/damage	3	3	13		
	F4	Use of Jackhammer	Exposure to excessive noise	3	3	13	Noise Induced Hearing Loss Regulations 7(1)(a)(b)(c)(d)	PPE
			Injury due to malfunction of equipment	3	3	13		Inspection Register

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Steps in operation	Ref No.	Hazard	Risk	L	C	R		Other Controls
			Exposure to prolonged vibration	3	3	13		
	F5	Opening trenches	Risk of collapse	3	3	13	Construction Regulation 13(h)(l)	Stabilize trench, work permit, induction training
			Fall, slip into trench	4	3	17	General Safety Regulations 2(5)(6)	Barricade trench, PPE
	F6	Compaction	Personal Injury	3	3	13	General Safety Regulations 2(5)	PPE, Trained operator
			Collision of machinery	3	3	13	General Machinery Regulations 4(1)	Induction Training, Reflective vests, safe work area
			Dust Inhalation	3	2	8	Hazardous Chemical Substances Regulation (36)(37)(38)	Induction Training & PPE
	F7	Borrow Pits	Fall, slip into borrow pit	3	3	13	Construction Regulations 13(1)(a)	Induction Training, PPE, Safe work area
			Unauthorized access	3	2	8	Construction Regulations 13(1)(a)	Notification Boards
			Collision during loading of excavated material onto tipper	3	3	13		Competent operator, vehicles to be fitted with rotating lights & reverse hooters
Installation of pipes/cables	G1	Installation of storm water pipes in trenches	Fall, slip into trench	4	3	17	Electrical Installation Regulations(5)(1)(2)	Barricade trench, PPE
			Exposure to hazardous biological agents	3	3	13	Hazardous Biological Agent Regulations 5(2)	Induction training, PPE
			Pipe handling/lifting resulting in injury	3	3	13		Induction training, PPE
Temporary Works	H1	Shoring/formwork/ Shuttering	Collapse of equipment	3	3	13	Construction Regulation 12(1)(2)	Built by competent person, PPE
			Injury during assembly/dismantling	3	3	13	Construction Regulations 12(3)(a)	Induction Training, PPE, Supervision
			Failure of equipment	3	3	13		Inspection register
			Collapse/bursting of structure	2	3	9	Construction Regulation 12(3)(c)(f)	Design of structure to be loaded to be approved by competent designer

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Steps in operation	Ref No.	Hazard	Risk	L	C	R	Controls Measures	Other Controls
			Inaccessibility to work area	2	3	9	Construction Regulation 10(1)(b);(2)(a)(b)	Adequate safe access provided
			Fall, slip from shoring/formwork	3	3	13		Fall Protection Plan, PPE, safety nets
			Falling material from height	4	3	17		PPE, safety nets
			Cuts and abrasions from splinters and nails	4	2	12	Construction Regulations 12(2)	PPE
	H2	Stop & Go Procedures - Moving Vehicles	injuries to employees involved in an accidents whiles setting up and taking down Stop/Go procedure	4	4	21	Construction Regulation 12(3)(d)	Visibility jackets, radio communication
			Injuries to employees involved in an accidents - in the midst of Stop/Go activity	4	4	21		
			Injuries to road users involved in an accidents - approaching a Stop/Go activity	4	4	21	Construction Regulation 12(3)(d)	
Concrete	I1	Manual Mixing	Cement dust inhalation	3	2	8	Hazardous Chemical Substances Regulations 8(a)(b)(c)	Material Safety Data Sheet, PPE, Supervision
			Hazardous substance contact - dry cement mix	3	3	13	Hazardous Chemical Substances Regulations 9A(2); 2; and Material Data Sheet	PPE, Induction Training
			Spillage/ pollution	3	3	13		PPE, Concrete mixing sheet
			Injury during mixing/ cement burns	3	3	13		Induction Training, supervision,PPE
	I2	Concrete Mixer Machine	Poor ventilation causing ill health	3	2	8	General Safety Regulations 5(5)	PPE, additional ventilation
			Accidental injury through flying objects	3	3	13	Hazardous Chemical Substances Regulations 10(3)	Induction training, supervision
			Spillage/ pollution	4	3	17		PPE, Concrete mixing sheet
			Clothing/body parts getting caught in open pulley. V-belts ect	3	3	13		Induction training, inspection register, all moving parts covered with guard

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Steps in operation	Ref No.	Hazard	Risk	L	C	R	Controls Measures	Other Controls
	I3	Bulk Mixing Plant	Unauthorized operation	3	2	8	Construction Regulation 20(1)(a)(b)	Competent Operator, Supervision
			Malfunction of equipment causing injury/damage	3	3	13		Inspection Register & maintenance register
	I4	Exposure to Hazardous chemical substances	Exposure	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)	PPE
			Burns to Skin	3	3	13		
			Inhalation	3	3	13		
Working at heights	J1	Climbing up and down equipment	Fall from equipment	4	3	17	General Safety Regulations (6)	Induction, PPE, Fall Protection plan
			Equipment used for incorrect purposes	3	3	13		Induction training, supervision
			Equipment failure resulting in injury/damage	3	3	13		Inspection register
Work in Confined Spaces	K1	Confined Spaces	Lack of oxygen	2	3	9	General Safety Regulations 5(1)	Additional ventilation
			Intoxicating Fumes	2	3	9	General Safety Regulations 5(1)(2)(a)(b)	Respiratory masks
Construction	L1	Bricklaying	Injury due to sharp bladed tools	3	3	13	Occupational Health and Safety Act 14(d)(e)	PPE, Induction Training
			Injury due to hauling of bricks	4	3	17		PPE, Induction Training
			Shards flying into eyes from breaking bricks	4	3	17		PPE, Induction Training
			Bricks falling from height	4	3	17		Safe work area, Induction Training, barricades
	L2	Bitumen Surfacing	Burns to Skin	3	2	9	Hazardous Chemical Substances Regulations 10(1)(a)(b)(f)(3)	PPE, Induction training
			Accidental Fire	3	3	13		Fire Fighting equipment, Induction Training, Emergency Plan

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Steps in operation	Ref No.	Hazard	Risk	L	C	R	Controls Measures	Other Controls
			Accidental spillage	4	3	17		SANParks EMP & Code of conduct
			Potential accident/collision of vehicle	4	3	17	Hazardous Chemical Substances Regulations 4(a)(b)(c)	Induction Training, Reflective vests, safe work area
			Hazardous fumes inhalation	3	3	13	Hazardous Chemical Substances Regulations 6(1)(a)(b)	PPE, Induction Training
			Hazardous Chemical Exposure	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)(b)	PPE, Material Data Sheet, induction Training
	L3	Layer Works	Potential accident/collision of vehicle	4	3	17	Hazardous Chemical Substances Regulations 14(b)	Induction Training, Reflective vests, safe work area
			Hazardous Chemical Exposure	3	3	13	Hazardous Chemical Substances Regulations 10(1)(a)	PPE, Material Data Sheet, induction Training
			Radio active exposure due to None-destructed density testing (Radio Active)	3	3	13	Hazardous Chemical Substances Regulations 5(4)	Induction Training, PPE
			Injury due to vehicle/plant	4	3	17	Occupational Health and Safety Act 24(1)(a)(b)(c)	Induction Training, Reflective vests, safe work area
	L4	Gabions	Injury due to rock packing	4	3	17	Occupational Health and Safety Act 24(1)(c)(ii)	PPE, Induction Training
			Fall, slip from height	3	3	13	Construction Regulation 10(2)(a)(b)(d)(e)	PPE, Fall Protection Plan, Safe Work area
			Cuts and abrasions from sharp material	4	2	12		PPE, Induction Training
			Collapse of structure	2	4	14	Construction Regulation 10(4)(c)(ii)(d)	Design of structure to be approved by competent designer
			Falling of material onto person	3	3	13		PPE, safe work area, catch nets
	L5	Culvert placing with lifting machinery	Heavy objects swinging out of control causing injury/damage	3	3	13	Driven Machinery 18(a)	Safe work area, Induction Training, Trained operator, Lifting Plan
			Crane/lifting tackle failure causing object to fall	3	3	13	Construction Regulation 22(a)(b)(d)(e)	Inspection Register, Trained operator
			Accidental collision with overhead power lines	2	3	9	Construction Regulation 22(a)	Assign a flag man, determine safe work area
			Lifting machine/crane falling over	3	3	13		Assign a flag man, determine safe work area
	L6	Kerb laying	Bodily injury due to handling	4	2	12	Occupational Health and Safety Act 24(1)(a)	PPE, Induction Training

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Steps in operation	Ref No.	Hazard	Risk	L	C	R	Controls Measures	Other Controls
	L7	Road Construction	Falling of kerb onto person	3	2	8	Occupational Health and Safety Act 24(3)(a)(b)	Proper offloading plan, PPE
			Risk of being struck by vehicle while working next to road	4	4	21		Traffic Management Plan, Road Signs, reflective vests, Flag man
			Failure of regulating traffic causing collisions	3	4	18		Competent person, supervision
			Injury from road users and public	4	4	21	Construction Regulations Regulations 23(1)(e)(j)	Restrict access to site, Signage
			Noise pollution	3	2	8	Noise Induced Hearing Loss Regulations 7(1)(a)(b)(c)(d)	PPE
	L8	Road Marking/ Painting	Inhalation of dust	3	2	8	Hazardous Chemical Substances Regulations 8(a)(b)(c)	PPE
			Exposure to chemicals/ inhalation of fumes	3	2	8	Hazardous Chemical Substances Regulations 6(a)(b)(c)	PPE, Supervision
			Spillage/ pollution from paint	4	2	12		PPE, Supervision
			Flammable liquids - Accidental fire	3	3	13	Construction Regulation 25(a)(b)(e)(f)(g)	Proper storage facilities, Fire fighting equipment
			Unauthorized access to flammable liquids	3	2	8		Restricted access
	L9	Steel Fixing (Re-bar)	Injuries from tie wire	3	3	13	Occupational Health and Safety Act 24(2)	PPE, Induction Training
			Fall from heights	3	3	13		PPE, Fall Protection Plan
			Falling components	3	3	13		PPE, safe work area, catch nets
			Back injuries from manual handling	3	3	13		PPE, limit lifting weight
			Steel structure collapsing	3	3	13		PPE, Supervision

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LIKELIHOOD RATING (L)		DESCRIPTION	FREQUENCY
5	Almost certain	Expected to occur in most circumstances.	Recurring event e.g. More than once per month.
4	Likely	The event will probably occur.	Event that may occur frequently once a year.
3	Possible	Might occur occasionally.	Event that may occur. Once in 3 years.
2	Unlikely	Could happen sometime.	Event that is unlikely to occur. Once in 10 years.
1	Rare	May happen only in exceptional circumstances.	Event that is very unlikely to occur.

IMPACTS					
CONSEQUENCE RATING (C)		ENVIRONMENTAL	SAFETY	HEALTH	FINANCIAL IMPACT
5	Critical	Permanent environmental damage to an extensive area.	Fatality. Permanent disabling injuries.	Life threatening or permanently disabling illness.	> R500,000
4	Major	long term environmental damage extending to a large area requiring high level intervention.	Severe irreversible damage to one or more persons. Lost time injury greater than 10 days.	Severe and irreversible health effects or disabling illness.	R100,000 - R499,000
3	Moderate	Short term environmental damage requiring some intervention.	Reversible injury or moderate irreversible impairment. Less than 10 days lost time.	Severe but reversible health effects. Results in lost time of less than 10 days.	R10,000 - R99,999
2	Minor	Short term environmental damage affecting a small area easily remediated.	Medically treated injury Does not lead to restricted duties.	Reversible health effects of concern that results in medical treatment but does not lead to restricted duties.	R1,000 - R9,999
1	Insignificant	Minimal environmental damage affecting a very small area immediately remediated.	Single minor injury to one person. First aid or no treatment required. No lost time.	Reversible health effects of minor concern only requiring minor medical treatment.	R0 - R999

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LIKELIHOOD							
CONSEQUENCE			1	2	3	4	5
			RARE	UNLIKELY	POSSIBLE	LIKELY	ALMOST CERTAIN
	1	INSIGNIFICANT	1	2	3	4	5
	2	MINOR	2	4	6	8	10
	3	MODERATE	3	6	9	12	15
	4	MAJOR	4	8	12	16	20
	5	CRITICAL	5	10	15	20	25

RISK RATING	RISK MAGNITUDE	RESPONSE
16 - 25	High	Immediate action required to reduce risk. Introduce hard barriers and adequate controls to reduce risk. Control hazards/ Monitor regularly. Ensure the risk has been eliminated so far as is reasonably practicable
9 - 15	Moderate	Urgent attention to improve controls & reduce inherent risks. Monitor systems controls, implement controls, or minimised in accordance with the hierarchy of controls so far as is to reduce the risk.
0 - 8	Low	Tolerable risk level. Carry out activity following review and implementation of effective risk controls in accordance with the hierarchy of controls. Ongoing monitoring and management required by employees and line supervisors to use safe working procedure

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DEFINITIONS			Probability (1 - 5)		Determining your prioritisation rating (AP)			
Hazard	Is a condition, activity, object or substance that has the ability to cause harm.		1	Highly improbable	%	Prioritization indicator	Action	
Risk	Is the chance or likelihood of a hazard causing harm or damage.		2	Less than even chance	1% - 20%	E	Monitor the situation	
Probability	The likelihood of a specific outcome/consequence		3	Improbable	21% - 40%	D	Within six months	
Frequency	A measure of the rate of occurrences of an event expressed as the number of occurrences at a given time		4	Probable	41% - 60%	C	Within one month	
Severity	Degree or harm of the outcome/consequence		5	Inevitable	61% - 80%	B	Within one week	
This HIRA does not necessarily cover all hazards associated with the operation / equipment. It is designed as a guide to compliment the Operational Specific HIRA, which must be carried out for each task forming part of an operation.					81% - 100%	A	Immediate	
Frequency (1 - 5)			Severity (1 - 15)					
1	Hazard arise 2 yearly		1	Superficial injuries, minor cuts and bruises, nuisance and irritations (e.g. eye irritations & headaches), ill health leading to temporary discomfort.	6	Laceration, burns, concussion, serious sprains, minor fractures, deafness, dermatitis, asthma, work related upper limb disorder, ill health leading to permanent minor disablement.	11	Amputation, major fractures, poisoning, multiple injuries, fatal injuries, Occupational cancer, other severely life shortening diseases, acute fatal diseases.
2	Hazard arise yearly		2		7		12	
3	Hazard arise every month		3		8		13	
4	Hazard arise every week		4		9		14	
5	Hazard permanently present		5		10		15	

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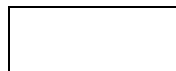
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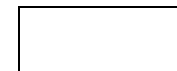
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DRAFTING COMMITTEE

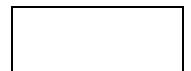
INITIALS	SURNAME	DESIGNATION	CONTACT DETAILS	HIRA TRAINING	SIGNATURE	DATE
C	Jones	Regional: Project Manager	076 684 3072	Yes		17/09/2024
E	Barends	Technical Services: Civil Technician	082 835 7730	Yes		17/09/2024
Z	Mkhonza	CHSO: Coordinator Compliance	012 426 5199	Yes		17/09/2024



Contractor

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Contractor

Employer

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Employer

**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

HEALTH AND SAFETY SPECIFICATION ACKNOWLEDGEMENT RECEIPT

Contractor's Acknowledgement:

I, _____ representing

(Contractors), have satisfied myself
with the content of this Health and Safety Specification and have made the relevant provision under
my Preliminary & General Section for any and all costs involved to ensure compliance of this
Specification, and shall we be the successful contractor, we shall ensure that our employees and
contractors on site comply with the requirements of this documents, our safety documentation and
health and safety legislation.

Signature of Contractor

Date

Comments:

Contractor

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Contractor

Employer

Witness for
Employer

Annexure B

Environmental Management Plan

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Employer



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Environmental Management Plan

General Construction Activities in Parks

Park: GARDEN ROUTE NATIONAL PARK – Tsitsikamma Section

Project: Maintenance and Rehabilitation of the Suspension bridges at Storms River Mouth rest Camp in the Garder Route National Park – Tsitsikamma Section

CONTRACT No. CI-GK-0165

Prepared by:



South African National Parks

P.O. Box 787

PRETORIA

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Contractor

Witness for
Contractor

Employer

Witness for
Employer

Part**1****1. ENVIRONMENTAL MANAGEMENT PLAN****A. DECLARATION**

I the undersigned in my capacity as designated below to hereby undertake to ensure that the conditions and recommendations in terms of the Environmental Management Plan (EMP) for the renovation, upgrading, and construction activities in a National Park are implemented and assume responsibility and accountability in this respect.

I further understand that officials from SANParks may during any phase of the project, conduct an inspection of the development in order to ensure compliance with the conditions and recommendations in the EMP.

EMPLOYER

Name: _____

Signature: _____

Date: _____

CONTRACTOR

Name: _____

Signature: _____

Date: _____

Contractor

Witness for
Contractor

Employer

Witness for
Employer

Part

1

1. ENVIRONMENTAL MANAGEMENT PLAN

1.1 GENERAL

Definition of an “**Environmental Management Plan**”:

A plan or programme that seeks to achieve a required end state and describes how activities, that have or could have an adverse impact on the environment, will be mitigated, controlled, and monitored.

The EMP will address the environmental impacts during the design, construction and operational phases of a project. Due regard must be given to environmental protection during the entire project. In order to achieve this a number of environmental specifications/recommendations are made. These are aimed at ensuring that the contractor maintains adequate control over the project in order to:

- i) Minimise the extent of impact during construction.
- ii) Ensure appropriate restoration of areas affected by construction.
- iii) Prevent long term environmental degradation.

The contractor must be made aware of the environmental obligations that are stipulated in this document, and declares himself/herself to be conversant of all relevant environmental legislation. The contractor should also be aware that the Park Manager / Environmental Control Officer will monitor the implementation of the procedures.

1.2 OBJECTIVES OF THE EMP

The EMP has the following goals:

- i) Identifying those construction activities that may have a detrimental impact on the environment;
- ii) Detailing the mitigation measures that will need to be taken, and the procedures for their implementation;
- iii) Establishing the reporting system to be undertaken during the construction.

The EMP also serves to highlight specific requirements that will be monitored during the development and should the environmental impacts not have been satisfactory prevented or mitigated, corrective action will have to be taken. The document should, therefore, be seen as a guideline that will assist in minimising the potential environmental impact of activities.

Definition of “**mitigation measures**”:

Mitigation seeks to find better ways of doing things, by the implementation of practical measures to reduce, limit, and eliminate adverse impacts or enhance project benefits and protect public and individual rights.

The EMP also defines the arrangements that will be put in place to ensure that the mitigation measures are implemented by including recommendations of the roles and responsibilities of the project proponent, environmental management team and contractors.

1.3 COMPONENTS OF THE “EMP”

1.3.1 Introduction

This EMP adopted a precautionary approach, or in the case of management recommendations, a philosophy of ‘best practice’. Mitigation measures may then be of a more generic nature without compromising its importance to be implemented.

Therefore the purpose of this EMP is to draft and maintain a detailed management plan that, if put into practise, will effectively prevent/minimise environmental degradation.

1.3.2 The EMP in Context

This EMP will form part of a project tender and contract. Pre-construction and construction phase mitigation guidelines and clauses should be written into the construction contract documents as specifications. The contents of this EMP shall be deemed to be included in the rates tendered to execute and complete the works.

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1.3.3 Flexibility

The EMP is a dynamic and flexible document subject to review and updating. During the implementation of a project there is always the possibility that unforeseen issues could arise, this EMP should therefore be revised where necessary to mitigate unanticipated impacts.

1.3.4 EMP Implementation Period

The EMP will focus on and operate during the whole implementation / construction period and maintenance phase of the projects.

1.3.5 Roles and Responsibilities

Supervision and monitoring are fundamental to the successful implementation of an EMP. Therefore, it is vital that monitoring of the extent to which the mitigation measures of this EMP, are adhered to by consultants and contractors, takes place.

All of the issues described and discussed in this document will require monitoring, and it will be the responsibility of SANParks to undertake this monitoring according to the specifications of this EMP.

- i) To draft and implement a monitoring programme to assess compliance with the EMP.
- ii) To appoint an Environmental Control Officer (ECO) during the Construction Phases.
- iii) To undertake the monitoring of operations during the operational phase. Any problems that are identified or encountered must be reported to SANParks management so that appropriate action may be taken to rectify the situation.

1.3.5.1 Appointment of an Environmental Control Officer

The position of Environmental Control Officer has been created to ensure that the mitigation measures and other requirements set forth in the EMP are adhered to.

It is recommended that SANParks appoint an Environmental Control Officer (ECO) during the construction phase of the project. The ECO can be a Section Ranger.

The following guidelines apply to the functions of an ECO:

- i) The ECO should have the ability to understand the contents of the Environmental Management Plan (EMP) and explain it to the contractor, the site staff, the supervisors and any other relevant personnel or I&AP's.
- ii) The ECO would have to be on site on a regular basis – preferably daily to supervise environmental actions associated with construction activities.
- iii) The ECO should be able to understand, interpret, monitor, audit and implement the EMP. This is his most important function.
- iv) The ECO must then give feedback of the audits to SANParks and Contractors. This must be in the form of a written report.
- v) The ECO must ensure that the contractor understands what is to be done to rectify and address any problems that have arisen from the audit.

1.3.6 Feedback to Park Manager and ECO

Reporting to the Park Manager and ECO should take place during site meetings – in the case of potential “fatal flaws”/crises developing due to implementation of the project, reporting should be done immediately and the potentially adverse activities immediately halted in order that corrective action can be taken.

Reporting on the status of implementation of the EMP and the results of the environmental monitoring programme must be recorded and summarised in a monthly report by the ECO and submitted to the Park Manager.

1.3.7 Failure to comply with EMP

Outlined below are a number of steps, relating to increasing severity of environmental problems, which will be implemented. The principle is to keep as many issues within the first few steps as possible.

i) Step 1

The ECO discusses the problem with the contractor or guilty party, and they work out a solution together. The ECO records the discussion and the solution implemented.

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ii) Step 2

The ECO or SANParks observes a more serious infringement, and notifies the guilty party in writing, with a deadline by which the problem must be rectified. All costs will be borne by the contractor.

iii) Step 3

The ECO shall order the contractor to suspend part, or all, the works. The suspension will be enforced until such time as the offending party(ies), procedure or equipment is corrected and/or remedial measures put in place if required. No extension of time will be granted for such delays and all cost will be borne by the contractor.

iv) Step 4

Breach of contract - One of the possible consequences of this is the removal of a contractor and/or equipment from the park and/or the termination of the contract, whether a construction contract or an employment contract. Such measures will not replace any legal proceedings that SANParks may institute against the contractor.

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Part**2****2. DESCRIPTION OF MITIGATION MEASURES**

This section of the report serves to prescribe mitigation measures to reduce, limit, eliminate or compensate for impacts, to acceptable/insignificant levels. In setting mitigation measures, the practical implications of executing these measures must be borne in mind. With early planning, both the cost and the impacts can be minimised.

The stipulations of this report should be conveyed to contractors prior to the commencement of construction.

2.1 PRE-CONSTRUCTION MANAGEMENT PLAN

The pre-construction or planning management plan is to be used as a guide during the planning, design and detailing of the development components. This part of the plan is to be referenced by all involved in decision making during the planning and design phases.

2.1.1 EMP TRAINING

Mitigation / Management Action	Responsible Agent
The Contractor shall arrange for Environmental and Heritage Awareness Training programmes for the personnel on site, to the satisfaction of the Park Manager and ECO, and familiarise his/her/its employees with the contents of this EMP, either in written format or verbally.	ECO & Contractor

2.1.2 CONTRACT AREAS

Mitigation / Management Action	Responsible Agent
The ECO must indicate/point out to contractors the areas that they will have in their possession for the duration of the contract (this shall include access roads to be used, construction lay-down areas, materials storage and delivery requirements, contractors' offices, operational demarcation etc.). Aspects pertaining to temporary housing for persons involved in the project shall also be included. A material delivery and storage area should be demarcated. The facility must be planned and laid out in such a way that the total footprint area is minimised.	ECO & Contractor

2.1.3 SENSITIVE ECOLOGY

Mitigation / Management Action	Responsible Agent
Prior to the commencement of construction, the proposed site/s and roads, must be inspected by SANParks Scientific Services (where necessary), in order to: i) Confirm the absence of Red Data Book Species; ii) Relocate, demarcate or recommend conservation / preservation measures for any identified ecologically "sensitive" and/or protected species and areas, and iii) Point out and/or demarcate all ecologically "sensitive" areas to the contractors (e.g. red data habitats & species, rivers, streams, drainage lines, wetlands, sensitive soils, steep slopes and areas susceptible to erosion).	SANParks, ECO & Contractor

2.1.4 HERITAGE AREAS

Mitigation / Management Action	Responsible Agent
In known archaeological sensitive areas the South African Heritage Resources Agency (SAHRA) must inspect all above-mentioned contract areas, in order to: i) Confirm the absence of archaeological sites and/or artefacts;	SANParks, ECO & Contractor

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ii) Relocate, demarcate or recommend further conservation / preservation actions and measures for any identified archaeologically "sensitive" area and/or artefacts prior to the commencing of any work at these sites, and	
iii) Point out and/or demarcate all archaeologically "sensitive" areas to the contractors.	

2.1.5 ROADS

Mitigation / Management Action	Responsible Agent
The final alignment of the access routes and internal camp roads shall be planned in conjunction with the Park Manager, SANParks Scientific Services, Section Ranger and ECO and once finalised only the agreed roads must be used.	ECO & Contractor
Roads must be planned to deviate around significant trees and Red Data Species marked out in an approved manner by the ECO.	ECO & Contractor

2.1.6 SITE ESTABLISHMENT

Mitigation / Management Action	Responsible Agent
Construction camps and staff accommodation facilities on the site will be required to be established in appropriate locations prior to the commencement of construction, preferably within already disturbed areas. After completion of the contract, these areas will be required to be rehabilitated.	ECO & Contractor
Site Plan: Before construction can begin, the Contractor shall submit a site layout plan to the ECO for approval, including: i) Site access (including entry and exit points). ii) All material and equipment storage areas (including storage areas for hazardous substances such as fuel and chemicals). iii) Construction offices and other structures. iv) Security requirements (including temporary and permanent fencing, and lighting) and accommodation areas for security staff. v) Solid waste collection facilities and waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents. vi) Storm water control measures. vii) Provision of potable water and temporary ablution facilities. viii) Only designated areas may be used for the storage of materials, machinery, equipment and site offices. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be disturbed areas along routes. Offices (and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles) must be located as far away as possible from any watercourse. Regardless of the chosen site, the Contractor's intended mitigation measures shall be indicated on the plan.	Contractor
Throughout the period of construction, the contractor shall restrict all activities to within the designated areas on the construction layout plan. Any relaxation or modification of the construction layout plan is to be approved by the ECO.	ECO & Contractor
Site Camps: The following restrictions or constraints should be placed on the site camp, and construction staff in general: i) The use of rivers and streams for washing of clothes. ii) The use of welding equipment, oxy-acetylene torches and other bare flames where veld fires constitute a hazard. iii) Indiscriminate disposal of rubbish or construction wastes or rubble. iv) Littering of the site. v) Spillage of potential pollutants, such as petroleum products.	ECO & Contractor

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Mitigation / Management Action	Responsible Agent
vi) Collection of firewood. vii) Poaching of any description. viii) Use of surrounding veld as toilets. ix) Burning of wastes and cleared vegetation. x) No concrete structures allowed, if the site camp is within the Park boundaries.	
Vegetation clearing: The natural vegetation encountered on the site is to be conserved and left as intact as possible. Only trees and shrubs directly affected by the works, and such others as may be approved by the ECO in writing, may be felled or cleared. A firebreak shall be cleared and maintained around the perimeter of the site camp/s and office sites where necessary.	ECO & Contractor
Water for human consumption: Water for human consumption should be available at the site offices and at other convenient locations on site.	ECO & Contractor
Sewage Treatment: Sanitary arrangements should be to the satisfaction of the Park Manager and ECO. In no other ablution facilities are available, chemical toilets must be supplied (1 per 15 persons) and must be regularly cleaned and maintained by the contractor. The positioning of the chemical toilets is to be done in consultation with the ECO. The Contractor should arrange for regular emptying of toilets and will be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the ECO. If necessary, the ablution facilities must be screened from the public view. In remote areas where chemical toilets may not be a viable option, agreement must be reached on alternatives before construction starts.	ECO & Contractor
Cooking Fuel: The Contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. Collection of firewood is not permitted.	ECO & Contractor
Waste Management: Solid waste shall be stored in an appointed area within the site camp in covered drums for collection and disposal. Disposal of solid waste shall be at an approved landfill site – this must be agreed to with the Park Manager. During the construction period, the facilities shall be maintained in a neat and tidy condition, and the site is to be kept free of litter. At all places of work, the Contractor shall provide litter collection facilities for later safe disposal at approved waste disposal sites.	ECO & Contractor

2.1.7 MATERIALS HANDLING, USE AND STORAGE

Mitigation / Management Action	Responsible Agent
The Contractor's management and maintenance of his plant and machinery will be strictly monitored according to the criteria given below, regardless of whether it is serviced on the site (i.e. at the place of construction activity or at a formalised workshop) or not.	ECO & Contractor
Safety: All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the Contractor to, and used or worn by the staff whose duty it is to manage and maintain the Contractor's and his subcontractor's and supplier's plant, machinery and equipment. Contractor must comply with the Occupational Health and Safety Act (Act 85 of 1993) and Construction Regulations, 2003 as this governs what the contractor has to do/provide for his staff.	ECO & Contractor
Hazardous Material Storage: Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials will be stored in a secured, appointed area that is fenced and has restricted entry. Storage of hazardous products shall only take place using suitable containers approved by the ECO. In addition, hazard signs indicating the nature of the stored materials shall	ECO & Contractor

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Mitigation / Management Action	Responsible Agent
be displayed on the storage facility or containment structure.	
Fuels and Gas Storage: Fuel should be stored in a secure area in a steel tank supplied and maintained by the contractor according to safety procedures. Gas welding cylinders and LPG cylinders should be stored in a secure, well-ventilated area. The contractor must supply sufficient fire fighting equipment in event of an accident and strictly no smoking will be allowed where fuel is stored and used.	ECO & Contractor

2.1.8 WATER SUPPLY

Mitigation / Management Action	Responsible Agent
Water supply pipelines will be according to contract specifications, following the most direct, yet most ecologically responsible route agreed to with the engineer and as per contract documentation.	ECO & Contractor
Point out to contractors where they can obtain water (e.g. water for mixing of cement as well as for drinking). Contractors shall not make use of/collect water from any other source than those pointed out to them as suitable for use by them.	ECO

2.1.9 LIQUID WASTE

Mitigation / Management Action	Responsible Agent
Under the General Authorisations in terms of Section 39 of the National Water Act (Act No. 36 of 1998), DWAF does not permit the construction of wastewater disposal sites (such as septic tank systems) within the 100 year flood line of any watercourse, or alternatively, within 100 metres of the edge of a water resource.	SANParks
The treatment and disposal of effluent will comply with all applicable legislation and the relevant permit regarding the disposal of purified effluent into the natural environment will have to be obtained from DWAF if so required during construction and operations.	SANParks
The design, installation and operation of septic tanks and soak-aways will conform to Water Act, including all the regulations made under section 26 of the National Water Act.	SANParks

2.2 CONSTRUCTION MANAGEMENT PLAN

The Construction Management Plan forms part of the contract documentation. The plan must be read in conjunction with the contract documents including the relevant Bill of Quantities and Specifications.

2.2.1 VEHICULAR ACCESS AND MOVEMENT OF CONSTRUCTION VEHICLES

Mitigation / Management Action	Responsible Agent
During construction, use should be made of existing access routes to construction areas where possible. Construct approved vehicle turning areas, avoiding selected ecological sensitive areas or species, and have turning area routes approved by the ECO. Temporary access roads must be rehabilitated after usage as per prior agreement between the Park Manager and Contractor.	ECO & Contractor

2.2.2 MOVEMENT OF CONSTRUCTION PERSONNEL, LABOURERS AND EQUIPMENT

Mitigation / Management Action	Responsible Agent
The Contractor must ensure that all construction personnel, labourers and equipment remain within the demarcated construction sites at all times. Where construction personnel and/or equipment wish to move outside the boundaries of the site, the contractor/ labourers must obtain permission from the ECO.	ECO & Contractor

 Contractor

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2.2.3 VEGETATION CLEARING

Mitigation / Management Action	Responsible Agent
The extent of all construction site footprints will be minimised and limited to existing and / or already disturbed areas wherever possible.	ECO & Contractor
The areas needing to be cleared and the degree of clearing required will be determined and demarcated in consultation with the ECO before clearing begins.	ECO & Contractor
The Contractor may not deface, paint or otherwise mark and / or damage natural features / vegetation on the site, unless agreed beforehand with the ECO. Any features / vegetation defaced by the Contractor will be restored to the satisfaction of the ECO.	ECO & Contractor
The ECO must be present during vegetation clearing.	ECO
Plant Search and Rescue: i) Plant search and rescue (i.e. the location and removal of specified plant species, without unnecessary damage, and their transfer to a specified location) and the collection of seed, shall be conducted by the ECO prior to the onset of any site clearing operations, should the ecologist/ SANParks Scientific Services indicate this to be necessary. ii) Sensitive areas and/or species that have been selected for conservation by the ecologist / SANParks Scientific Services, Park Manager or ECO, shall be demarcated with danger tape. No activity shall take place at these areas. iii) De-stumping shall only occur at the request of the ECO. Where roots can act as erosion protection, trees should be cut as close as possible to the ground level. iv) During the clearing of woody vegetation no basal cover or grass and topsoil shall be removed and damage to this layer shall be minimised as far as possible.	ECO & Contractor
Vegetation Removal and Trimming in Watercourses: No heavy machinery shall be permitted within watercourses for any purpose, except emergency procedures, without the prior approval of the ECO. Clearing of vegetation shall be conducted by hand. All cleared and trimmed vegetation shall be removed from any watercourse to prevent flooding/snagging hazards being created.	ECO & Contractor
Rehabilitation: The Park Manager, ECO, and Contractor must agree on rehabilitation of areas. The Contractor shall be held responsible for rehabilitation for all areas disturbed during construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise within the road reserve, or at designated or instructed areas outside the road reserve. This responsibility shall extend until expiry of the Defects Liability Period.	ECO & Contractor

2.2.4 PROTECTION OF FAUNA

Mitigation / Management Action	Responsible Agent
i) Under no circumstances shall any animals be handled, removed, killed or be interfered with by the Contractor, his employees, his subcontractors or his subcontractors' employees. ii) The Contractor and his employees shall not bring any domesticated animals onto the site. iii) The Contractor shall ensure that the work site be kept clean, tidy and free of rubbish that would attract animals. iv) No poaching of fauna and flora shall be tolerated by the Contractor or his personnel on Site or elsewhere.	ECO & Contractor

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2.2.5 HERITAGE AND/OR ARCHAEOLOGICAL SITES

Mitigation / Management Action	Responsible Agent
Historical and Archaeological Sites: If any artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The Contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the ECO of such discovery. The South African Heritage Resources Agency (SAHRA) or the National Monuments Council shall be contacted such that an archaeological consultant can be appointed to excavate and record the site. Work may only resume once clearance is given in writing by the archaeologist. No stones/rock or any material may be removed from any site in the park without approval by the ECO, and after confirmation that materials do not form part of a cultural site.	ECO & Contractor

2.2.6 SOIL MANAGEMENT

Mitigation / Management Action	Responsible Agent
Topsoil: The Contractor is required to strip topsoil together with grass / groundcover from <u>all</u> areas where permanent or temporary structures are located, construction related activities occur, and access roads are to be constructed, etc. This must be read together with the contract specifications & conditions. Topsoil must be stockpiled for later use.	ECO & Contractor
Topsoil is to be handled twice only - once to strip and stockpile, and secondly to replace, level, shape and scarify.	ECO & Contractor
Topsoil stockpiles are not to exceed 1.5 m in height and should be protected to prevent erosion where needed.	ECO & Contractor
Topsoil stockpiles are to be maintained in a weed free condition. The ECO can assist with guidance as to which plants are weeds and require removal.	ECO & Contractor
Topsoil is to be replaced by direct return where feasible (i.e. replaced immediately on the area where construction is complete), rather than stockpiling it for extended periods.	ECO & Contractor
Spoil Material: The location of spoil stockpile sites shall be agreed upon by the ECO prior to the onset of any operations that will generate spoil materials. No spoil material shall be dumped outside the defined site. The Contractor shall ensure that the material does not blow or wash away. If the spoil material is in danger of being washed or blown away, the contractor shall cover it with a suitable material, such as hessian or plastic.	ECO & Contractor

2.2.7 EROSION CONTROL

Mitigation / Management Action	Responsible Agent
The Contractor shall protect all areas susceptible to erosion and shall take measures, to the approval of the ECO. The Contractor shall not allow erosion to develop on a large scale before effecting repairs and all erosion damage shall be repaired as soon as possible.	ECO & Contractor
The specifics of erosion protection work will vary from situation to situation. These specifics should be cleared with the Park Manager and/or ECO and comply with the contract specifications.	ECO & Contractor
Where required, cut-off trenches can be installed to divert substantial run-off and prevent erosion.	ECO & Contractor

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During construction, areas susceptible to erosion must be protected by installing temporary or permanent drainage works and energy dispersion mechanisms and could include – to be agreed to by SANParks and Contractor and with considerations of implications on costs:	
i) Vegetation, ii) Mitre drains (afleivore), iii) Benches (grondwalle), iv) Benches consisting of sandbags, v) Packing branches and rocks in small gullies and disturbed areas.	ECO & Contractor
Storm water drainage measures are required on site to control runoff and prevent erosion.	ECO & Contractor

2.2.8 SLOPE PROTECTION

Mitigation / Management Action	Responsible Agent
Cut and fill slopes shall be shaped and trimmed to approximate the natural condition and contours as closely as possible and, where possible, be undulating. Levels incongruous to the surrounding landscape, shall be reshaped as per contract specifications.	ECO & Contractor
Slopes that need protection shall be identified by the ECO and the specifications needed must be established using the latest approved methods and technology.	ECO & Contractor

2.2.9 ACCESS ROADS

Mitigation / Management Action	Responsible Agent
Construction staff may only use authorised paths and roads.	ECO & Contractor
The proclaimed speed limit in the Park must be strictly adhered to.	ECO & Contractor
ECO will monitor the conduct of drivers and report any negative impact to the contractor immediately.	ECO & Contractor
Construction roads must follow existing roads and tracks and should not be wider than necessary with a maximum width of 3 m. Should a wider road be required, this will require the approval of the ECO.	ECO & Contractor
If two-way traffic movement is to take place, passing bays are to be used where specified by the ECO to prevent access / detours into the surrounding areas. The drivers delivering construction materials to site are to be made aware of this. They may not drive off the road in order to allow another vehicle to pass.	ECO & Contractor
Continual use of dirt access roads by heavy machinery and increased transport loads means they will have to be carefully monitored and regularly graded as soon as potholes or rutting occurs.	ECO & Contractor
Upon completion of the construction period, the Contractor will ensure that the access roads are returned to a state no worse than prior to construction commencing.	ECO & Contractor

2.2.10 EXCAVATION, BACKFILLING AND TRENCHING

Mitigation / Management Action	Responsible Agent
Where at all possible, excavations must not stand open longer than 2 days, and should preferably be opened and closed on the same day. They should not be permitted to stand open longer than a week under any circumstances. Excavations must be marked with tape to clearly demarcate the area and warn against access.	ECO & Contractor
Excavations must not be undertaken until such time that all required materials / services etc. are available on-site, to facilitate immediate laying of such services or the construction of subsurface infrastructure.	ECO & Contractor

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Mitigation / Management Action	Responsible Agent
Any such excavations should ideally be undertaken within the confines of an established construction site - i.e. a site that is either protected with a peripheral fence, or a site that has a regular / continual human presence. Failing this, regular daily inspections are essential.	ECO & Contractor
If need be, spread the rocks in as natural looking manner as possible in the veld.	ECO & Contractor
Excess rocks and sand as a result of excavation activities is not to be dumped along next to construction site – rocks to be spread in a natural looking manner in the surrounding area.	ECO & Contractor
Removed soil is to be used to backfill areas where required (i.e. such as existing and un-rehabilitated gravel pits).	ECO & Contractor
Excavated material is to be stockpiled along the trench within the working servitude, unless otherwise authorised.	ECO & Contractor
Deficiency of backfill material will not be made up by excavation within the protected area. Where backfill material is deficient, it must be made up by importation from an approved borrow pit area.	ECO & Contractor

2.2.11 LEVELLING

Mitigation / Management Action	Responsible Agent
Excess sand and soil resulting from levelling activities of the work area should be stored in low heaps either on the access road or already disturbed area.	Contractor
Excess topsoil is to be spread evenly over the area in a manner that blends in with the natural topography.	ECO & Contractor
Once heavy machinery has cleared the bulk of these material stockpiles, the disturbed areas should be levelled and cleared of any foreign material manually e.g. with spades. It is unacceptable to leave foreign material behind with the knowledge that it will become hidden amongst the rejuvenating vegetation with time.	ECO & Contractor

2.2.12 SAND EXTRACTION

Mitigation / Management Action	Responsible Agent
This is a specialised and potentially environmentally impacting activity, which must be undertaken with the approval and overall management of the Park.	Contractor / SANParks
Regular inspections must be undertaken by the local Section Ranger and ECO to monitor and audit the effects and impacts of such removals.	ECO & Contractor
On completion of the sand-winning activity, the river bed will be rehabilitated to the satisfaction of the ECO and Section Ranger.	ECO & Contractor

2.2.13 STOCKPILING, HANDLING AND STORAGE OF BUILDING MATERIALS

Mitigation / Management Action	Responsible Agent
Stockpiles and storage yards will be demarcated in areas already disturbed or where they will cause minimal disturbance.	ECO & Contractor
Clearly indicate which activities are to take place in which areas within the site e.g. the mixing of cement, stockpiling of materials etc. Limit these activities to single sites only. This may not always be possible for example for heaps of topsoil, but should definitely be the case for other building materials.	ECO & Contractor
Stockpiles of expensive materials such as cement bags should be such that they can easily be removed from the site over weekends or during rainy weather.	Contractor
Specific sites should be allocated for construction waste e.g. empty cement bags, discarded	ECO &

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planks, etc. A low temporary fence may be erected around such a site in order to contain the waste and assist the effective removal thereof from the site.	Contractor
Old cement mixing bags will be placed in wind and spill proof containers as soon as they are empty. The Contractor will not allow closed, open or empty bags to lie around the site.	ECO & Contractor
The Contractor will ensure that all operations that involve the use of cement and concrete are carefully controlled.	ECO & Contractor
Concrete mixing may only take place in the construction camp or in agreed specific areas on site.	ECO & Contractor
Concrete may not be mixed directly on the ground. No mixed concrete may be deposited directly onto the ground prior to placing. A board or other suitable platform / surface is to be provided onto which the mixed concrete can be deposited whilst it waits placing.	ECO & Contractor
All visible remains of excess concrete will be deposited in a designated area awaiting removal to an approved landfill site.	ECO & Contractor

2.2.14 SERVICING AND RE-FUELLING OF CONSTRUCTION EQUIPMENT

Mitigation / Management Action	Responsible Agent
All maintenance and repair work will be carried out at the main construction camp within an area designated for this purpose, equipped with necessary pollution containment measures.	ECO & Contractor
The ground under the servicing and refuelling areas must be protected against pollution caused by spills and / or tank overfills (bundled / lined).	ECO & Contractor
The Contractor may only change oil or lubricant at agreed and designated locations, except if there is a breakdown or emergency repair, and then any accidental spillages must be cleaned up / removed immediately.	ECO & Contractor
In such instances the Contractor will ensure that he has drip trays available to collect any oil or fluid.	ECO & Contractor
Construction vehicles are to be maintained in an acceptable state of repair. No vehicles or equipment with leaks or causing spills will be permitted to operate at any of the construction sites. These will be sent immediately back to the maintenance yard for repair.	ECO & Contractor
All equipment that leaks must be repaired immediately or must be removed from site.	ECO & Contractor
Fuels required during construction must be stored in a central depot at the construction camp. This storage area should be located on a slab and be contained within a bund capable of containing at least the volume of one of the containers.	ECO & Contractor
Temporary fuel storage tanks and transfer areas also need to be located on an impervious surface adequately bundled to contain accidental spills. Appropriate run-off containment measures must be in place.	Contractor

2.2.15 SOLID WASTE MANAGEMENT

Mitigation / Management Action	Responsible Agent
An adequate number of 'scavenger proof' refuse bins must be provided at the construction sites and at the construction camps.	ECO & Contractor
These bins must be provided with lids and an external closing mechanism to prevent their contents blowing out and must be scavenger-proof to prevent baboons and other animals that may be attracted to the waste.	ECO & Contractor
The Contractor will ensure that all personnel immediately deposit waste in the waste bins provided.	ECO & Contractor
All refuse and solid waste generated at all work sites will be stored in appropriate scavenger proof containment vessels at the relevant site and removed to the main construction camp, where the waste will be sorted and stored within a fenced waste storage area.	ECO & Contractor

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All waste must be transported in an appropriate manner (e.g. plastic rubbish bags).	ECO & Contractor
The Contractor may not dispose of any waste and / or construction debris by burning, or by burying.	ECO & Contractor
Discard all construction waste at a registered waste management facility / landfill site, particularly those wastes or products that could impact on surface or groundwater quality by leaching into or coming into contact with water.	ECO & Contractor
The contractor will maintain 'good housekeeping' practises as ensure that all work sites and construction camp are kept tidy and litter free.	ECO & Contractor

2.2.15 LIQUID WASTE MANAGEMENT

Mitigation / Management Action	Responsible Agent
The Contractor must take reasonable precautions to prevent the pollution of the ground and / or water resources on and adjacent to the site as a result of his activities.	Contractor
The Contractor may discharge 'clean' silt laden water overland and allow this water to filter into the ground. However, he must ensure that he does not cause erosion as a result of any overland discharge.	ECO & Contractor
No natural watercourse is to be used for the cleaning of tools or any other apparatus. This includes for purposes of bathing, or the washing of clothes etc.	ECO & Contractor
All washing operations will take place off-site at a location where wastewater can be disposed of in an acceptable manner.	ECO & Contractor
Trucks delivering concrete may not be washed on site or anywhere inside the park.	ECO & Contractor
No spills may be hosed down into a storm water drain or sewer, or into the surrounding natural environment.	ECO & Contractor
Adequate ablution facilities are to be provided at each construction site, conveniently located near to work areas to avoid localised water pollution from camp sewerage.	ECO & Contractor
All soil contaminated, for example by leaking machines, refuelling spills etc. is to be excavated to the depth of contaminant penetration, placed in 200 litre drums and removed to an appropriate landfill site.	ECO & Contractor

2.2.16 HAZARDOUS MATERIALS

Mitigation / Management Action	Responsible Agent
The Contractor must comply with all national, regional and local legislation with regard to the storage, transport, use and disposal of petroleum, chemical, harmful and hazardous substances and materials.	Contractor
The Contractor will furthermore be responsible for the training and education of all personnel on site who will be handling the material about its proper use, handling and disposal.	Contractor
The Contractor will be responsible for establishing an emergency procedure for dealing with spills or releases of petroleum.	Contractor
Storage of all hazardous material is to be safe, tamper proof and under strict control.	ECO & Contractor
Petroleum, chemical, harmful and hazardous waste throughout the site must be stored in appropriate, well maintained containers.	Contractor
Exercise extreme care with the handling of diesel and other toxic solvents so that spillage is minimised.	ECO & Contractor
Any accidental chemical / fuel spills to be corrected immediately.	ECO & Contractor
Timber products should be treated off-site prior to use in construction.	ECO &

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Periodic on-site application of timber treatment products (for maintenance purposes) should take place with due care for the nature of the product (toxicity) and for potential spillages that may occur. Areas where timber is to be treated should have secondary containment measures instituted, such as the placement of a plastic layer (some form of covering) over soils, beneath the timber structures to prevent contamination of the soil surface.	ECO & Contractor

2.2.17 RUN-OFF FROM CONSTRUCTION CAMPS

Mitigation / Management Action	Responsible Agent
The Contractor must ensure that rainwater containing pollutants does not run-off into natural areas and thus result in a pollution threat.	ECO / Contractor
A drainage diversion system is to be installed to divert runoff from areas of potential pollution, e.g. batching area, vehicle maintenance area, workshops, chemical and fuel stores, etc.	ECO / Contractor

2.2.18 FIRE

Mitigation / Management Action	Responsible Agent
The Contractor must take all the necessary precautions to ensure that fires are not started as a result of activities on site.	Contractor
No fuels or chemicals may be stored under trees.	ECO / Contractor
Gas and liquid fuel may not be stored in the same storage area.	ECO / Contractor
The Contractor must ensure that there is adequate fire-fighting equipment at the fuel stores.	ECO / Contractor
No open fires for heating or cooking will be permitted on site, unless otherwise agreed and then only in designated areas.	Contractor
The Contractor will supply all living quarters, site offices, kitchen areas, workshop areas, material stores and any other areas identified with suitable, tested and approved fire fighting equipment.	Contractor
The construction site must be protected against fire, and a sufficient fire break must be constructed, on advice by the Section Ranger, around each construction site and the construction camp where necessary..	ECO / Contractor

2.2.19 DUST

Mitigation / Management Action	Responsible Agent
The Contractor shall take precautions to the satisfaction of the ECO to limit the production of dust and damage caused by dust.	ECO / Contractor

2.2.20 NOISE

Mitigation / Management Action	Responsible Agent
Machinery and vehicle silencer units are to be maintained in good working order. Offending machinery and / or vehicles will be banned from use on site until they have been repaired.	Contractor
Noise levels must be kept within acceptable limits for a protected area, and must not be of such nature as to detract from the natural experience of other visitors to the protected area.	Contractor
The contractor shall take into consideration that the project areas are located within a natural environment and that noise could be a major disturbance/nuisance for the fauna and visitors to	Contractor

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the park. Project management should endeavour to keep noise generating activities associated with construction activities to a minimum and within working hours.	
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2.2.21 VISUAL

Mitigation / Management Action	Responsible Agent
Security lighting must be placed such that it is not a nuisance to residents and visitors to the area. Shields may be required to prevent lights from being visible from other parts of the protected area.	ECO / Contractor
Care will be taken when positioning the lights to ensure the least visual impact, while still providing a safe work environment for construction staff.	ECO / Contractor
Should any construction activities take place where Park tourists can see the construction activities, then clear signboards must be erected to inform the tourists of the activity taking place. SANParks to provide boards. Contractor to erect boards as required.	Contractor
The Contractor shall not establish any activities which, in the opinion of the ECO, are likely to adversely affect the scenic quality of the area. The ECO may direct the Contractor to refrain from such activities or to take ameliorative actions to reduce the adverse effects of such activities.	ECO / Contractor
No painting or marking of natural features shall take place. Marking for surveying and other purposes shall only be done with pegs and beacons.	ECO / Contractor
All packed rock and exposed rock cuttings shall be treated in order to blend their colour with the colours of the natural weathered rocks of the adjacent environment.	ECO / Contractor

2.2.22 SITE CLEAN-UP AND REHABILITATION

Mitigation / Management Action	Responsible Agent
The Contractor must ensure that all temporary structures, materials, waste and facilities used for construction activities are removed upon completion of the project.	Contractor / ECO
Fully rehabilitate (e.g. clear and clean area, rake, pack branches etc.) all disturbed areas and protect them from erosion.	Contractor / ECO
Only indigenous plants which are able to establish easily and will need less maintenance because they have already adapted to the local conditions should be considered.	Contractor / ECO
Before final decisions about the choice of plant species are taken the Section Ranger should be approached for their advice.	Contractor / ECO

2.3 MONITORING OF EMP IMPLEMENTATION

The correct and successful implementation of impact mitigation measures in order to reduce adverse impacts on environmental conditions needs to be ensured by a proper monitoring programme.

Monitoring of the general implementation of/adherence to the EMP, shall be the responsibility of the ECO. Reporting on adherence/compliance to stipulations as communicated to contractors, shall take place during scheduled site meetings.

2.3.1 Monitoring Form:

A list of environmental issues addressed in the EMP is drawn up. A tick box monitoring form is compiled which makes provision for compliance or non-compliance to the EMP requirements for each environmental issue. This monitoring form makes room for a brief description of the non-compliance(s). The issues identified on the monitoring form must be discussed in detail with the contractor and the Park Manager. A reasonable date of completion of the remedial action must be jointly agreed upon, between the contractor, ECO and Park Manager. This monitoring form must be signed by all parties and a copy be provided to the Park Manager.

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The following Monitoring Form may serve as an **example** or point of departure.

Name: Ref: _____ Date: _____	
Project:	

ENVIRONMENTAL MONITORING CHECKLIST (NC = NON-COMPLIANCE, C = COMPLIANCE, NA = NOT APPLICABLE)					
Item No.		Rating	Item No.		Rating
1.	Vehicular access and movement of construction vehicles		12.	Sand extraction	
2.	Movement of construction personnel, labourers and equipment		13.	Stockpiling, handling and storage of building materials	
3.	Vegetation clearing		14.	Servicing and re-fuelling of construction equipment	
4.	Protection of fauna		15.	Liquid waste management	
5.	Cultural and/or archaeological sites		16.	Hazardous materials	
6.	Soil management		17.	Run-off from construction camps	
7.	Erosion control		18.	Fire	
8.	Slope protection		19.	Dust	
9.	Access roads		20.	Noise	
10.	Excavation, backfilling and trenching		21.	Visual	
11.	Levelling		22.	Site clean-up and rehabilitation	
A.	<u>Others</u>				

Remedial Action on Non-compliance: (Action and Time Plan)

Close out: Environmental Control Officer Name _____ Date _____	Response required by: Contractor Name _____ Date _____
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Comments:

Records:

☐ PARK MANAGER

☐ CONTRACTOR

☐ PROJECT MANAGER

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Annexure C

**Code of Conduct for working in the
South African National Parks**

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SOUTH AFRICAN NATIONAL PARKS

CODE OF CONDUCT FOR WORKING IN A NATIONAL PARK

OUTSIDE ORGANISATIONS WORKING TEMPORARILY IN A NATIONAL PARK

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CODE OF CONDUCT FOR PERSONNEL FROM OTHER ORGANISATIONS TEMPORARILY WORKING IN NATIONAL PARKS

1. INTRODUCTION

You will presently begin an important task in a national park, which is an area controlled by South African National Parks (SANParks). For obvious reasons your task must be completed in the shortest possible time and to accomplish this, there has to be co-operation at all levels between yourselves and personnel from SANParks.

In the past, you and your sub-ordinates worked in uncontrolled areas, but you are presently in a controlled area and furthermore in a national park.

As the name implies, the main objective with a national park is the protection, conservation and utilization of our heritage, in such a way to allow future generations to enjoy, appreciate and admire nature in its unspoiled state. This great endeavour can only be achieved if every individual who works in a national park admits to and accepts nature conservation as part of their heritage (daily life). Certain procedures were followed in the past to accomplish your tasks, but now you must accept that adaptations will have to be made to complete your task in a national park without disturbing the natural environment.

You will also be subjected to certain necessary restrictions during your stay and operations in a national park. Certain expectations will be made in accordance with your work commitments. Restrictions will be kept to a minimum, those that are enforced must please be respected and seen in a positive light to promote co-operation and to prevent any unpleasantness.

Depending on where you are resident while working in a national park, you are requested to discuss any problems you may encounter, with the Park Manager, (*Section Ranger or the person in charge of Visitor Services*). You can be assured that these officials will do everything in their power to ensure that you have a pleasant and productive stay in the national park.

Please study and commit yourself to the attached Code of Conduct.

Any uncertainties must be cleared up with a SANParks' official.

We wish you a pleasant and productive stay in our national parks.

2. PRINCIPLES WITH RESPECT TO BEHAVIOUR AND DISCIPLINE

All persons resident or working in a national park, are subject to the National Environmental Management Protected Areas Act 57 of 2003.

The following principles should be complied with at all times in a national park:

- 2.1 No prospecting or mining is allowed on any land forming part of a national park or protected area.
- 2.2 No person, except an employee authorised by SANParks may:
 - 2.2.1 Enter or reside in a national park without permission;
 - 2.2.2 Be in possession of an unsealed weapon, explosives, traps or poison in the park or convey the same into a park;
 - 2.2.3 Hunt or kill an animal, collect, damage or destroy a bird's nest or it's eggs;
 1. Purposely or negligently cause a veld fire or damage any object of geological, archaeological, historical, ethnological or of any other scientific value to SANParks;
 2. Bring any animal or pet into a national park or allow domestic animals to stray into a national park, if found it will be confiscated and destroyed by an official;
 3. Remove any animal (dead or alive) or parts thereof from the park (unless lawfully brought into the park);
 4. Cut down trees or remove plants from a park or in any way damage any tree, plant or seeds;
 5. Feed animals in national parks;

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6. Drive a vehicle without a licence or allow a minor to drive a vehicle under his control;
7. Spend the night anywhere in a national park, (other than in a designated area) except in a rest camp or private home, without the permission of SANParks;
8. Enter a national park in an:
 - i) Unlicensed (or unregistered) vehicles;
 - ii) Enter or use any closed road (no entry);
1. Vehicles may not be driven recklessly or negligently in a national park.
2. All drivers must consider other drivers and all animals.
3. No person under the influence of alcohol or drugs may drive a vehicle in a national park or be in the driver's seat of a vehicle with the engine running.
4. Without special permission, no person may organize or perform public entertainment or fund-raising campaigns.
5. Angling in rivers or dams is prohibited.
6. Angling, where permitted, is only allowed from sunrise to sunset.
7. Swimming is prohibited at designated angling areas.
8. No person may damage property or endanger property belonging to SANParks.
9. No person may use a radio or musical instruments in such a way as to cause a disturbance to others.
10. No person may dispose of any article or rubble other than in containers provided by SANParks.
11. No person may remove sand, stone or wood without the permission of SANParks.
12. Unless issued with an official late permit, no one may travel from a rest camp or entry gate after gate closing times. Permits are issued by the Park Manager or designated person after acceptance of a legitimate motivation.
13. The proclaimed speed limit in a national park must be strictly adhered to, except if and when concessionary speed limits have been approved.

3. RESPONSIBILITIES TOWARDS NATURE CONSERVATION

3.1 Antiquities or objects of historical value which you may discover during your operation in a national park, are and remain the property of SANParks. These items must be handed the Park Manager or designated person as soon as possible. Any person found possession of such articles, either to keep or sell, will be liable to prosecution.

1. No firewood may be collected or removed without the permission of a Nature Conservation official. Under no circumstances will permission be granted to remove firewood from the park unless proof of sale from one of the shops can be produced.
2. Stone, sand and/or soil may not be remove from any area, unless permission has been granted by the Park Manager or designated person. These products may only be removed from sites specified by the Park Manager.
3. On request, the Park Manager or local Section Ranger will point out to the foreman, the sites allowed for removal of stone, sand and/or water for building or other purposes. No water may be taken from existing boreholes unless the Park Manager or designated person gives permission.
4. The removal, cutting down or damage to any living plant in a national park is illegal and may only be done with permission. Where the construction of roads, buildings etc. necessitates the destroying of indigenous trees, shrubs or plants, it must be kept to an absolute minimum.

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5. Gravel pits must, where at all possible, not be visible from any road. After construction, these gravel pits must be rehabilitated as per contract document and/or Environmental Management Plan.
6. No animals may be killed in the park.
7. Other than SANParks employees, personnel resident in a park, but not employed by SANParks, may only kill an animal in an emergency, to protect a life or property or when specifically authorized to do so by SANParks. A report of all animals killed and the circumstance surrounding it, must be sent to the Park Manager or designated person as soon as possible.

NB: Snakes may only be killed in residences, rest camps and living quarters if it cannot be captured and removed by a knowledgeable person. Under no circumstances may poisonous or non-poisonous snakes be killed in the bush or elsewhere. Residents in a park are encouraged to study the poisonous and non-poisonous snake species for their own protection.

4. FIREARMS

Only authorized persons are allowed to possess firearms in a park. Firearms will only be allowed in exceptional circumstances, where an employee may need it in the execution of his duties and will be subject to certain strict conditions.

5. LITTER

All residents and work teams are expected to have proper respect towards the scenic beauty of a national park and not litter tins, paper etc. as well as construction debris, where new roads, bridges, dams or buildings are being constructed. It is the duty of the contractor and/or his supervisors to ensure that after completion of the projects, all litter is carted away. Under no circumstances may this litter be dumped in the bush or anywhere else. It is your responsibility to find out from the Park Manager or designated person if and where litter may be dumped. Littering is a serious offence and perpetrators can be prosecuted.

NB: After completion of any project, a contractor is required to obtain a report from the Park Manager declaring his satisfaction with the condition of the terrain and immediate surroundings.

6. PETS

No dogs or other pets are allowed in a national park without written permission of the Executive Director: Parks.

7. PERSONNEL RELATIONS

1. Park Managers or any designated person are officials of the SANParks and are responsible for the enforcement of the Protected Areas Act 57, 2003 in their respective parks. To uphold the organisation's authority, they have to be aware of all activities and especially extraordinary activities in their park. It is therefore not only a matter of courtesy but of necessity to report all activities to the Park Manager. It is very important that all new building activities, the construction of new roads, etc., be reported by the supervisor to the Park Manager. It is just as important to report the use of firebreak roads as well as unscheduled night trips to the Park Manager.
2. No person residing or working in a rest camp may leave the rest camp gate after gate closing times, without the Park Manager's or designated person's permission.

8. TRAVELLING TIMES AND TRANSPORT MATTERS

1. All private and official trips within a national park, must be undertaken during daylight hours and permission to travel after-hours will only be given in emergencies, by the Park Manager or designated person.
2. No person (employee or visitor) may transport passengers on the back of an open vehicle within a national park, unless in the execution of official duties.

9. ROAD RULES AND SPEED LIMITS

1. Road Rules

All personnel, whether in an official or private capacity, must ensure that their driving sets an example to other drivers. Although all people working in a park with the necessary approval, may drive at a faster speed than the tourists, they must do this as unobtrusively as possible by approaching another vehicle at a decreased speed, passing it and then accelerating slowly to the required speed. As soon as an oncoming vehicle is in sight, speed

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must once again be decreased until the vehicle is out of sight.

2. Speed limit for personnel

All employees of SANParks, as well as employees from outside organisations with written consent working in a national park, may travel at a maximum speed of 50 km/h during the day and 50km/h at night regardless of the speed limit. These speed limits are applicable to all official trips and may only be exceeded in emergencies. Personnel and/or their spouses may also drive at 50 km/h during the day, whilst in their private vehicles en route to the entrance gate closest to their residence. During private trips in the rest of the park, the designated speed limit has to be adhered to as well as in all the rest camps and personnel villages.

Please take note that all transgressors of this privilege will be prosecuted in the same way as tourists who disregard the speed limit.

10. CONTROL AT ENTRANCE AND REST CAMP GATES

When entering or leaving an entrance gate of a national park, you must identify yourself to the tourist officer in charge. No one may leave a rest camp after hours unless the Park Manager or designated person has granted permission and any one arriving after hours at a rest camp must report to the Park Manager or designated person.

11. ENTRANCE TO NO-ENTRY ROADS

Fire-break and patrol roads

Please take note that no one may drive along a fire-break or patrol road with a no-entry sign in their private capacity or along any road which has been closed in any way. Only the Park Manager or designated person may give permission to do so. When a fire-break or patrol road has to be used officially the Park Manager or designated person must preferably be given prior notice of the date and the route. If it is not possible to notify him, it must be done immediately on completion of the trip.

12. GUEST PRIVILEGES

Arrangements regarding guests must be made by the site supervisor with the Park Manager or designated person.

Only immediate family members (parents and children) will be allowed free access to a national park with the permission of the Park Manager or designated person.

13. GENERAL DISCIPLINE

It is the responsibility of every supervisor in a park to ensure that the following rules and regulations are brought to the attention of every employee under their supervision and to see that it is adhered to.

13.1 Every employee residing in living quarters in a rest camp or on a designated site must:

- 13.1.1 Obey all reasonable and lawful rules given by the Park Manager or designated person;
1. Reside only in specific quarters/designated site reserved for them;
 2. Maintain cleanliness and sanitation in his place of residence.

13.2 No person residing, working or officially present in a park, is allowed to:

- 13.2.1 Accommodate any unauthorized person, assist him or give him permission to enter or live in any designated living areas;
1. Behave in such a way as to be detrimental to maintaining discipline, order for health in such living areas;

13.3 Without written permission from the Park Manager or designated person;

- 13.3.1 Keep live animals or poultry;
- 13.3.2 Excavate or have excavations made
- 13.3.3 Build or make any alterations to existing building;

13.4 In any way, either directly or indirectly, hinder any employee, Security Officer, Ranger or anyone authorised by the Park Manager, in the execution of their duties; inspections or any investigations deemed necessary or purposely hinder, obstruct, mislead or refuse to divulge information when requested to, or refuse to assist in any way or heed legitimate request or command.

13.5 Purposely disturb the peace by making a noise, shouting, screaming, arguing, causing violence or acting

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violently or improperly.

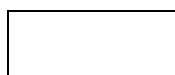
- 13.6 Enter or leave a Park or living quarters other than through the official gates.
- 13.7 Gamble in any way.
- 13.8 Defecate in a place or manner as to offend any other person.
- 13.9 Dispose of rubble or leftovers in any place other than in bins provided.
- 13.10 Aimlessly loiter or hang around near or in a rest camp or personnel accommodation at any time.
1. Introduce, brew or be in possession of alcohol.
2. Be in possession of habit forming drugs.
3. Be in possession of any fresh meat, especially raw venison or other animal products and, if required legally, it may not be transported out of the park without the necessary veterinary permits.
4. Hitch-hike in a national park.
5. Possess a firearm or any dangerous weapon without the necessary permission or permit.
6. Where work teams reside and work in the field, wander away from the work site or living quarters.
7. Temporary work teams (supervisors excluded) are not allowed to receive visitors in a national park.
8. It is the contractor's responsibility to ascertain the rules and regulations laid down by SANParks.

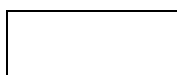
14. MALARIA AND MALARIA CONTROL

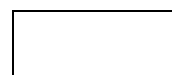
Some of the national parks, e.g. Kruger National Park and Mapungubwe National Park are in an endemic malaria area and the residents are constantly exposed to the disease and must be aware of the fact.

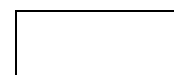
Malaria is a potentially dangerous disease and if not treated timeously and correctly, can be fatal. It is therefore extremely important that all residents, their children and their employees take adequate preventative measure to protect themselves from disease. Malaria is a disease caused by small parasites, which destroy red blood corpuscles of an affected person. Parasites are transmitted from person to person by the *Anopheles* mosquitoes. Various types of malaria occur of which *plasmodium falciparum* is the most common and also the most dangerous.

The possibility of contracting the disease can be reduced by avoiding mosquito bites and taking prophylactics which prevent the development of parasites in the body. Please contact the local physician for precautionary measures or if you think you have malaria.


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Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165

Part C4: Site Information

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**Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165**

C4. Site Information

C4.1 DESCRIPTION OF THE SITE AND ACCESS

The Storms River Bridges are located within the Tsitsikamma section of the Garden Route National Park, Eastern Cape, South Africa, at the mouth of the Storms River, where it meets the Indian Ocean. The site is characterized by rugged coastal terrain, dense indigenous forest, and steep riverbanks.

The primary bridge spans 77 meters across the river mouth, connecting key viewpoints on either side. It is supported by steel cables anchored into concrete abutments. The structure is designed to accommodate pedestrian traffic and offers panoramic views of the river gorge, ocean, and surrounding forest. Two additional suspension bridges, each shorter in length, complement the main structure, forming part of the established tourist trail network.

Access to the site is via a 900-meter hiking trail that winds through coastal forest terrain, presenting logistical challenges in terms of materials transport and construction activities. The terrain and environmental sensitivities must be taken into account during planning, design, and execution of works. All structures must comply with local environmental regulations to preserve the natural integrity of the national park.

This location's remote nature, combined with its exposure to harsh coastal weather conditions, demands materials and construction techniques that ensure durability, stability, and safety. The design should also prioritize minimal disruption to the environment and tourist activities during any construction or refurbishment work.

Coordinates of the Site:

Storms River Bridges: 34° 00' 39.38" S / 23° 52' 08.23" E

Nearby Roads:

N2 National Road: The main road providing access to the Tsitsikamma National Park and Storms River area.

Dolphin Trail: A well-known hiking trail near the bridges, located within the park.

Storms River Mouth Road: A road within the park that leads to the parking area near the bridge trailhead.

Contractor

Witness for
Contractor

Employer

Witness for
Employer



Location of Storms River mouth rest camp Suspension Footbridges



View of Storms River mouth rest camp Suspension Footbridges

Contractor

Witness for Contractor

Employer

Witness for Employer



Maintenance and Rehabilitation of the Suspension Bridges at Storms River Mouth Rest Camp in
the Garden Route National Park – Tsitsikamma Section
CONTRACT No. CI-GK-0165

Part C5: Drawings

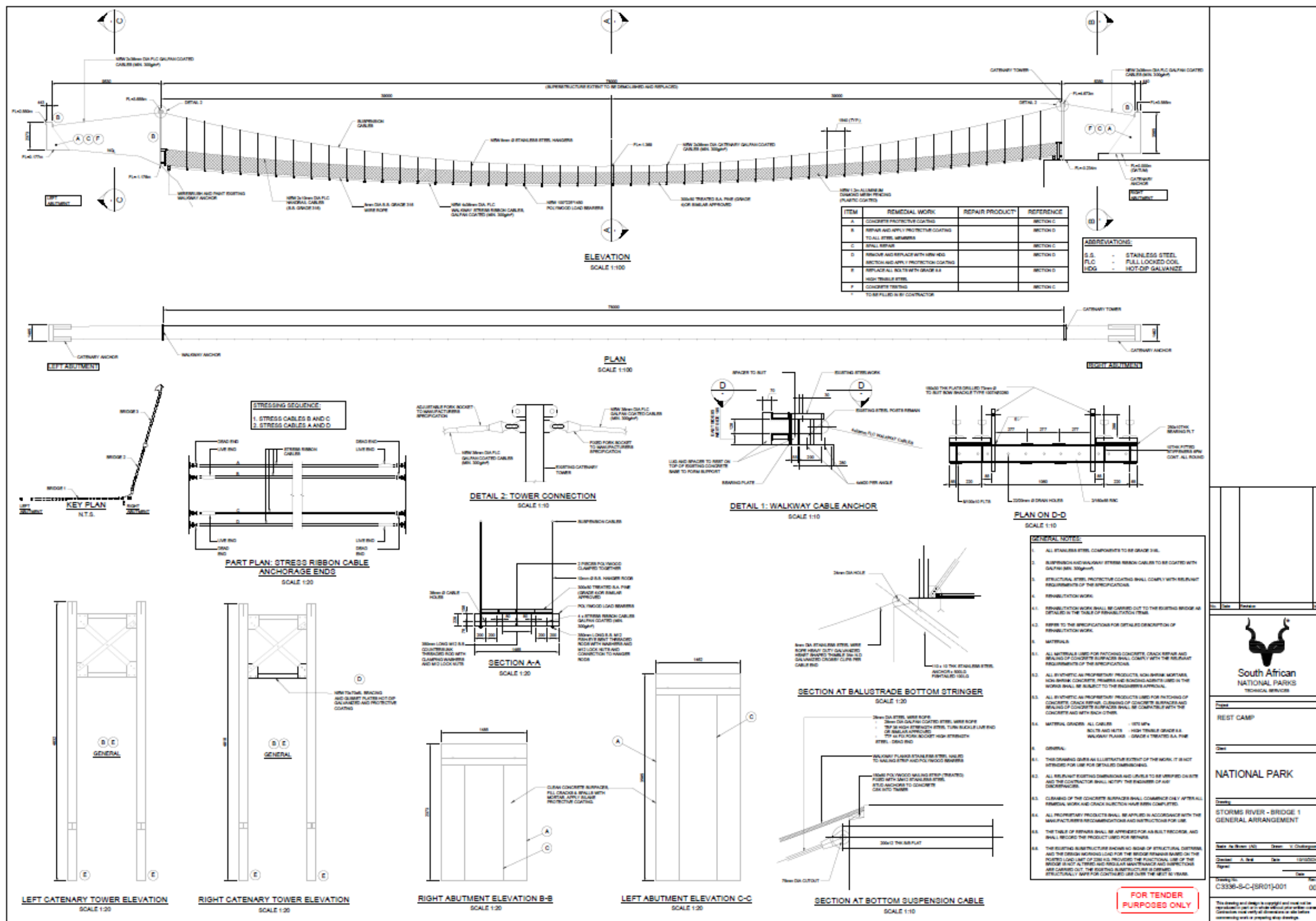
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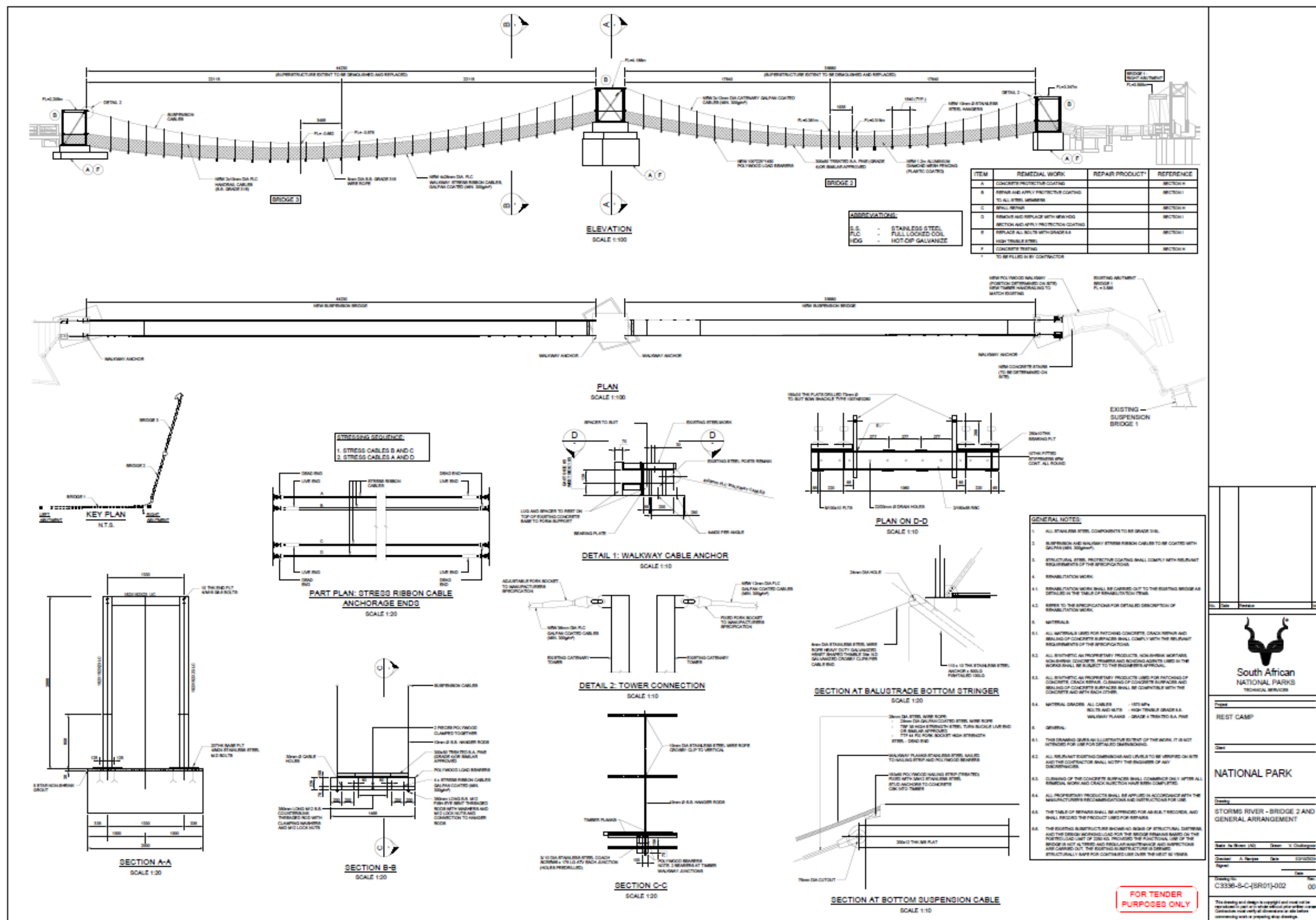
Contractor

Witness for
Contractor

Employer

Witness for
Employer



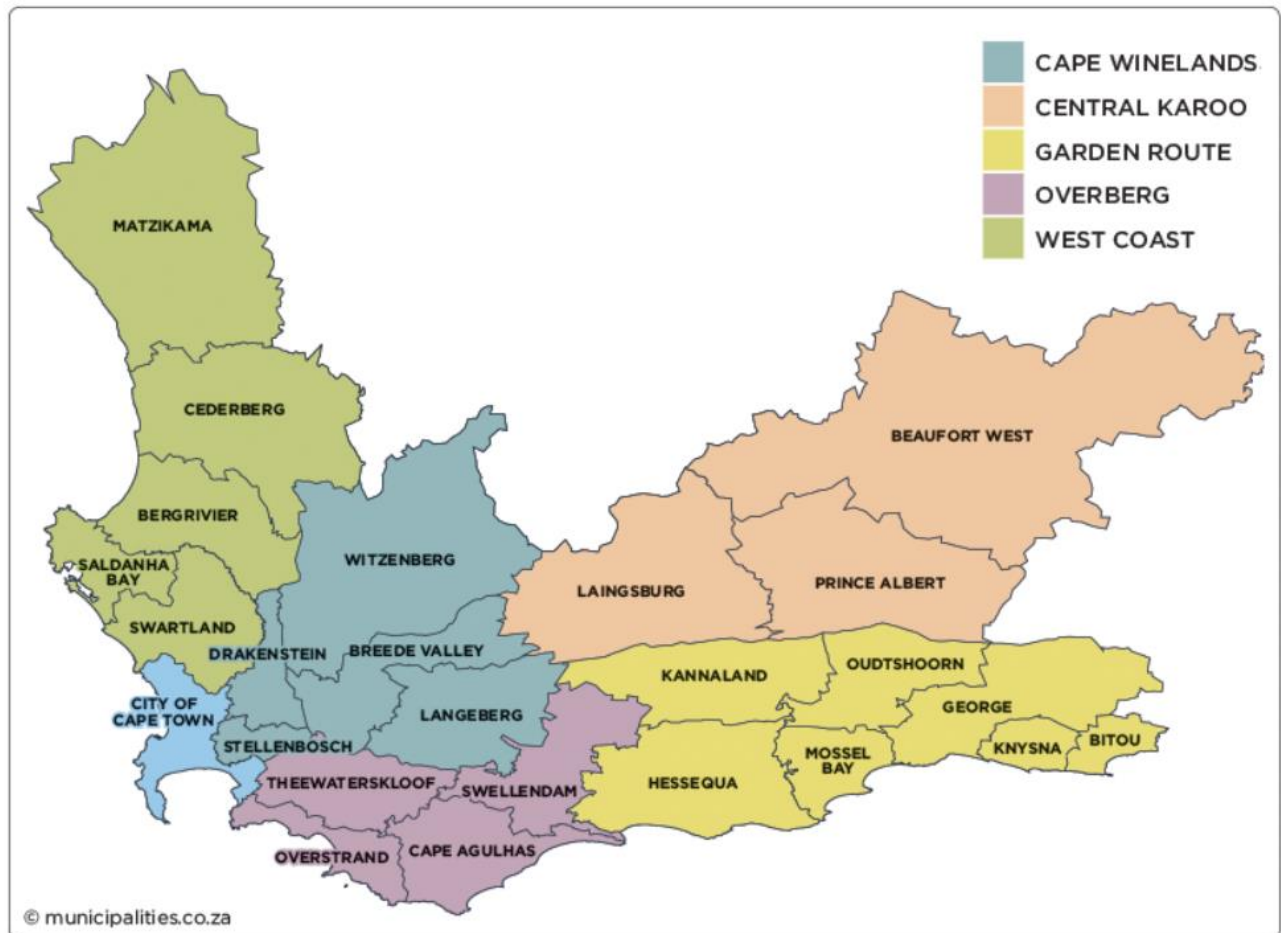


Annexure D

GOOGLE Earth Coordinates of Tenderer's Locality

(Refer to Specific Goals- pg. 48)

Map



Western Cape Province

Contractor

Witness for
Contractor

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Employer

Witness for
Employer



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END

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**Witness for
Employer**