



REQUEST FOR QUOTATION CIDB

Form No: RW SCM 00047 F
Revision No: 05
Effective Date: 24 June 2022

BID NUMBER:	10398501	CLOSING DATE:	25 November/2022	CLOSING TIME:	23H59
DESCRIPTION:	ENTRANCE LANDSCAPE UPGRADE RIETVLEI				
BRIEFING SESSION DATE AND TIME	17/November/2022@ 11h.30	BRIEFING SESSION VENUE	Rand Water at Rietvlei		
ISSUE DATE	10/November/2022				

BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:

BUYER		SOURCING MANAGER	
CONTACT PERSON	Dorah Mashele	CONTACT PERSON	Semakaleng Mangoali
TELEPHONE NUMBER	SCM line is currently unavailable due to covid-19 please send your correspondence via Email	TELEPHONE NUMBER	SCM line is currently unavailable due to covid-19 please send your correspondence via Email
E-MAIL ADDRESS	dmashele@randwater.co.za	E-MAIL ADDRESS	smangoali@randwater.co.za

SUPPLIER INFORMATION

SUPPLIER ENTITY NAME			
POSTAL ADDRESS			
STREET ADDRESS			
TELEPHONE NUMBER	CODE		NUMBER
CELLPHONE NUMBER			
E-MAIL ADDRESS 1			
E-MAIL ADDRESS 2			
VAT REGISTRATION NUMBER			CIDB GRADING
SUPPLIER COMPLIANCE STATUS	TAX COMPLIANCE SYSTEM PIN:		CENTRAL SUPPLIER DATABASE No: MAAA_____
B-BBEE LEVEL VERIFICATION CERTIFICATE	[TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No		B-BBEE LEVEL SWORN AFFIDAVIT (EMEs and QSEs) [TICK APPLICABLE BOX] <input type="checkbox"/> Yes <input type="checkbox"/> No

BID SUBMISSION:

- a. Submissions must be made by the stipulated date and time to the email address stipulated above. Late submissions will not be accepted for consideration.
- b. All submissions must be made on the official forms provided (not to be re-typed) or in the manner prescribed in the bid document.
- c. Fully complete and sign Form of Offer
- d. No submissions 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.
- e. Rand Water will provide any clarifications / addenda / extension of closing date by no later than **three (3)** calendar days before the closing date.

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SECTION A: BID

PART T1: BIDDING PROCEDURES

T1.1. BID NOTICE AND INVITATION TO BID

<p>Rand Water invites bids for the entrance landscape upgrade Rietvlei.</p> <p>The technical requirements for the equipment are fully stated in the bid documentation. Potentially emerging or other enterprises that satisfy criteria stated in the Bid Data portion of the document may submit their bid offers.</p>	
Minimum Contractor CIDB Grading Required	It is estimated that tenderers must have a CIDB contractor grading designation of 2CE PE or higher
Contracting Strategy	Develop and Construct
Classification	Complex work
Procurement Procedure	Rand Water uses a single volume approach.
Awarding Strategy	<p>The maximum number of suppliers to be awarded this bid is 1.</p> <p><i>Where the award is made to more than one supplier, Rand Water shall negotiate with the highest ranking pre-determined number of suppliers in order to normalise the prices, prior to award</i></p>
Bid Submission	Bids must be submitted by the stipulated date and time to the following email address: scmquotations@randwater.co.za
Bid Validity	<p>Validity period of not more than 12 weeks is required from closing date of this RFQ.</p> <p>Rand Water reserves the right to extend the validity period for a period reasonable for business requirements.</p>
Subcontracting	Where CIDB related works are subcontracted, each Subcontractor must also be registered with the appropriate CIDB grading Designations in accordance with the value of the work to be undertaken by that Subcontractor.
Rotation of Suppliers	In the spirit of providing equal opportunities to potential suppliers and in view of not supporting monopolies, Rand Water shall apply rotation of suppliers to ensure equitable share in Rand Water's awarded contracts.

T1.2. BID DATA

The conditions of this bid are the Standard Conditions of Tender as contained in the document *CIDB Standard for Uniformity in Engineering and Construction Works Contracts (August 2019) Annexure C* and may be obtained from the CIDB.

The Standard Conditions of Tender for Procurement make several references to the Bid Data for details that apply specifically to this bid. The Bid Data shall have precedence in the

interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

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

CLAUSE NUMBER (CIDB)	BID DATA
C.1.1	The Employer is Rand Water.
C.1.2	The bid documents issued by the Employer are detailed on the contents page of this bid document.
C.1.4	The Employer's Representative/s is stated on the cover page of this bid document.
C.1.6.3	The Employer shall evaluate this bid in accordance with the evaluation criteria stated in this bid.
C.2.1	<p><i>Only those Bidders 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 2CE PE or higher class of construction work, are eligible to have their tenders evaluated.</i></p> <p><i>Joint ventures are eligible to submit bids provided that:</i></p> <ol style="list-style-type: none"> <i>1. every member of the joint venture is registered with the cidb;</i> <i>2. the lead partner has a contractor grading designation in the 2CE PE class of construction work; or not lower than one level below the required grading designation in the class of works construction works under considerations and possess the required recognition status.</i> <i>3. 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 or 2CE PE class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.</i>
C.2.7	The arrangement for a non-compulsory site meeting (where applicable) is as stated in the Notice and Invitation to Bid.
C.2.8	The due date for seeking clarification is as stated in the Bid Notice and Invitation to Bid.
C.2.12	<p>In addition to the information appearing in C2.12 of the CIDB Standard Conditions of Tender, the following statements shall apply:</p> <ul style="list-style-type: none"> • Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative bid offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. • Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. • Pricing Data must reflect all assumptions in the development of the pricing proposal.

	<ul style="list-style-type: none"> The pricing of the alternative bid offer may not exceed the pricing of the main bid offer. <p>Acceptance of an alternative bid offer will mean acceptance in principle of the offer. In the event that the alternative bid offer is accepted, it will be a contractual obligation for the Bidder to accept full responsibility and liability that the alternative bid offer complies in all respects with the Employer's standards and requirements.</p>
C.2.13.5	Bidders must submit one (1) copy of the bid document and returnables.
C.2.13.9	Bid submission must only be e-mailed to scmquotations@randwater.co.za
C.2.15	The closing time for submission of bid offers is as stated in the Bid Notice and Invitation to Bid.
C.2.16	The bid offer validity period is as stated in the Bid Notice and Invitation to Bid. <i>No bid substitutions will be allowed after the closing date and time.</i>
C.2.23	See 2.1 List of Returnable Documents for a comprehensive list of certificates and additional documents required for submission with this bid.
C.3.4	Rand Water will make available the names, prices and preference points for submissions to interested parties who make request for such information, at least one (1) week after the closing date. <i>(CIDB Best Practice Guideline #A3 Evaluation tenders offers, February 2008)</i>
C.3.11	<p><i>Rand Water's evaluation process comprises of the following steps. Specific criteria to be utilised for this bid are contained in <u>T1.3 Evaluation Criteria</u></i></p> <p>a) Test for Responsiveness / Pre-qualification</p> <p><i>Refer to the criteria as stated in T1.3 of this bid document. All test for responsiveness must be met in order for the bid submission to be considered further.</i></p> <p>b) Functionality evaluation</p> <p><i>Refer to the criteria as stated in T1.3 of this bid document. A minimum score of 70 points must be obtained for the bid submission to be considered further.</i></p> <p>c) Price</p> <p>i. Price Analysis</p> <p>Rand Water uses a Financial Tolerance Range in order to assess how reasonable the market response prices are. These ranges will assist with eliminating bid prices that are deemed to be excessively high or low to complete the works. The higher limit ensures that Rand Water does not pay more than it believes the value of service or goods is worth, and the lower limit ensures that Rand Water is not exposed to risk of work not being completed or prices increasing subsequent to the award because the award price was too low to complete said scope.</p> <p>ii. Preference Point System</p> <p>WHERE PROCUREMENT VALUE IS R0 < R50 000 000 (INCL. VAT):</p>

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

The following table will be used to calculate the score out of 20 for BBEE:

B-BBEE Status Level of Contributor	Number of Points
1	20
2	18
3	14
4	12
5	8
6	6
7	4
8	2
Non-compliant contributor	0

Where:

Ps = Points scored for comparative price of bid or offer under consideration

Pt = Comparative price of bid or offer under consideration

Pmin = Comparative price of lowest acceptable bid or offer.

Rand Water does not bind itself to accept the bid with the lowest price

BBBEE STATUS (Pp = 20 maximum)

Quantification of procurement contribution to B-BBEE

Points will be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

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

Bidders will not be disqualified from the bidding process for not submitting a certificate substantiating the B-BBEE status level of contribution or is a non-compliant contributor. ***Such a bidder will score zero (0) out of maximum of 10 for B-BBEE***

	<p>d) Objective Criteria <i>Refer to the criteria as stated in <u>T1.3 Evaluation Criteria</u> of this bid document.</i></p> <p>A bid must be awarded to the bidder who scored the highest total number of points in terms of the preference point systems (price and B-BBEE points), unless objective criteria in terms of section 2(1)(f) of the Act justify the award of the bid to another bidder.</p> <p>SUMMARY</p> <p>The total number of functionality/ quality (PF) shall be the sum total of the product of quality criteria by weight allocated.</p> <p>The total number of adjudication points (PT) shall equal the sum of the bid price points (Ps) and the BBBEE status points (PP) i.e.</p> <p>PT = Ps + PP</p> <p>Rand Water does not bind itself to accept the bid with the highest number of adjudication points.</p>
C.3.17	The number of paper copies of the signed contract to be provided by the Employer is 1 (one).

T1.3. EVALUATION CRITERIA

T1.3.1. TEST FOR RESPONSIVENESS/ PRE-QUALIFICATION

1. Letter of Good Standing from the Department of Labour or an Accredited Institution.
2. 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 2CE PE, or higher.*. class of construction work, are eligible to have their tenders evaluated.
3. Fully complete and sign Form of offer and Acceptance.

T1.3.2. FUNCTIONALITY EVALUATION

Bid submissions will be evaluated on the criteria outlined in items (A-D) below. Each Item (A to D) has an assigned “Weight” and “Rating” scale. During the evaluation process, Bidders shall be assigned a “Rating” for each item in A to D.

The maximum “Score” that a Bidder can achieve will be equal to the “Weight” for a particular item. The Total Scores of each functionality criterion will be multiplied by its weight and then the total score summed up to a total score out of 100.

A detailed description of the “Rating” scales and associated adjudication documentation are as follows:

FUNCTIONALITY CRITERIA		WEIGHT
1.	<p>Previous Related Experience (Similar to current RFQ Scope/Work)</p> <p>The rating of this item is based on a four-point scale:</p> <ul style="list-style-type: none"> • None = 0 % - No submission • Weak = 33.3% - 1 Company reference • Moderate = 66.7% - 2 Company references • Good = 100% - 3 Company references 	25
2.	<p>Human Resource Capacity Adjudicated based on Human Resource Capacity Schedule required for the execution of the scope of work. The purpose is to establish an overall picture of the company's human resource capacity and ability to undertake the work.</p> <p>The rating of this item is based on a four-point scale:</p> <ol style="list-style-type: none"> 1. None = 0 % - No submission 2. Weak = 33.3% - Company organogram not reflecting the resource needs for the scope of work 3. Moderate = 66.7% - Company organogram partially addressing the resource needs for the scope of work 4. Good = 100% - Company organogram adequately addressing the resource needs for the scope of work. 	25

FUNCTIONALITY CRITERIA		WEIGHT
3.	<p>Equipment Resource Capacity Adjudicated based on Equipment Resource Capacity (Plant, Equipment, vehicles, computers, software's etc.) The purpose is to establish an overall picture of the company's equipment resource capacity and ability to undertake the work and will therefore be services/goods specific.</p> <p>The rating of this item is based on a four-point scale: 5. None = 0 % - No submission 6. Weak = 33.3% - Minimal capacity in relation to the scope 7. Moderate = 66.7% - Capacity meets the scope requirements with some gaps 8. Good = 100% - Capacity meets the scope requirements.</p>	25
4.	<p>Work Breakdown / Schedule / Project Programme Aligned with Contractual requirements, credible and acceptable</p> <p>The rating of this item is based on a four-point scale: 9. None = 0 % - No submission 10. Weak = 33.3% - The work breakdown/ schedule / project programme is submitted but is unclear. 11. Moderate = 66.7% - The work breakdown/ schedule / project programme is submitted and has some indication of the duration. 12. Good = 100% - The work breakdown/ schedule / project programme is submitted and has a clear indication of the duration and delivery date.</p>	25
TOTAL		100

Responses are required to meet a **minimum of 70 percent** to be further evaluated.

T1.3.3. PREFERENCE POINT SYSTEM

The (80/20) Preferential Point System will be used to evaluate price and preference on this quotation.

PART T2: RETURNABLE DOCUMENTS

T2.1. LIST OF RETURNABLE DOCUMENTS

- 1.1.1.1. All documentation listed in table T2.1 below shall form part of the Contract. *The Bidder must utilise this list as a checklist prior to bid submission.*
- 1.1.1.2. Non-submission of any item listed only under the column “Required for Bid Evaluation” may result in the bid being rejected by the Employer.
- 1.1.1.3. Attach additional pages if more space is required.

Table T2.1 List of Returnable Documents

ITEM	DESCRIPTION OF DOCUMENT TO BE RETURNED	REQUIRED FOR BID EVALUATION	ONLY REQUIRED AFTER BID AWARD
T2	Returnable schedules (supplied with the bid document)		
T2.2.1	Compulsory Enterprise Questionnaire including SBD 4, and 6.2	•	
T2.2.2	Record of Addenda to RFQ Documents	•	
T2.2.3	Proposed Subcontractors	•	
T2.2.4	Alternative Bid	•	
T2.2.5	Qualifications to Bid	•	
T2.2.6	Requirements with regard to fluctuations in the cost of labour and materials	•	
T2.2.7	FOB Prices of imported equipment/materials for which foreign exchange would be required and importing charges	•	
T2.2.8	Record of Previous Experience, Quality of Workmanship and Safety	•	
T2.2.9	Human Resource Capacity Schedule	•	
T2.2.10	Equipment Resource Capacity (Plant and Equipment)	•	
C1.1	Letter of Bid (Form of Offer and Acceptance)	•	
C1.2	Contract Agreement		•
C2.2	Pricing Schedule / Bill of Quantities (BoQ) The Bidder is required to submit the following: 1 Printed format and signed version of the completed pricing schedule or BoQ.	•	
C3.1	Dates for Delivery and Completion NOTE: A DETAILED PROJECT PROGRAMME MUST BE INCLUDED WITH THE BID SUBMISSION	•	
R 1	Required documentation not issued with the bid document:		
R 1.1	Certificate of Contractor Registration issued by CIDB OR A copy of the application form for registration in terms of the CIDB Act	•	

ITEM	DESCRIPTION OF DOCUMENT TO BE RETURNED	REQUIRED FOR BID EVALUATION	ONLY REQUIRED AFTER BID AWARD
R 1.2	Proof of tax compliance status and a valid SARS Tax PIN	•	
R 1.3	Letter of Good Standing from the Department of Labour or an Accredited Institution	•	
R 1.4	Resolution Letter for the Main Contractor (a letter authorising the person completing the bid to sign on behalf of the company)	•	
R 1.5	Resolution Letter for the Subcontractor/s (a letter authorising the person completing the bid to sign on behalf of the company)	•	
R 1.6	Subcontracting Agreement	•	
R 1.7	Certified copy of B-BBEE Certificate or Certified copy of Sworn Affidavit for EMEs or QSEs. No acceptance of IRBA (Independent Regulatory Board for Auditors) BBBEE Certificate.	•	
R 1.8	Main Contractor's internal Safety and Health Policy and Project Specific SHE Plan (compliance with the project specific SHE specification)		•
R 1.9	Comprehensive SHERQ Plan (compliance with SHERQ Specification, including written agreement on Safety, Health and Environmental matters and all documents required for SHERQ compliance)		•
R1.10	Contractors tools and Equipment Inventory		•
R 1.11	Staff list		•
R1.12	Site Clearance Certificate		•
R1.13	Job Creation Report/Statistics (To be submitted Monthly)		•
R1.14	ISO 9001 Certification /proof of In-house Quality Management System (must include proof of a Document Control System and proof of a Non-conformity Management System) including Sample/template of Quality Control Plan and appointment of Quality Representative		•
R1.15	Detailed Project Programme in the following: <ol style="list-style-type: none"> 1) Gantt Chart Format 2) Level 3 schedule activities 3) Credible and Aligned to Rand Water's Programme 4) Resource loaded schedule Monthly cash flows, project to completion.	•	

T2.2. RETURNABLE SCHEDULES

T2.2.1. 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, if any:

Section 4: CSD Number:

Section 5: 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 6: Particulars of companies and close corporations

Company registration Number:	
Close Corporation number:	
Tax reference number:	

Section 7: SBD 4 issued by National Treasury must be completed for this bid.

Section 8: SBD 6 issued by National Treasury must be completed for this bid.

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

- authorizes the employer to verify the Bidders tax clearance status from the South African Revenue Services that it is in order;
- confirms that the 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;
- 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;
- confirms that I / we are not associated, linked or involved with any other bidding entities submitting bid offers and have no other relationship with any of the Bidders or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and
- 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 of Bidder: _____

Signed by or on
 behalf of Bidder: _____

Official
 Capacity: _____

Date: _____

BIDDER'S DISCLOSURE

- **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.

- **Bidder's declaration**

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

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

Full Name	Identity Number	Name of State institution

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

2.2.1 If so, furnish particulars:

.....

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.

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

- If so, furnish particulars:

.....
.....

• **DECLARATION**

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

- 3.1 I have read and I understand the contents of this disclosure;
- 3.2 I understand that the accompanying bid will be disqualified if this disclosure is found not to be true and complete in every respect;
- 3.3 The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium² will not be construed as collusive bidding.
- 3.4 In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 3.4 The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 3.5 There have been no consultations, communications, agreements or arrangements made by the bidder with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and the bidder was not involved in the drafting of the specifications or terms of reference for this bid.
- 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.

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.

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

SBD 6.2

DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (NOT APPLICABLE)

This Standard Bidding Document (SBD) must form part of all bids invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017, the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

a) General Conditions

- a. Preferential Procurement Regulations, 2017 (Regulation 8) make provision for the promotion of local production and content.
- b. Regulation 8. (2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced or manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- c. Where necessary, for bids referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- d. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- e. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by South African Reserve Bank (SARB) on the date of advertisement of the bid as indicated in paragraph 3.1 below.

The SABS approved technical specification number SATS 1286:2011 is accessible on http://www.thedti.gov.za/industrial_development/ip.jsp at no cost.

f. A bid may be disqualified if this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation;

b) The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

	<u>Description of services, works or goods</u>	<u>Stipulated minimum threshold (%)</u>

3. Does any portion of the goods or services offered have any imported content?
 (Tick applicable box)

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

3.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by SARB for the specific currency on the date of advertisement of the bid.

The relevant rates of exchange information is accessible on www.resbank.co.za

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Bidders must submit proof of the SARB rate (s) of exchange used.

4. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the AO/AA provide directives in this regard.

LOCAL CONTENT DECLARATION
(REFER TO ANNEX B OF SATS 1286:2011)

LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)

IN RESPECT OF BID NO. 10398501

ISSUED BY: RAND WATER

NB

- i) The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- ii) Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on http://www.thedti.gov.za/industrial_development/ip.jsp. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, (full names),
 do hereby declare, in my capacity as
 of(name of bidder entity), the
 following:

- 2 The facts contained herein are within my own personal knowledge.
- 3 I have satisfied myself that:
 - 1. the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
- 4 The local content percentage (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C:

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above.

The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.

- 5 I accept that the Procurement Authority / Institution has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- 6 I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Institution imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

Name of Bidder:

Signed by or on
behalf of Bidder:

_____ Official
Capacity: _____

Date:

T2.2.2. RECORD OF ADDENDA TO BID DOCUMENT

We acknowledge receipt of communications from the Employer amending the bid document before the submission of this bid offer. We confirm that these amendments have been taken into account in this bid offer.

Notice Number	Date	Title or Details
A.		
B.		
C.		
D.		
E.		
F.		
G.		
H.		
I.		
J.		

Name of Bidder: _____

Signed by or on behalf of Bidder: _____

Official Capacity: _____

Date: _____

T2.2.3. PROPOSED SUBCONTRACTORS

We notify the Employer that it is our intention to employ the following Subcontractors for work in this contract.

If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then on official award of Contract by the Employer to us, this list duly signed below shall be binding between us.

The appointment of the proposed Subcontractors shall be subject to the approval of the Employer.

Please note it is compulsory to declare the percentage of work to be completed by the Subcontractor.

Name and Address of Proposed Subcontractor	Nature and Extent of Work	Previous Experience with Subcontractor	CIDB Grading
1)			
2)			
3)			
4)			
5)			

Name of Bidder: _____

Signed by or on behalf of Bidder: _____ Official Capacity: _____

Date: _____

T2.2.4. ALTERNATIVE BID

- T2.2.4.1. Alternative bids will be accepted on the conditions described in [T1.2 Bid Data](#) (CIDB Clause C.2.12)
- T2.2.4.2. Should the Bidder wish to submit an alternative bid he shall set out his proposals clearly hereunder or alternatively state them in a covering letter attached to his bid and referred to hereunder, failing which the bid will be deemed to be unqualified.
- T2.2.4.3. If no departures or modifications are described, the schedule shall be marked NIL and signed by the Bidder.

Page	Item	Proposed alternative	Price saving (if any) to the Employer if proposal is accepted

Name of Bidder: _____

Signed by or on behalf of Bidder: _____

Official Capacity: _____

Date: _____

T2.2.6. REQUIREMENTS WITH REGARD TO FLUCTUATIONS IN THE COST OF LABOUR AND MATERIALS

T2.2.6.1. The Bidder shall delete whichever of the following statements are not applicable to the bid. *Where the Bidder has not indicated the applicability of fluctuations, Rand Water shall regard the fluctuations as not applicable.*

FLUCTUATIONS IN - Wages and allowances: *TO APPLY/NOT TO APPLY
Price of materials: *TO APPLY/NOT TO APPLY

* Delete whichever is not applicable.

FORMULAE OR BASIS FOR THE ADJUSTMENT OF THE BID PRICE

If firm prices are not quoted the Bidder shall supply the following information:

T2.2.6.2. Formula by which the bid price is to be multiplied in order to arrive at the adjusted price:

.....
.....

T2.2.6.3. Definition of all symbols used in the above formula:

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

T2.2.6.4. Any special materials or equipment to be excluded from the application of the formula stating the method and basis of price variation to be applied to such materials or equipment:

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

RECORDING OF WEATHER AND ABNORMAL RAINFALL

If during the time for completion of the works or any extension thereof abnormal rainfall or wet conditions shall occur then an extension of time in accordance hereof shall be granted by the Employer calculated in accordance with the formula given below for each calendar month or part thereof.

$$V = (Nw - Nn) + ((Rw - Rn)/X)$$

V	Extension of time in calendar days in respect of the calendar month under consideration.
Nw	Actual number of days during the calendar month on which a rainfall of Y mm or more has been recorded.
Nn	Average number of days, as derived from existing rainfall records, on which a rainfall of Y mm or more has been recorded for the calendar month.
Rw	Actual rainfall in mm recorded for the calendar month under consideration.
Rn	Average rainfall in mm for the calendar month as derived from existing rainfall records.

For purposes of the contract Nn, Rn, X and Y shall have those values assigned to them in the Contract Data and/or the Specification. The total extension of time shall be the algebraic sum of all monthly totals for the period under consideration, but if the total is negative the time for completion shall not be reduced due to subnormal rainfall. Extensions of time for part of a month to be calculated using pro rata values of Nn and Rn. This formula does not take account of flood damage that could cause further or concurrent delays and will be treated separately as far as extension of time is concerned.

The factor (Nw-Nn) shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Y mm. The factor (Rw-Rn)/X shall be considered to represent a fair allowance for variations from the average in the number of days during which the rainfall did not exceed Y mm but wet conditions prevented or disrupted work.

The Contractor shall be permitted to take his own rainfall measurements on site subject to the Engineer's approval, but access to the measuring gauge(s) shall be under the Engineer's control. The Contractor is to provide and install all the necessary equipment for accurately measuring the rainfall as well as to provide, erect and maintain a security fence plus gate, padlock and keys at each measuring station, all at his own cost.

Name of Bidder: _____

Signed by or on behalf of Bidder: _____ Official Capacity: _____

Date: _____

T2.2.7. F O B PRICES OF IMPORTED EQUIPMENT/MATERIALS FOR WHICH FOREIGN EXCHANGE WOULD BE REQUIRED AND IMPORTING CHARGES

- T2.2.7.1. The Bidder shall complete each schedule listing the F O B value of all items of equipment/materials for which foreign exchange would be required.
- T2.2.7.2. Bidders based on the supply of locally manufactured equipment and/or materials priced competitively, will be given preference by the Employer provided such equipment and/or materials, and the manufacture thereof, are of sufficiently high standard to meet the Employer's requirements.
- T2.2.7.3. If no items are to be imported or if firm prices are submitted the relevant section of the schedule shall be marked NIL. If the equipment contains imported equipment/materials then the Bidder shall complete the schedule listing the F O B value of all items of equipment/materials, which have been or are to be imported. Prices tendered for this imported equipment/material shall be quoted in **currency of origin**. It will therefore be the responsibility of the employer (Rand Water) to take out a Forward Cover for this imported equipment/material, when and if deemed prudent. All charges for the Employer's account referred to in the General Conditions of Contract and any changes in the rates of exchange will only be paid or allowed by the Employer in respect of items listed in this schedule. Bidder shall be expected to provide full documentation (i.e. Invoice, Bill of Lading, etc.) supporting foreign currency requirements for this imported equipment/material to support the Employer application to the SARB for the exchange control approval.
- T2.2.7.4. The Bidder shall sign each schedule.
- T2.2.7.5. For evaluation purposes, the prices of imported equipment/material sourced directly from outside South Africa quoted in currency of origin will be converted to Rand using the closing rate exchange rate published by SARB on the date, one week (7 day calendar days) prior to the closing date for the Bidder.

"Imported content" means that portion of the price represented by the cost of components, parts or materials which have been, or are still to be imported (whether by the Bidder or his suppliers or Subcontractors) and which cost includes the overseas cost plus direct importation costs, such as freight, all landing charges, dock dues, import duties and the like at the South African port of entry, as well as inward transportation and handling to the factory in the Republic where the equipment offered is produced, manufactured, processed, assembled, packed or otherwise prepared.

The Bidder shall state in the appropriate column the F O B values of equipment/materials, which have already been imported, and which still have to be imported.

Item	Description and country of origin	Rate of exchange	F O B value	
			Already imported	To be imported
			R	R
Total F O B values				

Table T2.2.7.1: F O B Prices

The exchange rate to be used for conversion of the foreign content to local content shall be the closing exchange rate published by South African Reserve Bank (SARB) on the date, one week (7 day calendar days) prior to the closing date of the Bid.

IMPORT PERMIT: The Bidder shall state what arrangements have been or are to be made to obtain the necessary import permit(s).

.....

Item	Rate	Total
PORT OF LANDING	R	R
Freight on tons at		
Insurance on R		
Customs duty on R		
Landing charges on tons at		
Wharfage on tons at		
Forwarding and agency on tons at		
Railage on kg at		
Sundry importing charges		
.....		
TOTAL:		

Table T2.2.7.2: F O B Prices

Guaranteed date of shipping

Guaranteed date of delivery to railway authority

Name of Bidder: _____

Signed by or on behalf of Bidder: _____ Official Capacity: _____

Date: _____

T2.2.8. RECORD OF PREVIOUS EXPERIENCE, QUALITY OF WORKMANSHIP AND SAFETY

The Bidder shall provide details of **completed** works (similar to the work set out in this bid). Individuals listed as references must be contactable and willing to provide information relating to the performance of the Bidder (in terms of safety and health, workmanship, documentation, timeous completion, etc.). In order to verify the quality of workmanship, an inspection of the works may also be undertaken should Rand Water deem it necessary.

The Bidder must take into cognisance the functionality criteria in providing the record of previous experience. Information must be provided in the following format:

Description of Works	
Project Title :	
High level project description:	
Client :	
Contract No. :	
Contract Value (excl. VAT) :	
Role ^(Note 1) :	
Award Date :	
Completion Date :	
Location of Works :	
Project Manager :	
Construction Manager :	
Contact Details of Reference at Client Company	
Name :	
Position Held :	
Tel :	Cell :
Fax :	email :
<small>Note 1 – Role refers to the Contractor’s responsibility w.r.t. the claimed experience. For example Single Contractor, Main Contractor but with electrical sub – contractor, Sub – contractor for civil construction etc.</small>	

Name of Bidder: _____

Signed by or on behalf of Bidder: _____ Official Capacity: _____

Date: _____

T2.2.8.1 RECORD OF PREVIOUS EXPERIENCE, QUALITY OF WORKMANSHIP AND SAFETY

The Bidder shall provide details of **completed** works (similar to the work set out in this bid). Individuals listed as references must be contactable and willing to provide information relating to the performance of the Bidder (in terms of safety and health, workmanship, documentation, timeous completion, etc.). In order to verify the quality of workmanship, an inspection of the works may also be undertaken should Rand Water deem it necessary.

The Bidder must take into cognisance the functionality criteria in providing the record of previous experience. Information must be provided in the following format:

Description of Works	
Project Title :	
High level project description:	
Client :	
Contract No. :	
Contract Value (excl. VAT) :	
Role ^(Note 1) :	
Award Date :	
Completion Date :	
Location of Works :	
Project Manager :	
Construction Manager :	
Contact Details of Reference at Client Company	
Name :	
Position Held :	
Tel :	Cell :
Fax :	email :
<small>Note 1 – Role refers to the Contractor’s responsibility w.r.t. the claimed experience. For example Single Contractor, Main Contractor but with electrical sub – contractor, Sub – contractor for civil construction etc.</small>	

Name of Bidder: _____

Signed by or on behalf of Bidder: _____ Official Capacity: _____

Date: _____

T2.2.8.2 RECORD OF PREVIOUS EXPERIENCE, QUALITY OF WORKMANSHIP AND SAFETY

The Bidder shall provide details of **completed** works (similar to the work set out in this bid). Individuals listed as references must be contactable and willing to provide information relating to the performance of the Bidder (in terms of safety and health, workmanship, documentation, timeous completion, etc.). In order to verify the quality of workmanship, an inspection of the works may also be undertaken should Rand Water deem it necessary.

The Bidder must take into cognisance the functionality criteria in providing the record of previous experience. Information must be provided in the following format:

Description of Works	
Project Title :	
High level project description:	
Client :	
Contract No. :	
Contract Value (excl. VAT) :	
Role ^(Note 1) :	
Award Date :	
Completion Date :	
Location of Works :	
Project Manager :	
Construction Manager :	
Contact Details of Reference at Client Company	
Name :	
Position Held :	
Tel :	Cell :
Fax :	email :
<small>Note 1 – Role refers to the Contractor’s responsibility w.r.t. the claimed experience. For example Single Contractor, Main Contractor but with electrical sub – contractor, Sub – contractor for civil construction etc.</small>	

Name of Bidder: _____

Signed by or on behalf of Bidder: _____ Official Capacity: _____

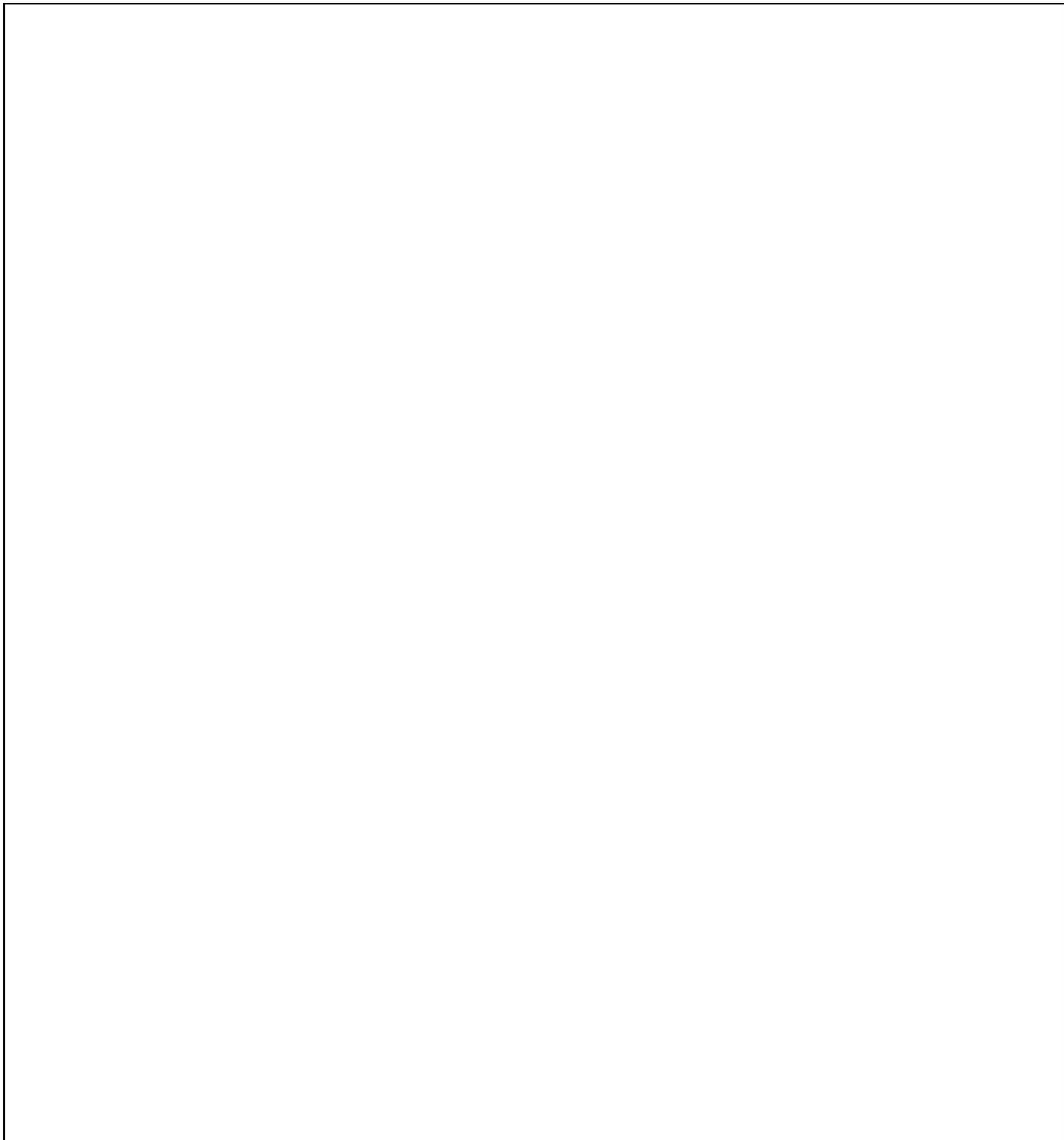
Date: _____

T2.2.9. HUMAN RESOURCE CAPACITY SCHEDULE

The aspects covered by T2.2.11.1, T2.2.12.2 and T2.2.12.3 will be viewed in conjunction with each other to establish an overall picture of the Bidder's capacity and ability to undertake the work specified in this document.

T2.2.9.1. Project Team Organogram vs. Company Organogram

The Bidder shall detail in the block below their company organogram and the Resources dedicated to this contract must be clearly indicated. In addition, sub-contractor and Joint-Venture arrangements must be clearly indicated:



cont.

T2.2.9.3. List of Current Contracts (Work Load)

Contract or Work Title	Client	Contract Value (excl. VAT)	Role ^{NOTE 1}	Progress
				Award Date: Completion Date: % Complete: Stage ^{NOTE2} :
				Award Date: Completion Date: % Complete: Stage ^{NOTE2} :
				Award Date: Completion Date: % Complete: Stage ^{NOTE2} :
				Award Date: Completion Date: % Complete: Stage ^{NOTE2} :
				Award Date: Completion Date: % Complete: Stage ^{NOTE2} :

NOTES

1. Role refers to the Contractor's responsibility w.r.t. the claimed experience for example Single Contractor, Main Contractor but with Electrical subcontractor, Sub-contractor for civil construction etc.
2. Stage refers to the current stage of the work (example design, procurement, construction, installation, commissioning, handed over, in Defects Liability Period etc.)
3. Attach additional signed copies of this schedule if insufficient space is available.

Name of Bidder: _____

Signed by or on behalf of Bidder: _____

Official Capacity: _____

Date: _____

SECTION B: CONTRACT

PART C1: AGREEMENT AND CONTRACT DATA

C1.1. FORM OF OFFER AND ACCEPTANCE

C1.1.1. LETTER OF BID

LETTER OF BID

DESCRIPTION: ENTRANCE LANDSCAPE UPGRADE RIETVLEI.

BID NO: 10398501

TO: The Bid Submission Box
Rand Water Head Office
522 Impala Road
Glenvista
Johannesburg
Attention: Semakaleng Mangoali

We have examined the Conditions of Contract, Specifications, Drawings, Schedules, the attached Appendix and Addenda No.'s for the execution of the above named Works. We offer to execute and complete the Works and remedy any defects therein in conformity with this Bid which includes all said documents, for the total sum of in South African Rand (ZAR _____)

(_____)

Amount in Words inclusive of all taxes) or such other sum as may be determined in accordance with the Conditions of Contract.

The total ZAR value quoted above, to include the sum of imported equipment/material sourced directly from outside South Africa. The applicable currency of origin/s must be converted to South African Rand (ZAR) using the closing rate of exchange as published by SARB on the date, one week (7-day calendar days) prior to the closing date for the Bid.

The Bidder shall further complete the offer/letter and stipulate the sum in the currency of origin (i.e. Euro, USD, GBP or any other currency) as noted below.

for the sum of in Euro (€ _____)
(_____ **Amount in Words inclusive of all taxes***)

or such other sum as may be determined in accordance with the Conditions of Contract.

for the sum of in USD (\$) _____)
(_____ **Amount in Words inclusive of all taxes***)

or such other sum as may be determined in accordance with the Conditions of Contract.

for the sum of in **GBP** (£ _____)
 (_____ **Amount in Words inclusive of all taxes** *)

or such other sum as may be determined in accordance with the Conditions of Contract.

for the sum of in **any other currency** _____
 (_____ **Amount in Words inclusive of all taxes ***)

or such other sum as may be determined in accordance with the Conditions of Contract.

***Applies to international suppliers that are registered for all taxes in South Africa**

We accept your suggestions for the appointment of the DAB, as set out in the Appendix to Bid.

We agree to abide by this Bid for a period of 90 days from the Submission Date and Time for Bids and it shall remain binding upon us and may be accepted at any time before that date. We acknowledge that the Appendix forms part of this Letter of Bid.

If this offer is accepted, we will provide the specified Performance Security, commence the Works as soon as is reasonably practicable after the Commencement Date, and complete the Works in accordance with the above-named documents within the Time for Completion.

Unless and until a formal Agreement is prepared and executed this Letter of Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

We understand that you are not bound to accept the lowest or any bid you may receive.

Signature..... in the capacity of.....

duly authorized to sign bids for and on behalf of.....

Address:

Date:.....

Signature of Witness: _____

Signature of Witness: _____

Name of Witness: _____

Name of Witness: _____

Date: _____

Date : _____

C1.1.2. CONTRACT AGREEMENT

This Agreement made on the _____ day of (month) _____ (year) _____
between

RAND WATER

(hereinafter called “the Employer”)

And

(hereinafter called “the Contractor”).

Whereas the Employer desires that the Works known as **ENTRANCE LANDSCAPE UPGRADE RIETVLEI** should be executed by the Contractor, and has accepted a bid by the Contractor for the execution and completion of these Works and the remedying of any defects therein,

The Employer and the Contractor agree as follows:

- (a) In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract.
- 2. The following documents shall be deemed to form and be read and construed as part of this Agreement:
 - a. The Letter of Award
 - b. The Letter of Bid (incorporating the Appendix to Tender)
 - c. The Conditions of Contract
 - d. The Employer’s Requirements
 - e. The Returnable Schedules
 - f. The Contractor’s Proposal
 - g. The Bid Addenda (where applicable)
 - h. Additional Information Provided by Contractor (where applicable)
- 1. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein, in conformity with the provisions of the Contract.

2. The Employer hereby covenants to pay the Contractor, in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price at the times and in the manner prescribed by the Contract.

Authorised signature of Employer

Authorised signature of Contractor

for and on behalf of the Employer

for and on behalf of the Contractor

Name: **Semakaleng Mangoali**

Name: _____

Designation: _____

Designation: _____

Date: _____

Date: _____

In the presence of the undersigned witnesses:

Name: _____

Name: _____

Signature: _____

Signature: _____

Date: _____

Date: _____

C1.2. CONTRACT DATA

C1.2.1. GENERAL CONDITIONS

The General Conditions of Contract applicable to this Contract are the: “General Conditions” which form part of the “Conditions of Contract for **SHORT FORM OF CONTRACT**.”

First Edition 1999

As published by the Federation Internationale des Ingenieurs-Conseils (FIDIC)

C1.2.2. PARTICULAR CONDITIONS

The General Conditions shall be amended by the Particular Conditions of Contract as detailed herein.

The following clauses – of the Conditions of Contract for **SHORT FORM OF CONTRACT**, First Edition 1999, published by the Federation Internationale des Ingenieurs-Conseils (FIDIC) shall be amended as stated below:

a. GENERAL PROVISIONS

2.7 Definitions

The Contract

1.1.1 Delete this definition and replace with the following: “**Contract**” means the Contract Agreement, the Letter of Acceptance, the Letter of Tender, these Conditions, the Specifications, the Drawings, the Schedules, and the further documents (if any) listed in the Contract Agreement or in the Letter of Acceptance.

1.1.2 Delete this definition and replace with the following: “**Specification**” means the document entitled Specification, as included in the Contract, including Employer’s requirements in respect of design to be carried out by the Contractor, if any, and any Variation to such document.

1.1.3 Delete this definition and replace with the following: “**Drawings**” means the Employer’s drawings of the Works, as included in the Contract, and any Variation to such drawings.

Persons 1.1.4 Delete this definition and replace with the following: “**Employer**” means Rand Water which is a body corporate established in terms of Section 83 of the Water Services Act 107 of 1997.

Dates, Times and Periods 1.1.7 Delete this definition and replace with the following:

“**Commencement Date**” means the date recorded in the Letter of Acceptance unless otherwise defined in the Contract Agreement.

Other Definitions 1.1.12 Delete this definition and replace with the following:

“**Country**” means the Republic of South Africa.

1.1.17 Delete this definition and replace with the following: “**Site**” means the places where the permanent Works are to be executed and to which Plant and Materials are to be delivered.

The following definition is added after Sub-Clause 1.1.19:

1.1.20 “**Accepted Contract Amount**” means the amount accepted in the Letter of Acceptance, or the amount recorded in the Contract Agreement if there is no Letter of Acceptance, for the execution and completion of the Works and the remedying of any defects.

1.1.21 “**Contract Agreement**” means the contract agreement referred to in Sub-Clause 1.7 [Contract Agreement].

1.3

Priority of Documents Delete this Sub-Clause and replace with the following:

The documents forming the Contract are to be taken as being mutually explanatory of one another. If any ambiguity or discrepancy is found in the documents, the Employer shall issue any instructions to the Contractor, and the priority of the documents shall be in accordance with the following sequence:

- (a) The Contract Agreement;
- (b) The Letter of Acceptance;
- (c) The Letter of Tender (incorporating the Appendix);
- (d) The Particular Conditions;
- (e) The General Conditions;
- (f) The Specification;
- (g) The Drawings;
- (h) The Schedules;
- (i) The Addenda and any other documents forming part of the Contract.

1.6

Statutory Obligations

Delete this Sub-Clause and replace with the following:

“The Contractor shall at all times conform in all respects with the provisions of any Act of Parliament, Regulations, Bye-law of any Local or any other Statutory Authority or other Enactment having the force of law which may be applicable to the performance of its obligations under the Contract and shall indemnify, and keep indemnified the Employer, against damages that it may suffer as a result of any breach by the Contractor, its agents or employees, including any hired labour, of any such Act, Regulation, Bye-law or other Enactment and including all legal costs on the attorney and client scale which may be payable as a result of any claims or proceedings in respect of the Contract.”

The following Sub-Clauses are added at the end of Clause 1:

1.7

Contract Agreement

“The Contractor shall within a reasonable time after having been called upon to do so, enter into and execute a Contract Agreement.”

b. THE EMPLOYER

As per FIDIC

c. EMPLOYER'S REPRESENTATIVE

As per FIDIC

d. THE CONTRACTOR

4.2 Contractor's Representative

The following is added at the end of this Sub-Clause:
"Without derogating from the generality of the foregoing, the Contractor's Representative shall, at the Contractor's cost, implement forthwith any additional safety precautions which the Engineer may consider necessary for the proper protection of the Contractor's employees engaged in the Works. Work to which such additional precautions will apply shall be suspended pending the implementation of such precautions."

4.4 Performance Security

The following is added at the end of this Sub-Clause:
"Should the Contractor fail to provide the said security within the specified time the Employer, in his sole discretion, may either:-
(a) Withhold payment from the Contractor until the amount withheld is equal in value to one tenth (10%) of Accepted Contract Amount, or
(b) Proceed to issue notice in terms of Clause 12.1 [Default by Contractor]."

The following Sub-Clauses are added at the end of Clause 4:

4.5 Safety Procedures

The following is added at the end of this Sub-Clause:
"The Contractor shall:-
(a) comply strictly with the Employer's site SHE Specifications/Rules, applicable legislation, other requirements and regulations from time to time in force, a copy of which is incorporated into and shall be read as part of the Agreement;
(b) be responsible for the safety and welfare of all its employees and shall comply with all relevant SHE requirements;
(c) familiarize himself with all the Employer's internal SHEQ systems, regulations, policies and procedures and all legislative or statutory requirements with regard to the health and safety of the Contractor's employees;
(d) ensure that all his personnel are fully briefed with regards to all relevant policies and safety procedures and that all personnel have attended the requisite inductions;
(e) ensure that all personnel sign their acceptance of these procedures and regulations – which signed documents are to be kept in a register which is to be made available at all times for inspection;
(f) at its own cost provide all of its employees with all necessary safety equipment, namely, safety boots, hard hats, overalls etc. and will at all times adhere to the Employer's site rules and regulations, including his subcontractors and their employees, the South African safety regulations in particular, the Occupational Health and Safety Act (No. 85 of 1993) and relevant regulations and their latest revisions;
(g) be responsible for the discipline of its employees and shall, at the Client's request remove from the site any incompetent or undesirable employees."

4.6 Quality Assurance

"The Contractor shall maintain an effective quality management system in accordance with the requirements of ISO 9001 (or equivalent), in order to ensure and demonstrate that the Works and services conform

to the specified requirements. A copy of the ISO 9000 Certification Certificate (or equivalent) must be submitted on request.
The Employer will have the right to visit the manufacturing location for the purpose of audit, surveillance or inspection during the manufacturing of the Materials/Plant to verify the Contractor's quality management.
In the event of the Material/Plant being rejected due to non-compliance with the Specification, workmanship and/or other valid reasons, then the cost of rectification as well as re-inspection shall be for the account of the Contractor."

4.7 Sufficiency of the Accepted Contract Amount

"No claim by the Contractor for additional payment will be entertained which is consequent upon any misunderstanding or the allegation, or fact that it was supplied with incorrect information by any person, or its failure to obtain correct information as to any matter affecting its accepted tender or the execution of the Works to be provided, nor will any such misunderstanding, or the obtaining of incorrect information, or the failure to obtain correct information, relieve it from any risk or responsibility for the due fulfilment of its obligations in terms of the Contract."

4.8 Contractor's Equipment

"All Contractor's Equipment shall be subject to and comply with the operational and safety regulations of the Employer and, upon notice by the Engineer, may at all times be inspected by relevant members of the Employer's Personnel for the purposes of ensuring compliance with the aforesaid regulations."

4.9 Protection of the Environment

"The Contractor's attention is directed to Employer's SHEQ Policy a copy of which is incorporated into and shall be read as part of the Contract Agreement.
The Contractor shall comply with all requirements, stipulations and the like of any Environmental Impact Assessment undertaken and/or issued in respect of the Works."

4.10 Security of the Site

"The Contractor shall at all times remain responsible for the security of his own Equipment.
In addition, the Contractor shall fully acquaint himself and strictly comply with all the Employer's security regulations particularly with regard to personnel, Plant, Material and Equipment entering or leaving the Employer's property. All badging costs shall be borne by the Contractor."

4.11 Health and Safety

"The Contractor is responsible for the safety and welfare of its employees and subcontractors employed on the Works."

4.12 Key Personnel

"The Contractor shall furnish the Employer with a list of addresses and telephone numbers of key personnel in the Contractor's organisation who may be contacted in any emergency both during and outside normal working hours."

4.13 Labour Laws

"Without derogating from the generality of Sub-Clause 1.6 [Statutory Obligations] the Contractor shall comply with all the relevant labour Laws applicable to the Contractor's personnel, including Laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.
The Contractor shall require the Contractor's personnel to obey all applicable Laws, including those concerning safety at work, and shall indemnify the Employer for the consequences of any failure by the Contractor's personnel to obey all applicable Laws as aforesaid."

4.14 Waiver of Contractor's Lien

"The Contractor waives, in favour of the Employer, any lien or right of retention that is or may be held in respect of the Works to be executed on the Site. The Contractor shall ensure that it procures similar waivers from its subcontractors."

e. DESIGN BY CONTRACTOR

As per FIDIC

f. EMPLOYER'S LIABILITIES

As per FIDIC

g. TIME FOR COMPLETION

As per FIDIC

h. TAKING OVER

As per FIDIC

i. REMEDYING DEFECTS

As per FIDIC

j. VARIATIONS AND CLAIMS

10.3 Early Warning

The second paragraph of this Sub-Clause is deleted and replaced with the following:

"The Contractor shall notify the Employer in writing of any event, circumstance or factor which may adversely affect the Works or the progress thereof, delay the execution of the Works or increase the contract price ("notified event"). Such notice shall be given as soon as possible, but in any event within not more than 7 days after the event, circumstance or factor in question was known or should reasonably have been known to the Contractor. In such notice the Contractor shall provide:

- (a) detailed particulars of the notified event and the potential adverse effects; and
- (b) proposals for the steps to be taken by the Contractor to mitigate the potential adverse effects and meet the Time for Completion.

The Employer may also require the Contractor to submit a proposal under Sub-Clause 10.5 [Variation and Claims Procedure] in respect of any notified event. A notification in terms of this Sub-Clause 10.3 shall not constitute a notification of a claim for extension of time or additional cost pursuant to Sub-Clause 7.3 [Extension of Time] or Sub-Clause 10.5 [Variation and Claim Procedure], or otherwise under the Contract. In the event of the Contractor making a claim for an extension of time or additional cost under Sub-Clause 7.3 and/or 10.5 the event relied upon shall be assessed as if the Contractor had complied with the 7 day notice period referred to above."

k. CONTRACT PRICE AND PAYMENT

11.3 Monthly Statements

Delete the last paragraph of this clause and replace with the following: "The Contractor shall by the 25th day of each month submit to the Employer a statement showing the amounts to which he considers himself entitled.

In the event that the Contractor fails to submit a statement by the 25th day of the month any late submission will only be evaluated in the next month."

The following Sub-Clause is added at the end of Clause 11:

11.9 Tax Invoices

The Contractor shall issue an invoice to the Employer for all amounts to be paid to the Contractor under the Contract. Each invoice shall be issued to the Employer at least 28 days prior to the date on which the amount is payable.

If VAT is payable on any amount certified by the Employer for payment under the Contract, the Contractor shall ensure that the invoice complies with the requirements of a Tax Invoice under the Value Added

Tax Act no. 89 of 1991 (as amended). No payment shall be made by the Employer on invoices not meeting this requirement and the Employer shall not be liable for interest for such non-payment.

l. DEFAULT

As per FIDIC

m. RISK AND RESPONSIBILITY

As per FIDIC

n. INSURANCE

14.1 Extent of Cover

Delete this Sub-Clause and replace with the following:

"The Employer shall, prior to commencement of the Works, effect and thereafter maintain insurances in the joint names of the Parties:-

- (a) for loss and damage to the Works, Materials and Plant, and
- (b) for liability of both Parties for loss, damage, death or injury to third parties or their property arising out of the Contractor's performance of the Contract, including the Contractor's liability for damage to the Employer's property other than the Works.

This insurance shall be effected and maintained by the Employer in accordance with and to the extent provided in the Employer's construction risks insurance policy."

Notwithstanding anything to the contrary in this Clause 14 [Insurance] (and notwithstanding the definitions and other terms of the Contract), the scope and extent of insurance cover provided by the Employer as the insuring Party, and the Employer's obligations as the insuring Party under this Sub-Clause, are subject to the terms of the said policies.

The Contractor shall, prior to commencement of the Works, effect and thereafter maintain all additional and other insurances in the joint names of the Parties:-

- (a) for loss and damage to the Contractor's Equipment,
- (b) for Plant and Materials during manufacture or fabrication to the extent not covered by the policies procured by the Employer as the Insuring Party,
- (c) for liability of both Parties and of any Employer's representative for death or injury to the Contractor's personnel except to the extent that liability arises from the negligence of the Employer, any Employer's representative or their employees, and
- (d) to the extent that the Contractor considers it necessary, for other insurances for risks carried by the Contractor under the Contract (including for the Works, Plant, Materials and/or Contractor's Documents for risks which are not covered, or not sufficiently covered, as the case may be, by the Employer's policy(s))."

o. RESOLUTION OF DISPUTES

Clause 15 deleted in its entirety and replaced with the following:

15.1 Adjudication

"If a dispute (of any kind whatsoever) arises between the Parties in connection with, or arising out of, the Contract, including the validity of the Contract, or the execution of the Works, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Employer, either Party may, within 28 days after such dispute arising, refer the dispute to adjudication in accordance with the Rules for Adjudication all as appended to the FIDIC Short Form of Contract (First Edition 1999) ("the Rules"). The adjudicator shall be any person agreed by the Parties. In the event of disagreement and notwithstanding anything else provided in the Rules the adjudicator shall be appointed by the Chairman of the Association of Arbitrators of Southern Africa.

Neither Party shall be entitled to be represented by a practicing and/or admitted lawyer (including but not limited to attorneys, advocates or judges) in any proceedings before the adjudicator. The proceedings shall be conducted on the papers unless both parties agree that a hearing should be held, or the adjudicator otherwise directs. Each Party shall bear its own costs in regard to any matter referred to the adjudicator."

15.2 Notice of Dissatisfaction

“If a Party is dissatisfied with the decision of the adjudicator or if no decision is given within the time set out in the Rules, either Party may give notice of dissatisfaction referring to this Sub-Clause within 28 days of receipt of the decision or the expiry of the time for the decision. If no notice of dissatisfaction is given within the specified time, the decision shall be final and binding on the Parties who shall give effect to it without delay. Where a notice of dissatisfaction is given within the specified 28 day period the decision shall nevertheless remain binding unless and until the decision of the adjudicator is revised by an arbitrator.”

15.3 Amicable Settlement

“Where notice of dissatisfaction has been given under Sub-Clause 15.2 [Notice of Dissatisfaction] above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the twenty-eighth day after the day on which notice of dissatisfaction was given, even if no attempt at amicable settlement has been made.”

15.4 Arbitration

“Unless settled amicably, any dispute in respect of which the adjudicator’s decision (if any) has not become final and binding shall be finally settled by arbitration. Unless otherwise agree by both Parties:
(a) the dispute shall be finally settled under the Rules For The Conduct of Arbitrations as published by the Association of Arbitrators (Southern Africa) in force at the time of commencement of the arbitration,

- (a) the dispute shall be settled by one arbitrator to be appointed by the Chairman of the Association of Arbitrators (Southern Africa),
- (b) the arbitration shall be held in Johannesburg, and
- (e) the arbitration shall be conducted in the language for communications defined in Sub-Clause 1.5 [Communications].

For the purpose hereof the term “dispute” shall be interpreted in the widest sense and shall include any dispute or difference in connection with or in respect of the conclusion or existence of the Contract, the carrying into effect of the Contract, the interpretation or application or the provisions of the Contract, the Parties respective rights and/or obligations in terms of and/or arising out of the Contract and/or the validity, enforceability, rectification, termination or cancellation, whether in whole or in part, of the Contract.

The arbitration shall not be construed as a review or appeal of any adjudicator’s decision. Resolution of the dispute shall commence anew, as if no adjudication had taken place. The claimant in the adjudication shall be the claimant in the arbitration. The adjudicator’s decision, or reasons, shall not be admissible in the arbitration.

Neither Party shall be limited in the proceedings before the arbitrator to the evidence or arguments previously put before the adjudicator to obtain his decision, or to the reasons for dissatisfaction given in its Notice of Dissatisfaction.

The adjudicator shall not be eligible for subsequent appointment as the arbitrator nor shall any party have the right to call on the adjudicator as a witness in the arbitration.

This Sub-Clause shall exist independently of this agreement to the extent necessary to resolve disputes that may arise out of or concerning this agreement, its validity or termination”

C1.2.3. EMPLOYER’S INSURANCE MANUAL

PRINCIPAL CONTROLLED INSURANCE CLAUSES - FOR USE WITH THE EMPLOYER’S CONTRACTS

PARTICULAR CONDITION 18

18.1 Insurance Effected by the Employer.

18.1.1 Notwithstanding anything elsewhere contained in this Contract and without limiting the obligations liabilities or responsibilities of the Contractor in any way whatsoever (including but not limited to any requirement for the provision by the Contractor of any other insurances) the **Employer** shall effect and maintain as appropriate in the joint names of the **Employer** the Contractor and where relevant subcontractors the following insurances which are subject to the terms limits exceptions and conditions of the Policy:

(a) **CONTRACT WORKS**

Insurance - which will provide cover against accidental physical loss of or damage to the Works including temporary works, Plant and Materials intended to form part of the Permanent Works

(b) **SASRIA SPECIAL RISKS**

Insurance - in respect of riot and associated risks of damage to the Works, including temporary works, Plant and Materials intended to form part of the Permanent Works.

(c) **PUBLIC LIABILITY** Insurance

- which will provide indemnity against the insured parties legal liability in the event of accidental death of or injury to third party persons and/or accidental loss of or damage to third party property arising directly from the execution of the contract on or about the Site and occurring during the period of insurance with a limit of indemnity of R250,000,000 in respect of all claims arising from any one occurrence or series of occurrences consequent on or attributable to one source or original cause.

- The **Employer** shall pay any premium due in connection with the insurance effected by the **Employer**. All of the aforementioned policies are renewed on an annual basis and are thus applicable for the year they are placed, that is,

a 12-month period commencing 01 July and ending 30 June of the ensuing year. In terms of all details contained hereunder, they are thus applicable until 30 June. Policy terms, conditions and deductibles may change on the 01 July depending on the outcome of the renewal. This will thus be the case for every ensuing year of insurance.

- The Contractor shall not include any premium charges for this insurance except to the extent that he may deem necessary in his own interests to effect supplementary insurance to the insurance effected by the **Employer**. The **Employer** reserves the right to call for full information regarding insurance costs included by the Contractor.

- Any further clarification of the scope of cover provided by the Policies arranged by the **Employer** should be obtained from the **Employer**:

Mr. Bafana Gamede
Tel: 011 682 0362
Fax: 011 682 0765
Email: bgamede@randwater.co.za

OR
Ms. Lerato Mosweu

Tel: 011 682 0709
Fax: 011 682 0765
Email: mmosweu@randwater.co.za

18.1.5 In the event of any occurrence which is likely to or could give rise to a claim under the insurances arranged by the **Employer** the Contractor shall:

a) In addition to any statutory requirement or other requirements contained in the Contract immediately notify the **Employer** by telephone and or e-mail giving the circumstances nature and an estimate of the loss or damage or liability.

b) Complete a Claims Advice Form available from the **Employer** to whom the form must be returned without delay.

c) Negotiate the settlement of claims with the Insurers through the **Employer's** Insurance Brokers and shall when required to do so obtain the **Employers** approval of such settlement.

The **Employer** and Insurers shall have the right to make all and any enquiries on the site of the Works or elsewhere as to the cause and results of any such occurrence and the Contractor shall co-operate in the carrying out of such enquiries.

i. The Contractor will be liable for the amount of the Deductible (First Amount Payable) in respect of any claim made by or against the Contractor or Subcontractors under the insurances effected by the **Employer**.

ii. The Contractor will be liable for the amount of the Deductible (First Amount Payable) in respect of any claim made by or against the Contractor or Subcontractors under the insurances effected by the **Employer**.

- iv) 10% of the claim with a minimum R10,000 and a maximum R500,000
- v) Other contracts:
- vi) 10% of the claim with a minimum of R10,000 and maximum of R250,000

b) Under the **Sasria** (Special Risks) Insurance:
0.10% of the Contract Value in respect of loss by theft following an insured peril subject to a minimum of R2,500 and a maximum of R25,000

c) Under the Public Liability Insurance in respect of loss of or damage to property R 25,000

(d) Under any other insurances shall be as specified in such insurance policy.

1.1.1 Any amount which becomes payable to the Contractor or any of his Subcontractors as a result of a claim under the Contract Works Insurance shall if required by the **Employer** be paid net of the Deductible to the **Employer** who shall pay the Contractor from the proceeds of such payment upon rectification repair or reinstatement of the loss or damage but this provision shall not in any way affect the Contractor's obligations liabilities or responsibilities in terms of the Contract.

Insured Contracts

All contracts undertaken by the Insured involving Design, Construction, Testing, Commission in respect of new works, capital expenditure, Upgrade, modification, retrofitting, or alteration and/or additions to existing facilities undertaken by the Insured or other Insured Parties acting on their behalf but excluding.

- (a) Projects with an estimated period exceeding 36 months (excluding Defects Liability period)
- (b) Projects exceeding R500 million at inception
- (c) Contracts involving Tunnelling

All Sums Insured inclusive of VAT.

Where more than one Contractor is involved in the same claim the Deductible will be borne in pro-rata amounts by each Contractor in proportion to the extent of each Contractor's admitted claim.

The Deductibles (First Amount Payable) for which the Contractors are responsible and which are applicable in respect of each and every occurrence or series of occurrences attributable to one source or original cause giving rise to loss or damage or liability indemnifiable are as follows:

- (a) Under the **Contract Works Insurance** in respect of loss or damage
 - i) Wet Risks:
 - ii) 10% of the claim with a minimum R10,000 and a maximum of R 500,000
 - iii) Maintenance:

In respect of any amount which becomes payable as a result of a claim under any Public Liability Insurances the Contractor or his Subcontractors shall be required to pay the amount of the Deductible to the Insurer to facilitate settlement of such claim.

18.2 Insurance Effected by the Contractor.

18.2.1 Without in any way detracting from any requirements contained elsewhere in this contract the Contractor and Subcontractors shall where applicable provide as a minimum the following:

- 1 Insurance of Contractors Equipment (including tools offices and other temporary structures and contents) and other things (except those intended for incorporation into the Works) brought onto the Site for a sum sufficient to provide for their replacement.
- 2 Insurance in terms of the provisions of the Social Security Act as may be amended or in terms of any similar Workers Compensation and Unemployment Insurance enactment's in the Contractors' or Sub Contractor's operational, manufacturing or assembly locations.
- 3 Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger Liability indemnity.
- 4 Where the Contract involves manufacturing and/or fabrication of the Works or parts thereof at premises other than at the Site the Contractor shall satisfy the **Employer** that all Plant and Materials for incorporation in the Works are

adequately insured during manufacture and/or fabrication. In the event of the **Employer** having an insurable interest in such Works during manufacture or fabrication then such interest shall be noted by endorsement to the relevant Policies of Insurance.

Special Condition

5 Only applicable if contracts works involves elements of design

PROFESSIONAL INDEMNITY Insurance – of not less than R 1 000 000 for a period of insurance commencing on the date of award of the Contract. The Insurance shall include Retroactive cover to the date of Conceptual Design commencement and should be in effect for a period of 12 months after completion of the works.

Notwithstanding the required limit as set out above, “Professional Indemnity” the contractor will be liable for the full amount of the claim arising out of their errors and omission.

- The insurances to be provided by the Contractor and his Sub-contractor shall

- 2 Be effected with Insurers and on terms approved by the **Employer** – these terms shall be consistent with any terms agreed by both Parties before the date of the Letter of Acceptance. This agreement of terms shall take precedence over the provisions of this Clause
- 3 Be maintained in force for whatever period the perils to be insured by the Contractor are at risk (including any Defects

Notification Period during which the Contractor is responsible for the care of the Works)

- 4 Within the respective periods stated in the Appendix to Bid submit to the **Employer** the relevant Policy or Policies of Insurance or evidence acceptable to the Employer that such insurances have been effected.

- 18.2.3 In the event that the Contractor or his Subcontractor receives any notice of cancellation or restrictive modification to the insurance provided to them they shall immediately notify the **Employer** in writing of such cancellation or restriction and shall advise what action the Contractor or his Sub-contractor will take to remedy such action.

If the Contractor fails to effect and keep in force the insurances referred to then the **Employer** may effect and keep in force any such insurances and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount paid by the **Employer** from any monies due or which may become due to the Contractor or recover same as a debt from the Contractor.

18.3 Subcontractors.

The Contractor shall:

- a) Ensure that all potential and appointed Subcontractors are aware of the whole contents of this clause, and
- b) Enforce the compliance by Subcontractors with this clause where applicable.

PART C2: PRICING DATA

C2.1. PRICING ASSUMPTIONS

- 2 These Bills of Quantities (C2.2) shall be used to assist both parties in administering and agreeing any changes/variations, which may arise during the course of the Contract.
- 3 These Bills of Quantities shall be used to calculate the value of work completed in the evaluation of interim/final payments.
- 4 The Bidder is deemed to have allowed opposite each item contained in these Bills of Quantities whatever costs and charges it may consider necessary for the carrying out, complying with and due observance of the provisions, conditions and requirements set out in the Contract.
- 5 No claim whatsoever will be entertained in respect of errors or omissions in pricing due to the brevity of a description of any item contained in these Bills of Quantities which items are fully described or can reasonably be inferred when read in conjunction with the relevant clauses provided for in the Conditions of Contract, Specifications, Drawings or other relevant documentation.
- 6 Any item left un-priced will be deemed to be provided for elsewhere and no claim for any extras arising out of the Bidder's omission to price any item will be entertained.

C2.2. PRICING SCHEDULES / BILLS OF QUANTITIES (BoQ)

The Bidder must refer to **Annexure C2.2: Pricing Schedule / Bill of Quantities (BoQ)** provided with this bid document.

The Bidder is required to submit the following:

- 2 **Printed format and signed version of the completed pricing schedule or BoQ.**

PART C3: SCOPE OF WORK

C3.1. DATES FOR DELIVERY AND COMPLETION

- (i) It is estimated that the Contract will be placed on or before 01 November 2022 access to undertake work will only become available after the issue of the Site Access Certificate.
- (ii) The Bidder shall state the proposed start and completion dates based on the above approximate date, these dates shall comply with the dates mentioned below in T2.2.1.4
- (iii) The Bidder shall simultaneously fill in the period required to complete the work in days or weeks from the date of acceptance of the offer by the Employer. This shall be used to adjust dates should the Contract placement date vary.
- (iv) All equipment and plant shall be handed over by 30 November 2022 and the Bidder's programme shall comply with this requirement by the Employer.

Item	Start Date	Completion Date	Working Period
PHASE 1:			
PHASE 2:			
PHASE 3:			
PHASE 4:			
PHASE 5:			

Table C3.1: Dates for delivery and completion

NOTE THAT A DETAILED PROJECT PROGRAMME MUST BE INCLUDED WITH THE BID SUBMISSION

Name of Bidder: _____

Signed by or on behalf of Bidder: _____ Official Capacity: _____

Date: _____

C3.2. SCOPE OF WORK

1. Rand Water EMS requires a contractor to upgrade the landscape for area 1 (around main entrance & visitors parking) as per design to be provided by Rand Water.
2. The project will be installed in phases and includes all the open areas around the Rietvlei site. The large portion of the sites consists of natural vegetation, and it is very important not to disturb any existing indigenous vegetation without prior discussion and instruction. Natural materials on site, such as dry tree trunks, large rocks may also not be removed or moved.
3. All waste generated is to be disposed of at a registered facility and proof of disposal is to be presented with the invoice(s). The contractor is to confirm all the measurements of gardens that require revamping on site.
4. The EMS section of Rand Water reserves the right to reduce or increase the area that requires revamping of garden.

1.2 Objectives

The aim of this tender is to source a supplier to do:

- Site establishment.
- Ripping of soil, earth works and spreading of topsoil.
- Irrigation installation.
- Seed bed preparation.
- Supply and deliver plants.
- Supply and deliver compost.
- Supply and deliver fertilizer.
- Planting
- Base preparation and laying of new paving.
- Maintenance.
- Construction work of water feature and seating wall.
- Placing of furniture.
- Miscellaneous work.
- Revamp gardens as per designs provided by Rand Water.
- Removal of refuse, clearing up of site where required and dumping waste to a registered land fill site

1.3 MATERIALS

All materials other than those available on site are to comply with SABS specifications.

1.3.1 PRECAUTIONS TO EXISTING SERVICES

- The Contractor is responsible for obtaining any information regarding sewers, water mains, storm water drains, electric and telephone and IT cables and any other public services and existing works which may be affected by the Works.
- The Contractor shall be responsible for any damage to such services and existing works in the execution of this contract and shall reimburse the Employer for any repairs required or compensation for damages awarded.
- The Contractor shall be responsible for immediately notifying the Landscape Architect regarding any damage caused to services and existing works.

1.4 DISPOSAL OF MATERIALS

The Contractor must make provision to dispose of all unwanted materials by removing them from the site. The Contractor shall however only dispose of unwanted materials upon instruction from the

Landscape Architect.

1.5 SITE CAMP

- A site camp for the storage of materials and plants only may be established on the site by arrangement and in liaison with the Rand Water EMS representative.
- All areas occupied for temporary storage by the Contractor shall be reinstated immediately upon removal of such storage to the entire satisfaction of the Landscape Architect and shall include the reinstatement of any natural vegetation if so required.

1.6 WATER

The Contractor is to make provision for all his own water requirements, be it at the site camp or anywhere else on the works inclusive of the maintenance and establishment of the installation. Water for irrigation purposes will be provided free of charge to the Contractor.

1.7 ELECTRICAL POWER

Contractor to consult Rand Water for the provision of source of electrical power.

1.8 TOILET FACILITIES

Suitable chemical toilet facilities shall be provided at the site camp as well as at the work area for use of all staff and shall be to the satisfaction of the Landscape Architect. Failure to provide and maintain satisfactory facilities shall be caused to withhold passing of payment certificates.

1.9 COMMUNICATION FACILITIES

The Contractor is to provide his own telephone and internet facilities and make provision therefore in the Bills of Quantities.

1.10 PROTECTION OF EXISTING PLANT MATERIAL, STRUCTURES, ROADS ETC

- The Contractor shall be held entirely responsible for the protection of all trees, fences, roads and any other structures within and outside of the limit of work and as such shall inter alia ensure the following:
- That his own, his subcontractors and his suppliers' workmen, are strictly prohibited from trespassing on areas outside the areas of the work as directed by the Landscape Architect or the Rand Water EMS representative.
- That the Contractor will only use roads approved by the Landscape Architect and the Rand Water EMS representative.
- Prior to commencing work upon the site, the Contractor shall ascertain from the Landscape Architect which existing trees, shrubs and other flora requires to remain intact and the Contractor shall protect and preserve the plants so designated by the Landscape Architect. Any such plants destroyed or in the Landscape Architect's opinion sufficiently damaged to warrant non-acceptance must be replaced by the Contractor at the Contractor's expense when directed to do so.

1.11 AS BUILT DRAWINGS

The Contractor shall keep accurate records of the position of all installations and will submit upon completion of the works and prior to the issue of the final payment certificate, accurate "As Built" drawings to the Landscape Architect in electronic format as well as 3 hard copy sets.

1.12 APPOINTMENT OF RESPONSIBLE PERSON

- The Contractor's attention is drawn to the necessity in terms of the Machinery and Occupational

Safety Act to appoint a responsible person. Any orders or instructions given by the Landscape Architect to the Site Agent shall be deemed to have been given to the Contractor.

- A copy of the letter of appointment and of the appointee's written acceptance thereof shall be lodged with the Employer BEFORE any work on site shall commence and must also be displayed on site.
- In addition, the Contractor shall provide the Employer with the name or names of any Safety Representatives appointed who have been given the responsibility for any site or sites falling under responsibility of the contract.
- Whenever the appointed responsible person is replaced by another person, the replacement must be appointed, and a copy of the appointment submitted to the Rand Water EMS representative.
- The Contractor is reminded that in terms of the Machinery and Occupational Safety Act, he is responsible for the general safety of his employees. The Contractor must comply strictly with all aspects of the said Safety Act.
- It shall be the Contractor's responsibility to acquire permits for hazardous work when and if required by legislation.

1.13 IRRIGATION EQUIPMENT

Irrigation equipment provided for in the Bills of Quantities will be made available to the Contractor for use during the maintenance period. All equipment to be handed back to the Employer upon issue of the Final Certificate in good condition considering fair wear and tear. If in the opinion of the Landscape Architect, the equipment is not serviceable or incomplete, the Contractor will replace all such equipment at his own expense.

1.14 OTHER CONTRACTORS ON SITE

The Contractor is to, if so required, co- ordinate his work with all other Contractors and no claims will be entertained due to having to accommodate any other Contractors at any time. Access to other contractors must be provided.

1.15 CONTROL OF THE CONTRACTOR'S EMPLOYEES

The Contractor is to ensure that all employees in his employ keep within the bounds of their work area and within approved working hours as laid down by the Employer. The Contractor will have to, as part of his normal contractual duties comply with all security arrangements as will be required of him and will make provision therefore in his rates.

1.16 AGENTS OF THE RAND WATER

The Contractor is to always provide safe and unobstructed access to the site to all agents of the Rand Water EMS representative.

1.17 SITE BOARD

The Contractor will be permitted to erect a site board in accordance with the regulation laid down by ILASA, in a position to be approved by the developer for the duration of the contract. Any cost thereof must be borne by the Contractor.

1.18 PROCUREMENT OF PLANT MATERIAL

- It is an express condition of this contract that all plant material is to be sourced locally. The Contractor is to submit together with his tender a comprehensive list of suppliers for approval by the Landscape Architect.
- For purposes of this clause, locally can be interpreted as areas with similar climatic conditions to those of the site.

1.19 SITE INSPECTION BY TENDERER

The Tenderer is required to inspect and will be deemed to have inspected the site, and in this connection the Tenderer's attention is drawn to the General Conditions of Contract, and all documents and drawings forming the tender document. Tenderers are also required to satisfy themselves that the documents received are enough, correct and complete to form the basis of a bona fide tender.

1.20 TENDER DOCUMENTS

- The Tenderer will satisfy himself that he perfectly understands the work to be done as specified and implied in the execution of the project.
- Should a Tenderer not accept that documents issued can form the basis of a bona fide tender, the Landscape Architect shall be requested to correct the discrepancy, ambiguity, missing or illegible information.
- The submission of a bona fide tender shall absolve the Landscape Architect from any liability whatsoever for any error in a tender due to the foregoing.
- The Contractor will conduct an inspection of the site on the date and time given therefore.

1.21 MAINTENANCE OF SITE DURING CONSTRUCTION

- The premises and the works site shall be maintained by the Contractor in a reasonably neat and orderly condition and free from accumulation of waste materials and rubbish during the entire construction period. All crates, cartons and other waste materials or trash shall be removed from the work areas at the end of each working day. It shall be the responsibility of the Contractor to see that a clean site is maintained to the satisfaction of the Landscape Architect.
- The Contractor will make provision in his rates for the maintenance of all plants and landscaped areas (whether planted or in the site nursery) during the installation phase and up to the issue of Certificate of practical completion.

1.22 QUALITY CONTROL OF MATERIAL

It is required of the Contractor that all plant material must be inspected and approved by the Landscape Architect prior to purchasing and delivery to site thereof.

1.23 MAINTENANCE PERIOD

The maintenance period will commence upon issue of the Certificate of practical completion and continue for a period of 3 months (or extended to 6 or 12 months as may be decided by the Employer) thereafter and until issue of the certificate of final completion by the Landscape Architect

1.24 INSPECTION OF WORKS

The Contractor shall obtain all local authority approvals if required and shall ensure that all work is also inspected by the Landscape Architect prior to covering up. The fact that the work will be inspected periodically in no way absolves the Contractor from total responsibility for the quality of his workmanship and for compliance with the specification.

1.25 PLANT PROCUREMENT

The Contractor shall procure all specified plant material within 6 weeks (six) after appointment. Plant material must be procured in accordance with the specified sizes, quality, and quantities. Physical location and list of suppliers to be submitted to the Landscape Architect for regular plant inspections.

1.26 PLANT INSPECTIONS

- All procured plant material shall be inspected on a bi-weekly basis by the Landscape Architect

and recorded in terms of size, quality, and quantities. Plant growth and establishment shall be monitored to ensure that all specifications are met.

- The Contractor shall ensure that all plants specifications are fully adhered to (refer to the Bills of Quantity) by means of the necessary fertilizer, growth stimulators and water application, pruning or any other instruction from the Landscape Architect deemed necessary in this regard.

1.27 NOISE POLLUTION

It is an express condition that the Rand Water EMS representative reserves the right, should he believe the works is creating a noise pollution which is affecting the neighbourhood, to instruct the Contractor to work elsewhere on the works site for the period as required. Such an instruction will not entitle the Contractor to submit claims of any nature whatsoever. The prioritizing of works must also be drawn up taking this factor into account.

1.28 PRIORITIES

The determining of priority areas and works will be drawn up together with the Rand Water EMS representative, Landscape Architect and Contractor with a view to ensuring all aspects of the program is being met.

1.29 ENVIRONMENTAL MANAGEMENT PROGRAMME (EMP)

The Contractor is to fully comply to all requirements and specifications as stipulated in the EMP. A copy of the EMP will be made available upon request.

STANDARD SPECIFICATIONS

2. GENERAL

2.1 CONTRACT DOCUMENTS

The contract documents consist of the documents as set out in the list of contents. This document must be seen as one, and items referred to in a particular document are not necessarily repeated in other sections. A provision of any section or part of this Contract shall be binding even though it may not be repeated in the other documents.

2.1.1 SCOPE OF THE SPECIFICATIONS

- The quantity list includes as far as possible each item of work to be carried out as the Contract requires, with regards to construction, labour or materials, planting, cultivation, and maintenance of works.
- Each item of work with the relevant unit price shall be considered inclusive of any additionally required work for that specific component and no extra payment over and above the tendered amount will be approved for labour, materials, or any additional works. Where an item is not priced in the quantity list, it shall be accepted that provision has been made under a separate item for this entry.
- Where any uncertainty exists about the true intent and meaning of an item, the Tenderer must request the Landscape Architect to provide a written explanation, clarification, or definition of the works in question. No claims resulting from any misunderstanding will be considered after the tender has been received.
- Where provisional amounts are provided for any item of work which must be carried out, it must be accepted that the eventual amounts or quantities may differ from the amounts provided provisionally.
- The Contractor must, after having received the works diagrams and details of any work, and before he commences any work, determine that the dimensions indicated on the works diagrams and specification details correspond with the dimensions of any structures/work already built or carried out and which form the basis for the dimensions which are indicated on the specification details or works diagrams. If the works diagrams or details do not correspond with already existing work, the diagrams must be returned immediately to be changed since no claim in respect of extra work will be considered as far as this is concerned.
- Where items of materials or the exact procedures may not be specified, the Contractor will request that the Landscape Architect gives such detailed information as may be required to deliver a product of the highest quality.
- The Contractor will base his tender on this basis.

2.1.2 TENDER MODIFICATIONS

- The tender must only be based on these specifications and quantity list. Tenderers may suggest modifications to the specifications separately and submit these to the Landscape Architect for consideration. Such suggestions must be submitted on the prescribed form which is supplied as an addendum to this document.
- The submission of such suggestions does not place the Employer under any obligation to put any such suggested addenda to this document into operation.

2.1.3 PROOF OF TENDERER'S INSPECTION OF SITE

- The Tenderer must certify that the site has been inspected in the presence of the Landscape Architect or alternatively as arranged before the tender is submitted.
- This inspection must take place on the day, date and time set aside for a visit to the site by interested parties.
- Failure to attend this meeting could lead to the disqualification of the Tenderer.

2.1.4 PROOF OF TENDERER'S COMPETENCE

The Tenderer must provide proof of his experience and ability to carry out the tender as required successfully. Evaluation of the Tenderer shall inter alia consider previous experience, quality and quantity of work completed, equipment available as well as the financial standing of the Tenderer.

2.1.5 CONTRACTOR'S EQUIPMENT AND TOOLS

- The Tenderer's equipment shall be of a modern design and, where applicable, roadworthy and suitable for the service for which it is required. All equipment shall be maintained in working order and shall be of enough capacity for the work in question to be carried out effectively. Where the Landscape Architect is of the opinion that the Contractor has ineffective or inadequate equipment on site which will hamper the work to be carried out, he shall have the right to instruct the Contractor to obtain and provide onsite such additional or approved equipment which in his opinion is required for the carrying out of the work, without the progress of the work being affected in any way.
- All equipment which is not in working order or needed on site must be removed by the Contractor.

2.1.6 PLOTTING OF WORKS

- The Contractor shall be responsible for the correct pegging out of the works as measured from reference pegs and sight levels as indicated by the Landscape Architect. Should the representative of the Landscape Architect check the pegging out done by the Contractor to ensure that the work is carried out strictly according to the diagrams and specifications, the Contractor will not be absolved of any part of his responsibility.

2.1.7 MEASURING EQUIPMENT

The Contractor must supply the necessary measuring equipment for use by the Landscape Architect, as well as sufficient assistants for the plotting, the surveying and the checking of heights which may be required as the contracted work progresses.

2.1.8 CONTRACTOR'S TEMPORARY STRUCTURES

The Contractor shall allow for suitable offices, latrines, and storage rooms for the protection of tools, equipment, and materials. The location of these facilities on site shall be determined with the approval of the Landscape Architect and Employer. These facilities shall be supplied at the Contractor's expense. Provision must also be made for latrines at the works area.

The Contractor must further provide for the moving of the latrines as may be necessary from time to time, and the eventual removal of latrines and the clearing of the site to the satisfaction of the Medical Officer of Health.

The Contractor must ensure that his workers use the latrines. The Contractor shall, at the end of the contract, remove all structures at his own expense, and leave the site neat and to the satisfaction of the Landscape Architect.

2.1.9 WATER AND ELECTRICITY

2.1.9.1 WATER

Water for construction and irrigation purposes is available on site. The Contractor shall provide for and make his own arrangements for the supply of water to the works areas for construction purposes. All costs regarding connections, pipes and use of water shall be borne by the Contractor. Irrigation water will be supplied free of charge.

2.1.9.2 ELECTRICITY

The Contractor shall consult Rand Water for the use of electricity for construction purposes

2.1.10 STORAGE OF MATERIALS ON SITE

The Contractor must ensure that no material is delivered on site before its placing and storage on site is approved by the Landscape Architect and Rand Water EMS representative.

2.1.11 CONTRACTORS SITE CAMP

A site camp for the storage of only materials and plants may be established on the site by arrangement and in liaison with the Landscape Architect and Rand Water EMS representative.

All areas occupied for temporary accommodation by the Contractor shall be reinstated immediately upon removal of such accommodation to the entire satisfaction of the Landscape Architect and shall include the reinstatement of any natural vegetation if so required.

The Contractor shall, in addition, if he deems it necessary, allow for the provision of rented or other accommodation for his workmen off the site.

2.1.12 SITE BOARD

The Contractor is to allow for the placing of a site board in consultation with the Landscape Architect and the Rand Water EMS representative

2.1.13 EXISTING WORKS

Special measures must be taken by the Contractor to avoid damage to all buildings, structures, sewage and storm water drainage pipes, storm water grids and inlets, manholes, valve boxes, water pipes and taps, fire hydrants, irrigation pipes and equipment, cables, completed landscaping, telephone and light poles, plants and other services. It shall be the responsibility of the Contractor, irrespective of the positions and depths of services as indicated on the plans, and irrespective of omissions, to determine if any of these services are in any way likely to be affected, and if this is the case, to determine the exact position of the services in question, before commencing construction of any of the services, including any resultant claims which have to be borne by the Contractor. All damages must be reported to the Landscape Architect and Rand Water representative

Where manholes, valve boxes and other services must be adjusted according to present construction work specifications, or for any other reason, the Landscape Architect must be informed in good time so that the necessary arrangements can be made for this to be done.

Manholes, valve boxes, meter boxes, fire hydrants etc. must always be within reach and visible.

2.1.14 PROTECTION OF PROPERTY

All safety measures which may be necessary for preventing injury to any person or animal, damage to buildings, structures, services, plants, vehicles etc. must be taken by the Contractor. Sufficient bilingual warning signs, railings, lighting etc. must be erected around excavations, obstructions and mounds, and gangways must be supplied over open furrows or trenches where necessary for the convenience of the public. Without absolving the Contractor of any part of his responsibility, the Landscape Architect may instruct the Contractor immediately to take additional safety measures as deemed necessary by him.

2.1.15 SAFETY OF WORKERS

The safe completion of the works shall be a primary aim of the contract. All works shall be completed in accordance with all applicable statutory regulations and requirements, and Tenderers must make allowance for this in their quoted price.

All electrical wiring shall be maintained in a safe working order. Care must be taken in this respect in wet conditions. All switch gear and panel boards must be secured with locks. The moving parts of machinery must be fitted with protective plates. The Contractor is obliged to keep a constant supply of sufficient and suitable first-aid material on site so that first aid can be administered in case of an accident or other emergencies. The Contractor shall also ensure that personnel trained for this purpose are available on site.

2.1.16 MAINTENANCE AND SAFEGUARDING OF NEW WORKS

During the various phases of the work, the Contractor shall safeguard his works from any damage, and maintain them at his own expense until they are handed over to the client at final completion. Any defects or damage which may occur during this period must be rectified by the Contractor at his own expense, whether caused by construction machinery, normal traffic, rain, wind damage, faulty materials, or whatever reason. The Contractor shall rectify such damage immediately and at his own expense. If the Contractor neglects to undertake the required repairs, the Landscape Architect reserves the right to appoint any suitable person to effect said repairs at the expense of the Contractor. The Landscape Architect shall inform the Contractor as soon as possible if such action has been taken.

2.1.17 SUBDIVISION OF CONTRACT

Tenderers must tender for the entire contract and tenders on sections of the work shall not be considered.

2.1.18 PROGRAMMING OF WORKS

The execution of the work set out in this contract shall be completed in phases to accommodate other construction work, and the provision of various works facilities should be sequenced according to a system. The Landscape Architect shall inform the Contractor of the succession of activities and the Contractor will not be able to accept such programming as grounds for claims for additional remuneration.

Upon preparing the program of works, the following procedures should normally be considered to follow upon each other

Clearing of site, groundworks, base preparation and paving, construction work, installation of services and irrigation, topsoil, fertilizer and composting, fine trimming, and planting.

2.1.19 REPAIRING DAMAGE TO THE SITE RESULTING FROM WORKS

All roads, kerb stones, wire fencing, poles, structures, paving etc, which have been affected in the course of the work carried out, shall be set right before the site is vacated. The Contractor shall be responsible for repairing all road and pavement surfaces which have been damaged because of excavations and other work carried out contractually, even though no provision has been made for this in the quantity list.

2.1.20 PROGRESS

The Contractor shall be responsible for controlling the work in progress. He must record work completed in the site log on a weekly basis or at intervals as determined by the Landscape Architect.

2.1.21 SITE MEETINGS

Meetings on site shall be held weekly, or at such suitable intervals as determined from time to time by

the Landscape Architect, under the chairmanship of the Landscape Architect or his representative and must be attended by the Contractor. Directives received at these meetings must be carried out by the Contractor within the stipulated period. Failure by the Contractor to carry out these directives shall constitute breach of contract. Site instructions given by the Landscape Architect must be confirmed in writing by recording them in triplicate in the site instruction book, which should be in the safe keeping of the Contractor. Amended instructions must clearly define and describe the extent of the work, the locality and quantity involved, as well as any cost implications.

2.1.22 OVERTIME & ADDITIONAL WORK

No additional payments will be made for overtime worked. It is expected of the Contractor as part of his normal duties to complete the project timeously even if directed to work after normal hours. Should the Contractor be instructed by the Landscape Architect to carry out additional work, it will be done in terms of this contract.

2.1.23 MATERIAL WHICH MUST BE REMOVED

Any material, of whatever nature, which must be removed from the site as directed by the Landscape Architect and as stipulated in this contract, must first be placed in measurable heaps as instructed by the Contractor, for the Landscape Architect to determine the quantity, or be measured in situ by the Landscape Architect before it is removed. No disbursement will be approved for material which is removed without the proper controls.

2.1.24 SUPERVISION

The Contractor must ensure the continuous presence of a capable overseer in his service who can receive and execute directives from the Landscape Architect.

2.1.25 SKILLED LABOUR

Only bona fide skilled artisans, who are paid according to the standard rates, shall be used where skilled workmanship is required. Under no circumstances may unskilled labour be allowed to do the work of skilled artisans.

2.1.26 GENERAL NEATNESS OF SITE

The Contractor shall always, during the duration of this contract keep the site neat and clean. Waste, rubbish etc, must be removed from site daily. All material, waste material, and storage heaps of whatever nature must be kept in a satisfactory state as required by the Landscape Architect. The Contractor will also be expected to remove from his site any unserviceable machinery, implements and vehicles. The overnight storage of material and equipment on the working area remains the responsibility of the Contractor. It shall be expected of the Contractor as a normal part of his duties, to clear and tidy the site totally over weekends, to such an extent that no disruption or discomfort is experienced, and that the area may be considered safe.

2.1.27 FLOOD DAMAGE

The Contractor must at his own expense apply all the necessary measures to prevent his works from being damaged by floodwater and erosion. The Contractor must channel all storm water which leaves his site so that it causes no damage to existing work or work in progress or any existing building at a lower level and does not flood or retard the progress of work being carried out by other Contractors. Any measures taken to cope with storm water must be approved by the Landscape Architect or his representative.

2.1.28 DAMAGE TO PLANTS

The Contractor will at his own expense replace all plants with same species and size due to losses incurred during the contract and maintenance period for any reasons whatsoever, be they due to frost, storm water damage, wind damage, vandalism, theft etc.

2.2 MATERIALS

2.2.1 GENERAL

The Contractor must provide and have delivered to the site all material not available on site and which is required for the proper completion of the work.

The Contractor shall ensure that all material required for the contract will be delivered in good time and in good condition to the site. The Contractor will employ suitable security measures once delivery has been taken. All material which will be used for the contract must continually be checked by the Contractor and may at any time be inspected and tested by the Landscape Architect, even when the material is only being prepared for use on the site.

If it were to be found that material has become defective or unusable after delivery had been taken on site, the Contractor will replace it at his own cost or, if necessary, obtain material from an alternative source. Unless otherwise agreed to in the contract, prices in the quantity list furnished by the Contractor will include the following: the purchasing of materials, the transport of these to the site, delivery taken and storage of these until used, removal of materials so that work can be carried out, or the making available of the terrain for work to be effected, the removal of excess material not used for the contract from the area of work, as well as all labour, supervision and equipment for the proper completion of the work required.

Irrespective of whether the quality of material is specified or not, the Contractor will always only use material of the best quality and base his tender on this assumption

2.2.2 DELAYS IN THE DELIVERY OF MATERIALS

The Contractor shall ensure that work carried out will not be delayed by late delivery of materials to the site as a result of a shortage of materials or the fact that the Contractor neglected to place orders timeously.

If requested the Contractor will furnish written proof to the satisfaction of the Landscape Architect of orders placed timeously with efficient and competent suppliers.

2.2.3 TESTS

The Contractor will from time to time draw soil samples on site at places pointed out by the Landscape Architect for analysis as regards soil fertility and soil suitability and will provide in his tender for costs which may be incurred to cover this item. Detailed records of all samples drawn, and results are to be kept by the Contractor.

Rand Water will together with the Contractor decide on fertilizer and compost applications emanating from the tests done.

2.2.4 FERTILISER

All fertiliser specified for use in the contract, must be stored in plastic bags on site. Care must be taken that the bags are undamaged and not exposed to wind and inclement weather.

2.2.5 COMPOST

All compost shall consist of good decomposed organic material, free of damaging salts and other impurities and with a pH not higher than 7,0. A sample must be submitted to the Landscape Architect for analysis and approval. Where compost is delivered on site in bulk the Contractor must take precautions to protect it from excessive dehydration, dispersal as a result of wind or exposure to rain.

2.2.6 TOPSOIL

Acceptable topsoil will be sandy loam to sand clay loam with a ratio of 15 to 20% clay, 10% silt and 65 to 75% sand. The organic material contents should be not less than 2% per volume. Topsoil must be free of harmful salts, weeds, and debris of whatever kind. Topsoil will only be approved after a soil analysis test is carried out by an authorized institution. Provision therefore must be made in the bill of

quantities. Wherever topsoil must be stockpiled on site for later use, the Contractor must ascertain that such stockpiles are sufficiently protected against wind and erosion by means of sowing of an approved seed cocktail. These seeded areas must be kept moist until an effective coverage of at least 80% is reached.

2.2.7 TOPDRESSING

Topdressing for lawn areas will consist of equal parts of topsoil and compost described in clauses 3.2.6 and 3.2.5 respectively.

2.2.8 MULCH

Mulch for plant beds will consist of bark chips. The bark chips should vary in size between 7 and 10cm in diameter and should be free of seed or damaging salts and other impurities and with a pH not higher than 7.0. A sample must be submitted to the Landscape Architect for approval.

2.2.9 PLANT MATERIAL

All plant material will be obtained from sources as approved by the Landscape Architect and must be purchased from registered nurseries. This material must be healthy, with vigorous growth potential, unblemished and parasite or insect free.

No pot-bound plants will be acceptable. If the minimum requirements cannot be met and such plants are accepted, payment will be adjusted according to the size of the plant. Plant containers must be weed free. Soil in plant containers will continually be topped up where required to prevent the exposure of plant roots. Use only an approved soil/compost mixture for this purpose.

No broken, snapped, or grossly deformed plants will be stored or planted on site.

Dead plants will immediately be removed from the site.

All damaged plastic plant bags or other containers will be replaced by the Contractor and maintained until plants can be planted on the site.

Where plants are kept on site for an extraordinarily long period, and plant roots grow out of the containers, these plants must be transplanted into bigger containers.

Plants in containers must be well rooted with balanced root development. Roots must be spread evenly throughout the growth medium. Plants must have been in the container for a minimum period of twelve weeks prior to delivery to site.

2.2.9.1 PLANTS FROM CONTAINERS

Container sizes will vary as stipulated in the quantity list.

2.2.9.2 PLANTS FROM OPEN GROUND

Plants from the open ground will consist of large trees and/or groundcovers, grass sprigs and perennials which are dug out of the ground carefully and transported to the site under ideal conditions (i.e., the plants must be kept moist and protected against sun and wind). Plants must be transplanted on the same day that they are taken from the ground.

2.2.10 STORAGE OF PLANTS

Plants which cannot be planted immediately (i.e., plants in containers) must be stored under nursery conditions in a place as indicated by the Landscape Architect and must be maintained until and during transplantation to the satisfaction of the Landscape Architect.

2.2.11 SEED

Seed will be seed of the same season and with a guaranteed germination period and comply to the relevant SABS standards. A valid certificate of germination must be submitted upon request to the Landscape Architect. Seed used must not contain any foreign seed or other material and must be purchased from a registered seed merchant.

2.2.12 LAWN SODS

Lawn sods must be obtained from an approved source, be cut short and be weed free. The dimensions should be approximately 1000mm long x 500mm wide. Runners must be well matted, with a soil layer of at least 5mm. Sods must be transported to the site in a rolled-up form (alternatively on pallets) and must be laid down on the same day. Lawn must be pure as regards the species. The lawn grass shall have a good, healthy green colour, without any dead spots. Sprigs for planting are to be taken from the sods.

2.2.13 HERBICIDES AND PESTICIDES

Herbicides and pesticides may only be used with the prior written approval of the Rand Water. The Contractor shall always have available Material Safety Data Sheets for all pesticides, herbicides and applications used and shall remove and dispose of empty containers, bags, etc. in an environmentally responsible way. Herbicides, pesticides, chemical products, and applications used in this contract shall meet all requirements set by law and the Department of Water Affairs and is to comply with relevant SABS specifications.

All herbicides and pesticides shall be applied by specialists in the applicable field or adequately trained supervisors. The onus shall be on the Contractor to ensure that no desirable vegetation is damaged or dies as result of the application of herbicides or pesticides or any other product used by the Contractor, the incorrect use of equipment, incorrect equipment, or negligence on the part of the Contractor or his staff. The Contractor shall take all reasonable steps to ensure that weed and pest control is done in optimal weather conditions to ensure maximum effectiveness.

If in the opinion of the Rand Water representative any vegetation is damaged or dies as result of any actions whatsoever by the Contractor such vegetation shall be replaced to the satisfaction of Rand Water representative. Such vegetation, lawns etc. will be replaced with the same species or in consultation with Rand Water representative with any other species that may be decided upon. The cost of such replacement shall be for the account of the Contractor.

Prior to replacing vegetation, lawn etc. and on instruction from the Rand Water representative the Contractor shall ensure that all residue of the herbicide etc. is removed from the soil, paving or any other surface or area applicable.

The Contractor shall make his own deductions and conclusions as to the nature of the weeds or pests where work is to be executed and shall accept full responsibility, therefore. He shall ensure that all complimentary information necessary for the execution of the service is obtained and checked in due time and will not invoke a lack of information as justification for delayed and/or defective work.

2.2.14 STAKES FOR PLANTS

Wooden stake posts will be 3000mm long wattle laths treated with an approved preservative and with a maximum diameter of 75mm. Stakes treated with creosote will not be acceptable. Two stakes per tree driven 1000mm into the natural soil must be provided.

Two horizontal beams will be provided into which the tree will be suitably secured.

2.2.15 STRAPS

Straps of the plastic type complete with buckle will be used to strap trees to stakes.

2.2.16 IRRIGATION MATERIALS AND EQUIPMENT

All irrigation materials and equipment will be as specified elsewhere.

2.2.17 RIVER SAND

River sand shall be clean and sifted through a 2mm-mesh sieve and must not contain any organic material

2.2.18 SAND FOR MORTAR - FINE CASTING

All sand for mortar must be of SABS 718 quality. Samples of the sand must be submitted to the Landscape Architect timeously for approval.

2.2.19 STONE - COARSE CASTING

All stone must be broken/crushed stone with a maximum size as indicated in Table A (under Section 11, Concreting), and must be commensurate with SABS 718. A sample of stone must be submitted to the Landscape Architect timeously for approval.

2.2.20 CEMENT

Only normal or rapid hardening Portland cement, of a quality commensurate with SABS 471 may be used. All cement must be fresh when used, and cement older than six months or which has become caked, must be removed from the building site. Cement must be stored in a dry waterproof hut which has a floor at least 100mm above the ground. Cement must be used in the order in which it is received. Samples of any or each consignment of cement may be requested by the Landscape Architect for testing purposes. Cement from any consignment from which a sample has been taken for testing may not be used before the test has been completed. The fact that testing may take up to ten days to conduct should be considered.

2.2.21 CEMENT MORTAR

Cement mortar for brickwork and jointing shall consist of 1-part cement and 3 parts sands. Cement mortar must be mixed as the work progresses and it is required. Mortar must be applied in liquid form.

2.2.22 CONCRETE

Concrete shall be mixed according to Table A (under Section 3.8) to achieve the required strengths.

2.2.23 WATER FOR CONCRETE AND CEMENT MORTAR

Water shall be clean and not contain any impurities or organic material. Water suitable for human consumption is normally acceptable. If necessary, the Landscape Architect may have the suitability of the water tested by an approved laboratory.

2.2.24 CONCRETE COBBLES AND CLAY BRICK PAVERS

All cobbles, pavers and bricks shall be as specified in the quantity list or diagrams. Five samples of each type shall be submitted to the Landscape Architect for approval before delivery on site. Any of the materials on site which do not correspond with the approved samples, will be rejected by the Landscape Architect and the delivery and subsequent removal thereof shall be at the Contractor's expense. All material should be ordered as one consignment with the view to uniformity of size and colour.

3. EARTHWORKS

3.1 SCOPE

This section covers all phases of earthworks in the shaping of earth by means of machinery and hand tools until the required profiles have been obtained, as indicated on the plans outlining the moving of ground for the creation of the desired profiles.

3.2 NATURE OF THE TERRAIN ON WHICH WORK IS TO BE CARRIED OUT AND GENERAL INFORMATION

The Landscape Architect does not provide any guarantees that the material under scrutiny, if any, from the test holes is the same throughout, and recommends that the Tenderer dig additional test holes, in

consultation with the Landscape Architect, to acquaint himself with the state of the soil over the entire site. No claims about a lack of knowledge about the prevailing conditions which may influence the works, a misunderstanding of the circumstances and information provided in connection with the site which may be considered inadequate, will be accepted after the tenders have been submitted.

3.3 CLEARING OF AREA TO BE LANDSCAPED

All rubble, undesirable material, concrete foundations, organic material etc is to be placed in heaps for measuring by the Landscape Architect prior to the removal thereof from site to the Contractors own dump site. Rubble is to be removed on a regular basis.

3.2.4 DEFINITIONS

3.2.4.1 ROCK

Rock will be defined as solid material more than 1m³ (one cubic meter) be it in embankments or otherwise which necessitates the use of blasting. The decision as to whether material can be classified as rock rests entirely with the Landscape Architect.

3.2.4.2 SOIL

Soil will be defined as all other material other than rock and in general material that can be worked without the use of blasting.

3.2.4.3 UNDESIRABLE MATERIAL

Undesirable material will be defined as all material that appears in areas where founding for structures or hard surfaces appears and which is classified as not being suitable to attain densities specified. The Landscape Architect must be advised should such material be encountered so that an instruction can be issued for the removal thereof and the importing of suitable replacement material.

The onus is on the Contractor to ascertain whether material is suitable or otherwise for the purpose which it is intended. Should the Contractor nevertheless erect structures or do hard landscaping on unsuitable material and subsidence or other damage occurs, the Contractor will be held responsible to make good all damages.

3.2.5 EXCAVATIONS

The Contractor will always be responsible for safety on site and safeguard excavations. Unless otherwise specified all excavations will be to net depths as indicated on the earthworks plan. The tolerance for excavated areas should not vary by more than 50mm from the levels shown on the earthworks plan. The tolerance for excavated areas should not vary by more than 50mm from the levels shown on the earthworks plan. All spoil, temporary or permanent may only be spoiled in areas as indicated by the Landscape Architect and maintained to the satisfaction of the Landscape Architect.

3.2.6 EARTHFILLING

All earth filling is to be spread in layers to a maximum depth of 300mm and compacted by means of earthmoving machinery there over. Should filling material vary in type and texture thorough mixing must be done as the work progresses.

Fill on existing in situ material must only be done after the base material has been ripped to break the existing crust.

The Contractor is to ensure that in the case of mass filling, no structures, rock filling etc. is within 1000mm of the final desired filling level. No filling material which contains cement or any other material which could be considered harmful to the establishment of plants may be used and must be removed from the site to the Contractors own dump site. The Contractor is to ensure that water penetration into the soil is not impeded and that all surface water drains away freely.

The finished surface of the fill must be within a tolerance of 50mm when measured with a 3000mm long straight edge. No undulations other than to attain the smooth flow of the contours will be acceptable.

3.2.7 SOURCE OF FILL MATERIAL

Should fill material not be available on the working site the Contractor will source suitable filling material and submit a sample to the Landscape Architect for their approval. All imported filling material must be free of rubble, grass roots etc.

3.2.8 TOPSOIL FROM CUT AREAS

Where topsoil is to be found on cut areas the topsoil is first to be moved into suitable storage heaps for later use on the site. The gathering, storing, maintaining, and later spreading of topsoil forms part of the cut and fill rate and no separate payment will be made.

3.2.9 TOPSOIL

Unless otherwise specified all areas to be planted will be covered with a layer of topsoil to the thickness as specified on plan, after the desired earth shaping has been attained. Tolerances are to be as specified for cut and fill.

3.2.10 EXCESSIVE EXCAVATION

If the Contractor has excavated certain areas too deep, he must at his own expense fill up the excavation with approved filler material until the desired height has been obtained and compact this material to at least the density of the surrounding area to prevent subsidence.

3.2.11 EXCESSIVE FILLING

If the Contractor has filled beyond the required height, he must at his own expense remove excess material from the area.

3.2.12 EXCESS MATERIAL.

The Contractor will remove any excess material from the site to his own dump site and comply with all regulations relating thereto.

3.2.13 SUBSIDENCES

The Contractor shall take the necessary steps to rectify all subsidence and resulting damage which occurs in his area of operation for work which is under his control during the execution phase and maintenance period, and demarcate the areas concerned and provide lighting etc., if necessary, as well as repair the subsidence to the satisfaction of the Landscape Architect.

The Contractor shall be held responsible for any claims arising from subsidence which may occur.

3.2.14 EROSION

The Contractor will at his own expense repair on a weekly basis any erosion whether resulting from rain or irrigation damage. All areas to be repaired will be to original specifications.

Should any damage be caused on sites or adjoining properties because of wash ways on the site, the Contractor will be held responsible for the making good thereof.

3.2.15 WATERCOURSES

All watercourses, storm water catch pits etc. are always to be kept clean and free of all rubble etc. No watercourses may be filled and diverted without the written consent of the Landscape Architect. The Contractor will be held responsible for any damages or claims arising out of negligence on his part.

3.2.16 BLASTING

No blasting will be permitted on the site without the written consent of the Landscape Architect. The Contractor will be responsible for the attaining of certificates and for ensuring that any other requirement in terms of the laws and regulations pertaining to this act have been met. No blasting equipment or material may be kept on the site.

The Contractor will be held responsible irrespective of whether permission has been granted to blast, for all damages and claims relating to this item.

3.2.17 SOIL MIXTURE

All flower boxes as indicated on the drawings must be filled with an approved soil mixture and hand compacted in layers of 300mm to avoid subsidence. Soil surface after settlement should not exceed a tolerance of 30mm in height when measured with a 3000mm straight edge from the basic topographical line.

The soil mixture for all planted areas will consist of the following parts per volume, mixed before placing:

6 parts imported approved sandy to loam topsoil

1 parts clean course washed river sand

2 parts compost

500gm super phosphate/m³ soil mixture 250gm mixture 2:3:2 (18)/m³ soil mixture

3.2.18 PAYMENT

3.2.18.1 GENERAL

The Contractor must over and above the normal earth moving items provided for in the Bills of Quantities, and which are not specifically separately measured, provide for all other related actions such as amongst others, clearing of the site (excluding removal of material, rubble etc.) grubbing, storing, and spreading of topsoil, storm water management.

3.2.18.2 EARTHWORKS

All types of earth filling, excavations, soil mixtures etc. shall be measured and paid for according to in situ volumes irrespective of the depth of the material to be excavated or filled. No provision is made for the bulking factor and no provision is made for the carting or moving of loose volumes of any material. Should the Contractor not exercise this option prior to earthworks commencing, it will be construed as acceptance of the quantities calculated by the Landscape Architect for the relevant work actions.

3.3 SOIL IMPROVEMENT AND FERTILISATION

3.3.1 SCOPE

This section defines the application and working in of soil improvement agents, and organic and inorganic fertilisers.

3.3.2 METHOD AND TIME OF APPLICATION

3.3.2.1 FERTILISERS WHICH ARE NOT READILY SOLUBLE

Fertilisers which are not easily soluble must be applied in the available granular or powder form. Only custom built, calibrated fertiliser applicator machines may be used. The Contractor must ensure that quantities are spread evenly over the terrain according to specification.

3.3.2.2 FERTILISER APPLICATION DURING FILLING OF SOIL

Application of fertilisers which are not easily soluble during the filling of soil:

Where filler material is brought in, the quantities, as described in the quantity list, must be scattered during the filling process to ensure thorough mixing.

The previously measured quantities per volume of soil used as filler must be applied by hand.

3.3.2.3 TIME OF APPLICATION

Application of fertiliser, which is not easily soluble must, unless specified otherwise, be spread after waste material has been removed and the soil been loosened by means of a soil ripper, but before the soil is prepared any further.

3.3.2.4 LOSS THROUGH WIND AND WEATHER

Fertilisers must be worked in within 24 hours after application to prevent loss through wind and weather.

GENERAL

All fertilisers and soil improvement remedies must be applied during dry weather conditions.

3.3.2.5 WORKING IN OF PHOSPHATE FERTILISER

Phosphate fertilisers must be applied after the soil has been loosened, ploughed, or scraped, and be mixed thoroughly with the top 200mm of soil.

3.3.2.6 PHOSPHATE AFTER AGRICULTURAL LIME

Where agricultural lime has been applied, Superphosphate must be applied six weeks after the application of agricultural lime.

3.3.2.7 TIME OF APPLICATION - SOLUBLE FERTILISER

(a) Soluble fertilisers such as nitrogen fertilisers and potash, as well as fertiliser compounds, must be applied at least eight days before planting. Fertilisers must be spread evenly and worked into the topsoil to a maximum depth of 100mm.

(b) SOLUBLE FERTILISER ON GROWING PLANTS

Soluble fertilisers may only be applied to growing plants if leaf surfaces are dry.

(c) RINSING OF FERTILISER OFF LEAVES

Fertiliser must be rinsed off the leaves immediately after application.

(d) NO TRAFFIC OVER FERTILISED AREAS

No traffic may be allowed over established cultivated areas after application of fertiliser and before irrigation.

(e) FERTILISER AFTER IRRIGATION

Soluble fertilisers must be applied after irrigation and be washed into the soil with a further light wetting.

3.3.2.9 ORGANIC MATERIAL

Organic material must be applied to cultivated areas as indicated in the bills of quantity and in the prescribed quantities. Organic material must be worked into a maximum depth of 100mm immediately after being spread. Precautions must be taken to prevent exposure to excessive quantities of organic material on the surface.

3.3.3 PAYMENT

3.3.3.1 Payment for the purchase of and spreading of fertilisers shall be made according to the quantities indicated in the bills of quantity and the amounts applied as instructed by the Landscape Architect.

3.3.3.2 Payment for the working in of fertilisers shall be covered under seedbed preparation.

3.4 SEEDBED PREPARATION

3.4.1 SCOPE OF WORKS

This section comprises the preparation of soil for cultivation, after earth formation according to diagrams and specifications have been completed. Deviation from heights as indicated on the diagrams may not be more than 50mm when this process is commenced.

3.4.1.1 LOOSENING OF SOIL

3.4.1.2 SOIL WITH SLOPE 0 TO 15%

All soil which is earmarked for cultivation must, unless otherwise specified by the Landscape Architects, be ripped to a depth of 300mm by crisscrossing the area at 300mm intervals using a subsoiler, or other approved implement.

3.4.1.3 ROCKY AREAS

Areas which are extremely rocky or thickly covered in trees, must only be broken loose in areas which have been approved beforehand.

3.4.1.4 SOIL ON STEEP INCLINES

Soil on inclines steeper than 15% must only be broken loose at 1000mm intervals, on the contour and to a depth of 200mm.

3.4.1.5 IMPORTED SOIL NOT LOOSENEED

Imported soil which is trucked in within a period of less than six months after filling is prepared for cultivation, will only be broken loose under the direction of the Landscape Architect and then only in areas which are excessively compacted.

3.4.1.6 RIPPING OF IMPORTED MATERIAL AND SHALLOW GROUND

Ripping loose of imported material in shallow soil will be done by means of a soil ripper, spring-tine harrow or other approved ripper type implement to a depth of 300mm. Included in the loosening of the soil is the application and working in of fertilisers which do not dissolve easily, i.e., agricultural lime or flowers-of-sulphur as prescribed.

3.4.1.7 COMPACTED MATERIAL

All imported and compacted material in tree openings or parking islands is to be handpicked and removed to in situ material depth.

3.4.2 SOIL PREPARATION, INCLUDING THE WORKING IN OF FERTILISERS AND SOIL IMPROVEMENT REMEDIES

3.4.3 TILLING WITH ROTIVATOR

After soil, which has been earmarked for cultivation is ripped and fertilized according to quantities as specified in the quantity list, tillable soil will be cut crisscross by means of a fluctuating/variable disk harrow to a depth of 200mm. Soil must have an optimal moisture content for cultivation. As an alternative the soil can be tilled once to a depth of 200mm by means of a rotavator

3.4.3.1 AREAS NOT SUITABLE FOR MECHANICAL CULTIVATION

Areas which are not tillable by mechanical implements will, unless otherwise determined by the Landscape Architect, be dug over to a depth of 200mm using garden forks. The soil must have a suitable moisture content to facilitate this.

3.4.3.2 FINAL FORMATION OF SOIL PROFILE AND SEED-BED PREPARATION

After the soil has been carefully tilled and shaped, the desired soil profile will be completed, and heights achieved as indicated on the diagrams and stipulated in the quantity list. Final formation will be achieved by means of a light-duty tractor and scraper and, wherever possible, garden rakes will be used for finishing.

Where establishment of seed according to diagrams and quantity list is prescribed, seed must be sown before the final manual labour is deployed.

3.4.3.3 ROLLING OF CULTIVATED AREAS

After the soil is finally shaped, and in areas where seed is sown or grass roots are to be planted, the total cultivated area must, wherever possible, be rolled along the contour using a "Cambridge" roller.

3.4.3.4 EROSION CONTROL

Where applicable, the finally shaped and sown areas must be treated against erosion.

3.4.4 PAYMENT

3.4.4.1 PAYMENT FOR SEED-BED PREPARATION

Payment will be made according to the unit price per m², according to area prepared, fertilized and sown for all areas, including final shaping to a tolerance of 30mm when measured with a 3-meter straight edge.

Work includes the application and working in of fertilizers and compost and the raking in of seed where specified.

Excluded from the payment for seed-bed preparation will be the planting of grass roots, trees, shrubs, groundcovers, sowing of seed, cost of seed and plant material, spreading of fertiliser and costs incurred for soil improvement agents and fertilisers.

3.5 PLANTING

3.5.1 SCOPE

This section defines the preparation of holes for planting, planting itself and maintenance until completion of works. Due to the widely differing nature of the various areas, the Contractor is referred to specific instructions contained in the quantity list.

3.5.2 PLANT MATERIAL ACCORDING TO PLANTING PLANS

Plant material must be strictly in accordance with planting plans. No alternative will be acceptable without the written permission of the Landscape Architect.

3.5.3 SOURCE OF PLANT MATERIAL

The Contractor must make provision to source and purchase plants from any supplier in the Republic of South Africa and transport them to the site. The Contractor must, if so, requested by the Landscape Architect, give preference to sources for plant material. Preference must be given to sourcing the plants locally.

3.5.4 DIGGING OF HOLES FOR TREES AND SHRUBS FROM CONTAINERS

After a fine seedbed has been prepared and fertilisers have been applied according to Section 3.4, holes must be dug for the planting of trees, shrubs, and groundcovers.

3.5.4.1 SIZE OF HOLES IN WELL-DRAINED SOIL

Holes will be sizes specified in the Bills of Quantities. Place excavated material on a heap next to the plant hole.

3.5.4.2 DIGGING OF HOLES IN POORLY DRAINED SOILS

Where topsoil covers layers of rock, shale, clay strata, or where a shallow water table is present, plant holes must not penetrate the impermeable layers. If rock or clay is present which is shallower than the depth of the container, the matter must be referred to the Landscape Architect for a decision.

3.5.5 APPLICATION OF FERTILISERS AND COMPOST

Apply compost and fertiliser quantities as specified in Bills of Quantities.

3.5.6 REFILLING THE PLANT HOLE

Refill the plant hole sufficiently so that the top of the plant container, when placed in the hole, is on same plane as ground level.

3.5.7 TRANSPLANTING OF PLANTS FROM CONTAINERS

Remove the plant from the container without loosening the soil. Remove any stones or ash from the roots at the bottom of the container. Then loosen the bottom 50mm of roots thoroughly and place plant in the prepared hole. Replace the soil so that the plant is 10mm deeper than what it had been in the container. All roots must be thoroughly covered. Grafted plants must be planted such that the graft is above the ground. The soil must be shaped so that a pond is formed around the plant. Tramp the plant roots down to embed them firmly, irrigate to fill pond and hole to capacity and place a 50mm thick layer of mulch or other approved material above the ground around the plant to fill the pond.

3.5.8 PLANTS TRANSPLANTED FROM THE OPEN GROUND

When plants for planting on the site are transplanted from open ground, they must be laid in soil immediately after arriving on site and be kept moist until they can be planted. Care must be taken that roots are well spread and not broken or bent when the plants are planted. Root tips must be pruned at an angle.

3.5.9 WATERING OF PLANTS

All plants must be planted in moist soil and be well irrigated not later than one hour after planting.

3.5.10 TREATMENT AFTER PLANTING

3.5.10.1 DRIVING AIR OUT OF PLANT HOLE

During irrigation, all air must be driven from the plant hole by carefully digging through the loose ground.

3.5.10.2 TRAMPING SOIL DOWN WELL

Soil around plants must be tramped down well.

3.5.10.3 ROOTS IN NATURAL POSITION

Roots must be spread, and damaged roots must be pruned. Roots must not be folded in or snapped.

3.5.10.4 REMOVING EXCESS SOIL AND STONE

Remaining stone and soil from plant holes must be removed from the site as part of the planting cost.

3.5.10.5 STAKING OF TREES

All trees with a trunk diameter of less than 100mm, as well as plants which, in the opinion of the Landscape Architect, are in danger of being snapped or damaged by the wind, must be fastened to two wooden or steel stakes per tree at 3m in length. Suitable binding wire sheathed in a 20mm Ø plastic pipe with a loop loosely secured around the stem and fastened securely to the stake at intervals of

500mm is the recommended method. Stakes must be implanted on both sides of the tree and not driven through the root zone but driven far enough into the soil (at least 1m deep) to firmly support the plant. Tree straps are also acceptable

3.5.10.6 MULCH

After trees and shrubs and groundcovers have been planted, tramped down securely, irrigated, and supported, a 50mm thick layer of approved seed-free mulch must be placed around the stem, thoroughly watered with a thin layer of ground sprinkled there over. This item only applicable if provided for in the Bills of Quantities.

3.5.10.7 REMEDY AGAINST ANTS AND OTHER PESTS

Apply an approved remedy against ants, pests, and termites to each plant as and when required. Quantities according to manufacturer's directions.

3.5.10.8 SUBSIDENCES

Subsidence, where these appear in plant holes, must be rectified on a continuous basis.

3.5.10.9 PLANTING OF LAWN SODS

Sods of the species as indicated on the plant plans must be used.

Before any sods are laid down the ground must first be moist to prevent excessive dehydration of the roots.

Sods must be laid against each other to form a continuous grass mat.

All the sods must, immediately after being laid, be thoroughly irrigated, and kept moist until the site is handed over.

The surface of the grass must be level after planting and any irregularities must be filled in with a mixture of topsoil and compost to the satisfaction of the Landscape Architect. The maximum permissible difference in height between sods is 5mm.

A mixture of topsoil and compost must be worked into the spaces between the sods. Lawn sods must, after being laid, be rolled with a garden roller to the satisfaction of the Landscape Architect to ensure a level surface. Sods may not be moved after rolling.

Sods which are delivered must be kept moist if they are not immediately laid

Sods which lie on the site for more than a day before being planted will not be accepted by the Landscape Architect.

3.5.10.10 ANCHORING/SECURING

All sods against slopes must where necessary be anchored to the ground by means of wooden stakes or wire anchors in such a way that the anchor will not damage any machinery and could later be removed.

The Contractor must indicate the source of the lawn sods and supply a guarantee that they are weed free.

3.5.11 PLANTING OF GROUNDCOVERS, PERENNIALS, HERBLIKE PLANTS AND ANNUALS FROM CONTAINERS

Unless determined otherwise, plants as indicated above, will be planted as follows:

3.5.12.1 CALCULATION OF PLANT POSITIONS

The Contractor will set out the positions of the groundcovers according to the triangle system in such a way that plants, after being planted, will form neat rows in four directions to facilitate weed and plant control. Plant positions will be marked out on the surface of the ground.

3.5.12. SOIL PREPARATION

A finely tilled seedbed will be prepared as described elsewhere.
After the position of the plants have been marked out, fertiliser and compost according to the specification will be worked 100mm deep into the soil of the seedbed at each planting position.

3.6 CONSTRUCTION WORK

3.6.1 GENERAL

This section covers all phases of construction work.

All construction work shall be done with the materials specified and in accordance with the detailed drawings, or as indicated elsewhere. The work shall include all ancillary equipment such as ropes, struts etc., required for the erection of any structures, and the Contractor shall make adequate provision in the quantity list for the required equipment.

All construction work shall be protected from exposure to the elements until it has been treated according to specifications. Any construction work which is exposed to moisture or other hazard or potential damage before treatment will not be accepted. All treated wood shall be thoroughly treated when cut. All timber (poles or beams) must be selected wood of which a sample has been approved by the Landscape Architects.

Only work performed by bona fide artisans, and which is of high quality will be accepted.

All construction work will be of the highest standard and be finished off to standards as specified by the Landscape Architect.

3.7 COMPACTION FOR PAVING

3.7.1 SCOPE

This section covers all phases of preparation and compacting of soil for paving

3.7.2 EXCAVATIONS AND FILLING FOR COMPACTING

The groundworks comprise the excavation of natural material, the placement and compacting of suitable, approved excavated material, and the finishing off the excavations and fillings, so that an even surface is obtained. The groundworks must fall within the limits of tolerance, according to the grade lines and profiles as indicated in the detailed diagrams.

3.7.3 REMOVAL OF UNDESIRABLE MATERIAL

3.7.3.1 SURFACE OF TERRAIN

All grass and other undesirable and foreign material must be removed from the site.

3.7.3.2 EXCAVATIONS

In excavations all tree trunks with a diameter larger than 75mm, and all grassroots and foreign material released in the material must be removed to a depth 300mm below the final subgrade height.

3.7.3.3 EXISTING LOOSE FILLING

All existing loose filler material on the site, which is of an undesirable nature, for example ash, tins, rubbish etc. or as indicated by the Landscape Architect, must be removed from the site

3.7.3.4 UNDESIRABLE MATERIAL

The Contractor is expected to remove natural in situ soil from excavations, which is considered undesirable for filling up or filling back, to a dumping site or to remove it from the site altogether.

3.7.4 IMPORT OF SUITABLE MATERIAL

If sufficient suitable selected material from excavations on site is not available, the Contractor shall be

required to import suitable material as approved by the Landscape Architect, for the requirements of the given document to be met.

3.7.5 REMOVAL OF EXCESS MATERIAL

The Contractor must remove all excess material resulting from the excavations to a dumping site or remove it from the site altogether.

3.7.6 SUBGRADE HEIGHT

Subgrade height is defined as the final height of excavations and filling.

3.7.7 COMPACTING OF SOIL

3.7.7.1 STANDARD

The compacting standard which shall be applicable to this work shall be the revised A.A.S.H.T.O. maximum dry density, and shall for the purposes of this Contract be defined as the maximum dry density which is obtained by compacting the soil - only that part which is smaller than 5mm in grain size - into a form which is 150mm in diameter and 125mm high, in five (5) equal layers, by letting a hammer with a striking surface of fifty (50) mm ϕ and which weighs 4,53kg (10 lb) fall fifty five (55) times per layer, through a vertical distance of 450mm.

3.7.7.2 COMPACTING REQUIREMENTS

The dry density of each completed layer may not be less than 92% on pedestrian paving, and 95% on parking area paving and paved vehicle roads of the maximum revised A.A.S.H.T.O. dry density. The compacting must occur at a moisture content which is between 0 and 1,5% drier than the optimum.

3.7.7.3 COMPACTING PROCESS

The soil to be compacted must be loosened thoroughly over the full width and depth of the layer. Stones and clods larger than one hundred (100) mm must be broken up. Stones larger than one hundred (100) mm, which cannot be broken up, must be removed from the filler material. The soil to be compacted must be spread evenly, in layers no thicker than two hundred (200) mm, in the loose uncompacted state. If the moisture quality of the soil is not as specified, water must be sprayed over the ground in a manner approved by the Landscape Architect and mixed into the soil to achieve an even distribution of moisture throughout the layer. It may be advisable to apply the water a day before processing commences so that it can penetrate and spread evenly.

If the material is too wet as a result rain, or for any other reason, it must be harrowed or forked and be allowed to dry out until the desired moisture content is obtained before compacting of the layer is commenced.

Compacting must be done with the use of approved equipment. The layer must be compacted over its entire depth and must be brought to its required form and profile by means of motorised graders. Large holes, hollows, and ridges must be removed before compacting commences.

As soon as the filled area reaches a height of one hundred and fifty (150) mm below subgrade height, the accuracy of the lines, heights, and profiles must first be approved in writing by the Landscape Architect, before the lowest layer may be constructed. The parts of the filled sections which have thus been approved may receive the ground filling which will take them up to subgrade height. Any parts which have been rejected must be broken up at the Contractor's expense and be re- compacted to the Landscape Architect's satisfaction.

3.7.8 COMPACTION TESTS

All compaction tests shall be carried out by an approved laboratory. However, the Contractor will not be expected to carry out regular moisture content density tests or to draw standard density graphs. The Landscape Architect will at any stage of the work be able to carry out controlled tests to ascertain the quality of the compaction being done. The Landscape Architect's decision about any difference

regarding test results shall be final and binding. The Contractor shall keep records of tests conducted and make them available to the Landscape Architect as requested.

If any layer is compacted to a density which does not fall within the limits stipulated above, the Contractor is obliged to repair the layer at his own expense by breaking it loose and re-compacting it. No allowance shall be made for an extension of the contract period because of compacted layers which have been rejected and must be redone. It must be emphasized that, although the Contractor is not obliged to carry out density checks, this in no way absolves him from carrying out satisfactory work as regards compacting.

All compaction tests which are carried out shall be at the Contractor's expense, and allowance must be made for this in the quantity list.

3.7.9 SURFACE TESTS

Before the layer one hundred and fifty (150) mm below subgrade height is attained, the surface of each layer must correspond with the dimensions and profiles as indicated on the diagrams. As the surface of any layer is tested by placing a three (3) metre long straight edge on the layer, there may at no stage be a hollow of more than twenty-five (25) mm underneath the straight edge.

Any section which reaches one hundred and fifty (150) mm beneath subgrade height, must meet the requirements set for subgrade height.

3.7.10 PAYMENT

No separate payment shall be made for the application of water, preparation of soil, compacting, tests etc, and allowance must be made for all these items under the appropriate items in the quantity list.

3.8 PAVING

3.8.1 SCOPE

This section covers all phases of paving, whether it be brick paving, tiled paving, stonework, or keystone paving.

Embed specified paving in sand or mortar, according to the pattern, slopes and dimensions, with or without joints, as indicated on detailed diagrams or elsewhere. Paving material must be cut by means of an electric cutting device where necessary to maintain the pattern. Where applicable, the joints must be filled with 1:3 cement mortar and smoothed over. Care must be taken that the paving contains no cement residue or any other foreign material. No tiles with cracks, hollows or broken corners may be used. Paving must meet the requirements for finishing off.

3.8.2 REQUIREMENTS FOR FINISHING OFF

After the paving has been completed, the surface must be tested for accuracy of height, evenness of slope and elevation. The Landscape Architect retains the right to test the paving being done at any time and when it is finally handed over to the Client. The sections which do not meet the requirements as set out below must be repaired at the Contractor's expense within the period allocated for that specific job and to the satisfaction of the Landscape Architect.

3.8.3 HEIGHT

The final height may nowhere exceed the specified height by more than twenty-five (25) mm.

3.8.3.1 SLOPE

Deviations from the specified slopes shall only be allowed if they do not exceed the following limits:

LENGTH OF SLOPE MEASURED	MAXIMUM VARIATION ABOVE OR BELOW THE SPECIFIED SLOPE
2 metres	0,30%
4 metres	0,27%
8 metres	0,24%
5 metres	0,20%
30 metres	0,16%

Where no slopes are specified, this must be interpreted to mean that the minimum slopes on paved areas may not be less than 2% in the direction of the general slope. The Contractor must ensure that all stormwater is able to drain away without any damming up.

3.8.3.2 LEVELNESS/EVENNESS

The surface of the paving must not contain any irregularities, bulges or hollows of more than six (6) mm when it is tested with a straight edge of three (3) metres in length, which is laid parallel across the diameter of the paving.

3.8.3.3 CROSS SECTION

When the surface is tested with a straight edge laid perpendicularly across the midline of the paving, and moved across the full width thereof, no deviations of more than ten (10) mm may occur.

3.8.4 PAYMENT

Payment shall include full remuneration per square metre or running metre as determined in the Bills of Quantities of completed paving, measured for all materials, labour, equipment and building costs to complete the paving project, as prescribed.

3.9 IRRIGATION SYSTEM SPECIFICATION

3.9.1 DESCRIPTION OF THE WORKS

The works comprise of the supply, installation, and commissioning of an automatic irrigation system in the areas as shown in the Irrigation Drawing. Included in the works is the installation of sprinklers, pipelines, solenoid control valves, irrigation controllers, the supply of as built drawings and a working manual of the system.

3.9.2 TRENCHING

Excavation, backfilling, and compaction of trenches 650 mm deep and 250 mm wide for all pipes over 63mm. Diameter and 450 mm deep and 250 mm wide for all pipes below and including 63mm. Pipe. compaction of trenches through hard surfaced areas to be to site engineer's specification for other civil works. That through planted areas to be to the same degree of compaction of the surrounding planting area, such that no subsidence occurs after backfilling.

If rock or other adverse conditions preclude the installation at the prescribed depth, the client's permission must be obtained for burial at a shallower depth.

The Backfill material surrounding the pipe by 50mm shall be free of rock or other hard materials.

3.9.3 WARRANTY

To protect the client's interest regarding a quality irrigation system and ongoing onsite supervision and consultation during the project, only the specified materials will be used on the project.?

The terms and conditions of the warranty or guarantee shall be clearly stated and shall not be for less than 12 months from the date of hand over of the completed system.

Warranties and / or guarantees on materials or irrigation equipment from suppliers shall be passed on to the client and shall be clearly stated.

For the client's safety, adequate safeguards in the form of insurance in respect of public liability, product liability and all forms of indemnity are to be taken out.

3.9.4 AS-BUILT DRAWING

An as built drawing must be handed over, after the completion of the irrigation contract to either the irrigation consultant or landscape architects in computer format.

3.10 MAINTENANCE

3.10.1 SCOPE

The maintenance of the installed landscape will include inter alia but not be limited to the supply of all management, expertise, labour, maintenance equipment, tools, fuel, materials etc as may be deemed necessary for the mowing of lawns, pruning of trees and shrubs, replacement of plants, controlling of the environment, removal of litter and rubble, weeding, inspections, fertilising, irrigating and in general everything that is deemed necessary to maintain the site to the highest standards in a neat and acceptable condition to the satisfaction of the Employer.

3.10.2 The maintenance includes but is not restricted to:

- Conduct experiments and cultivate plants
- Provide and apply expertise in the field of horticulture
- Provide and apply expertise in the field of landscape maintenance management
- Drawing of soil and water samples and conducting other tests
- Maintenance and establishment of landscape installation
- Maintenance of paved areas
- Maintenance and adjustment of the irrigation system
- Observation and preparation of reports of activities on site (as well as adjoining sites which affect the landscape installation)

It is a specific requirement of this contract that the design philosophy of the landscape be brought to maturity.

3.10.3 COMMENCEMENT OF MAINTENANCE PERIOD

The period of maintenance will commence immediately after the date of practical completion. Rand Water will have full use of the site upon acceptance of the completed work. Acceptance of the completed work will not relieve the Contractor of any of his duties or responsibilities regarding this Agreement.

3.10.4 DURATION OF MAINTENANCE PERIOD

Maintenance of the site will continue from practical completion to the date of final completion, which will be a 3 months period with an option to be extended on a monthly basis at the discretion of the Employer.

3.10.5 ACCEPTANCE OF SITE ON COMPLETION OF MAINTENANCE

The site will be handed over to Rand Water upon fulfilment of the maintenance requirements, a final inspection of the work has been done and the work and/or defective work has been found to have been completed to satisfaction.

3.10.6 EQUIPMENT AND MACHINERY

It is an express condition of this contract that only specialized equipment and machinery in good condition be used for their intended purpose. Under no circumstances may slasher type mowers which are tractor drawn be used to mow the lawns.

3.10.7 TRAFFIC ON LANDSCAPED AND REHABILITATED AREAS

The Contractor is to exercise extreme caution in avoiding both pedestrian and vehicular traffic on landscaped areas. Vehicular traffic, other than maintenance machinery, will only be permitted in these areas as are approved and designated by the Rand Water representative

3.10.8 INSPECTION AND TREATMENT OF SITE AND PLANT CONDITIONS

A detailed site inspection is to be undertaken once a week by a competent person who will submit a written report as to the status of weeds, invader plants, insects, pests, ants, termites, pollution and in general any other aspects which may influence the successful establishment of all plant growth. All the above are to be controlled and treated where necessary as part of the routine maintenance. Special attention must be given to the control of all pests etc and the eradication thereof. The supply and application of the required herbicides/pesticides and chemicals is deemed to be part of the routine maintenance.

3.10.9 STONES, RUBBLE AND LITTER

All stones, rubble and site litter must be collected and removed from the site as part of the routine maintenance. Under no circumstances may site litter, rubble etc be placed in litter bins.

3.10.10 IRRIGATION

3.10.10.1 Intensive Landscaped Areas

The Contractor is to take care that all intensive landscaped areas are continuously kept moist to the equivalent of 25mm per week so that plants do not wither. In addition to normal irrigation, all trees are to be individually watered once every two weeks by filling the pond around the tree. In all other areas the soil must be moist to a depth of 300mm, the irrigating tempo thus having to be established on site and adjusted accordingly as well as from time to time dependent on seasons and prevailing weather conditions. The existing irrigation system will be used to irrigate intensive landscaped areas. The Contractor must make provision to do hand watering where no automatic system exists.

3.10.11 MOWING OF LAWNS

1. All lawn areas must be mowed and manicured at least once a week in the summer season and at least once every two weeks in the winter season as part of the routine maintenance (or alternatively as directed to do so by the Employer). Seasons are to be as will be determined on site by the Landscape Architect.
2. All lawns are to be mowed with acceptable modern petrol, diesel, or electrically self-driven cylindrical type lawn mowers, adequately equipped with a clipping catcher. Mower blades must be sharpened regularly and may not be raised more than 30mm for kikuyu. All grass clippings must be removed from site, unless otherwise directed. Grass clippings are not to be used as a mulch on plant beds.
3. All stones and foreign objects must be picked up and removed from the site prior to each cutting. Lawns may only be cut when the leaves are dry, except in cases where continuous rain necessitates the cutting of moist lawns. Lawnmowers are to be set to cut the leaves and not the root mat. A scarified appearance of the lawns will not be acceptable.
4. Evergreen lawns are to be cut so that leaves are never shorter than 50mm.

5. Should the Landscape Architect believe the Contractor is using the incorrect or ineffective mowing equipment, he may direct that the correct mowers be used without additional remuneration and without relieving the Contractor of any of his duties.
6. Lawns may only be cut during normal and acceptable working hours unless prior approval is given by the Employer to cut lawns outside of normal working hours. Mowing of all lawns is part of the routine maintenance.
7. Veld grass areas will normally not be cut but the Contractor will be expected to cut these areas or parts thereof and remove the clippings if so, directed by the Employer. This work will not form part of the routine maintenance and additional remuneration will be made.

3.10.12 "WEED EATERS"

Should "weed eaters" be used to trim grass around tree stems, care is to be taken not to damage the stem bark in any way.

3.10.13 CUTTING OF BORDERS AND EDGES.

All lawn areas bordering on paving, structures, kerb stones, roads, poles, fencing, planted areas etc. are to be cut neatly to form on a regular basis as part of the routine maintenance. Lawn roots growing into these areas are also to be contained and where necessary removed. All clippings and roots are to be collected and removed from the site. Similarly, all groundcovers/shrubs overhanging kerbs are to be selectively pruned.

3.10.14 WEEDING

Unless otherwise determined by the Rand Water representative, all weeds on lawns which are not removed by the normal cutting process, have to be removed by hand and taken off the site. All impurities in the lawns must also be removed and runners of the same species replaced.

Weeds and invader plants of any kind occurring in beds and all other areas must be hoed or pulled out regularly on a weekly basis and must be removed from the site. Weeds occurring in roadways, kerbs or on paving have also to be pulled out and removed from site.

Herbicides may only be used in specific areas with the written consent of the Rand Water representative and must be applied under the supervision of skilled and trained personnel. The Contractor must take the necessary precautions to prevent organic material brought to the site from spreading foreign grass types or weeds on the site. Pre-emergents as approved may be used by the Contractor to control weeds.

All weeding and use of any herbicides or pre-emergents form part of the routine maintenance.

3.10.15 AERATION OF PLANT BEDS

The Contractor must make provision as part of his routine maintenance to aerate plant beds on a bi-weekly basis by means of light forking. However, no forking of plant beds must be done in beds where plants root by means of runners.

Care must be taken not to damage or disturb any plant roots or runners. Mulch should not be forked into the soil.

3.10.16 PRUNING OF TREES AND SHRUBS

All trees and shrubs are to be regularly pruned by specialists as part of the routine maintenance and branches and leaves removed from site.

Trees and shrubs are to be pruned according to species and to the desired shape. All prune wounds are to be suitably sealed off. All damaged branches and stems are to be treated and tied up as is common horticultural practice. The indiscriminate pruning of trees and shrubs will not be tolerated.

Plants are to be, where necessary, pruned so as not to impair visibility of motorists as well as create security risk areas.

The Contractor will only be required when directed and as part of his routine maintenance, to cut back

groundcovers to the desired shape and format and remove all cuttings from the site. The Contractor may only, with the prior written approval of the Rand Water representative take cuttings from plants on the site for use elsewhere.

3.10.17 RETOUCHING OR SOWING OF GRASS

Any open patches in the lawn areas must be rectified by either sowing applicable seed or planting additional sprigs or sods of the specific species as part of the routine maintenance. Such areas must be loosened and fertilised thoroughly before planting or sowing, in accordance with the specification.

3.10.18 TREE STAKES

All trees are to be kept staked, firm and tied accordingly without damaging plant. Broken stakes are to be systematically replaced with the same type of stake as part of the routine maintenance.

3.10.19 WASH-AWAYS/SAGGINGS

The Contractor will as part of his routine maintenance regularly repair all normal wash-away and sagging of any nature in the landscaped areas. Groundcovers which are available on site may be harvested and planted in areas to combat wash away as part of the routine maintenance. Abnormal damage is to be referred to the Employer for a decision and instruction.

3.10.20 DRAINAGE

The contractor will as part of his routine maintenance ensure that all storm water and irrigation water drain away to avoid swamping. All storm-water catch pits are to be kept clean and free of plant matter, litter etc. The cleaning of storm water pipes and systems does not form part of the routine maintenance. Water which cannot drain away as is normal must be referred to the Employer for a decision and instruction.

3.10.21 SERVICES

All manholes are always to be kept totally exposed for easy identification and access.

3.10.22 CHIPPER

The Contractor will be permitted as part of his routine maintenance to chip all pruned tree and shrub branches which may then be used for mulch in the plant beds.

3.10.23 CLEANING OF COURTYARD AND POTTED PLANTS

The Contractor will in addition and as part of his routine maintenance wipe and keep clean all atrium and potted plant leaves in the courtyard and elsewhere on site using a recognized leaf cleaner and nutrient.

Not applicable to this contract.

3.10.24 PEBBLES/STRUCTURES IN LANDSCAPE

The Contractor will as part of his routine maintenance wash down all pebbles/structures in the landscape to keep them free of dust and sediment. Pebbles are also to be kept true to form.

3.10.25 MAINTENANCE, INSPECTION AND SERVICING OF THE IRRIGATION AND FOUNTAIN SYSTEMS

The complete irrigation and water feature system inclusive of pumps and control units is to be inspected and serviced on a monthly basis by a competent person and a written report submitted as to the condition of the system. Routine replacement of small parts; repairs to leaks, cables, valves, nozzles and pipes; adjustments to the system, etc. as well as damage and losses due to the Contractor's negligence will be considered to be part of the routine maintenance Broken, damaged or

malfunctioning irrigation components covered under the product guarantee, will be replaced by the Contractor. Broken components, caused by exterior factors only will be replaced by the Contractor, with additional remuneration.

3.10.26 FERTILISERS AND NUTRIENTS

All fertilisers will be applied using suitable equipment to the manufacturer's specification at the rates as recommended and as and when instructed to do so by the Rand Water representative. Areas which are fertilized are to be well irrigated after each application to ensure that there is no fertiliser left on the leaves of any plants. The supply and application of fertilizers will only be upon instruction.

3.10.27 COMPOSTING

All plant beds and trees in the intensive landscaped areas are to be composted and the compost worked into the topsoil layer on an annual basis as will be directed. The supply and digging in of compost will only be upon instruction. Compost for topdressing elsewhere

3.10.28 TOP DRESSING

The Landscape Architect can at any stage request the Contractor to apply a top dressing consisting of topsoil/compost. The material used for the top dressing will consist of equal parts of well-rotted organic matter and topsoil as specified. Topsoil and all other components to be supplied by Contractor. Before applying the top dressing, the grass must be cut, and all cuttings removed.

The top dressing will be applied in layers with a maximum thickness of 10 mm, but preferably not less than 5 mm. It will be neatly finished by working it into the grass mat employing a drag-mat and touching up with rakes and straightedges. No holes or mounds may be present when tested. Fertilisers prescribed by the Employer must be added to the top-dressing mixture before application if necessary. The supply and application of top dressing will only be upon instruction.

3.10.29 SCARIFYING AND AERATION OF LAWN AREAS

The Landscape Architect can at any stage request the Contractor to scarify and aerate the lawn areas. All scarified material must be collected and removed from the site. The scarifying and aeration of lawn areas will only be upon instruction.

3.10.30 REPLACEMENT OF DEAD PLANTS

All plants which have died during the maintenance period have to be systematically replaced by the Contractor at his expense during the maintenance period as and when directed to do so by the Landscape Architect.

Plants must be replaced with the same species in accordance with the specifications or in consultation with the Employer with any other species which may be decided upon.

3.10.31 WEEDING OF KERBS, ROADWAYS, PARKING AREAS, PAVED AREAS AND SECURITY AREAS

Weeding and weed control of all kerbs, roadways, parking areas, paved areas and security areas shall be required as part of the routine maintenance. Weekly inspections are to be done of all these areas as part of the routine maintenance. All weeds and dead plant material must be removed as the area is progressively weeded.

No herbicides may be used for weed control other than specified elsewhere in this document.

3.10.32 CLEANLINESS OF PAVED AREAS

All roadways, parking areas and paved areas are to be kept clean and all silt etc. swept up and removed on a weekly basis as part of the routine maintenance.

3.10.33 ROUTINE MAINTENANCE

The entire site to be maintained during this contract will be maintained on a routine basis as specified

in this document and will be deemed to be included in the rate tendered in the Bills of Quantities. The only items which will be excluded from the routine maintenance are those for which separate rates have been tendered as listed in the Bills of Quantities and which will be executed upon specific instruction from the Landscape Architect, at the tendered rates. The only items for which additional payment will be made under the routine maintenance are fertilizers, compost, mulch, top dressing, and scarifying of lawns.

3.10.34 REMEDIAL WORK DURING CONTRACT

Any damage incurred on the works or in the immediate vicinity for the duration of this contract must be systematically repaired by the Contractor according to the specifications. The Landscape Architect will adjudicate as to whether the remedial work is because of a latent defect on the part of the Contractor or alternatively as caused by a third party.

3.10.35 PAYMENT

No separate payment for pre-completion maintenance will be made. Rates are inclusive of pre-completion maintenance

3.10.36 NOTE

The appointed contractor will be working under the supervision of Landscape Architect.

4. DETAILED SPECIFICATION

4.1 PRELIMINARY AND GENERAL

ITEM DESCRIPTION

4.1.1 Guaranteed

Allow for Guarantees as called for in the contract documentation. In the event of project stages, the amount due will be a pro-rata amount of the original tendered amount.

4.1.2 Insurances

Public Liability and Contractors All Risks Insurance and all other insurances as required. In the event of project stages, the amount due will be a pro-rata amount of the original tendered amount.

4.1.3 Safeguarding of works

4.1.4 Safeguarding of all works, materials and public space, lighting, erosion protection measures, provision of safety fencing around work area and securing of work, notice boards, etc., as described in the documentation and as the landscape architect requires. In the event of project stages, the amount due will be a pro-rata amount of the original tendered amount. This includes safeguarding of the works from fire and storm water runoff.

4.1.5. Contingencies

Landscape contractor needs to provide contingency amount in the event of unclear specifications or drawings, possible transportation problems, difficulties in finding sources of materials and the weather

4.1.6. Installation cost

General establishment and contractual requirements and providing of facilities for the contractor's site camp, site office, toilet facilities, temporary nursery, workshops, storage areas, tools and equipment and any other facilities which the contractor deems necessary for the works as well as setting out of the works, attending meetings and other requirements for the entire contract period exclusive of the maintenance period as set out in the contract and tender documentation. In the event of project stages, the amount due will be a pro-rata amount of the original tendered amount.

4.2 SOIL IMPROVEMENT

4.2.1 Fine trimming & site clearance.

All surface rocks and stones larger than 50mm shall be removed before commencing cultivation and preparation. The entire area shall be ripped and rotavated using approved machinery by breaking up the earth to a depth of 300mm at 600mm centres in both directions, unless otherwise described, and then levelled.

Where fertilizer or compost is specified, it shall be worked into the topsoil after ripping and rotavation to a depth of 300mm and finished to final levels.

All fertilizer to areas to be grassed shall be strewn on the final layer before final finishing is commenced and worked mechanically into the top 150mm soil.

4.2.2 Mulching - 20mm layer

Mulch shall be approved organic material free from small particles of bark residue, fungus, disease, etc.

4.2.3 Potting soil

Light topsoil & compost mix

4.2.4 Topsoil - 75mm layer

To be applied in 20/50/100L Plants

Lawn & groundcover

Topsoil shall vary between sandy loamy soil and sandy clayey soil with an ideal composition of 15% to 25% clay, 10% silt/sludge and 65% to 75% sand, with a minimum ratio of organic material of 2%.

All material shall be free of harmful deposits as well as unwanted seeds.

4.2.5 Compost - 20mm layer

To be applied in 20/50/100L Plants

Lawn & groundcover

Compost shall be composed of properly decayed organic material, free from harmful deposits, salts, seeds and other waste material and shall have a pH of more than 4 and less than 7.

4.2.6 Superphosphate

To be applied in 20/40/100L Plants

4.2.7 Mixture 2:3:2

To be applied in 20/40/100L Plants

Lawn & groundcover

Fertilizer shall be of the type specified, mixed thoroughly into the soil as prescribed. No fertilizer shall be added more than two weeks prior to planting

4.2.8 Bone meal

To be applied in 20/40/100L Plants

4.3 SOFT LANDSCAPE

4.3.1 General

All plant material (plants, shrubs, trees, etc.) shall be obtained from a registered nursery and shall be free from damaged parts, parasites, fungus, other plant diseases or insects. No container-bound plants will be acceptable.

4.3.2 Planting procedure:

Holes for shrubs and groundcover shall be as follows:

Shrubs – 500 x 500 x 500mm deep

Groundcover – 300 x 300 x 300mm deep (if not planted in drills)

Holes for trees shall be square, of adequate size to accommodate the root system and suitable for the height of the tree.

All plant material shall be watered thoroughly before careful removal from the container and planted in the prescribed planting medium with the top of the soil in the container finishing level with the surrounding area.

Water dams size 800mm diameter x 150mm deep and 500mm diameter x 150mm deep shall be formed around trees and shrubs respectively and all planting material shall be watered immediately after planting.

Trees, shrubs, etc. shall be properly staked or stayed, depending on their size, on the prevailing windy side with patent tree ties.

4.4 TREES

DESCRIPTION

Note: All trees are staked with wilge lathes and rubber bands. 100L trees - 2.8-3.5m height, 35mm stem diameter.

The height of trees described in the bills of quantities shall be measured from the top of the root ball to the top of the tree. Where trees are pruned, such prune wounds shall not be more than 25mm in diameter and be sealed with an approved sealing compound.

- 4.4.1 Dombeya rotundifolia - Wild Pear
- 4.4.2 Celtis africana - White Stinkwood
- 4.4.3 Kiggelaria africana - Wild Peach
- 4.4.4 Olea europea subsp Africana-African olive
- 5.4.5 Ziziphus mucronata-Buffalo thorn

4.5 SHRUBS

DESCRIPTION

Shrubs and small plants shall meet the requirements for height and spread as specified. Thin or sparsely branched plants shall not be accepted. Branches shall be well spread with ample young branches and the plant as a whole shall be growing well.

- 4.5.1 Aloe ferox
- 4.5.2 Aloe marlothii
- 4.5.3 Cassinopsis ilicifolia
- 4.5.4 Plumbago auriculata
- 4.5.5 Polygala myrtifolia
- 4.5.6 Grewia occidentalis
- 4.5.7 Rhamnus prinoides
- 4.5.8 Buddleja salvifolia

4.6. GROUND COVERS

DESCRIPTION

Groundcover shall be dense and healthy and shall comply with the minimum requirements for leaf density as specified. Formal grass shall be planted as runners in 50mm deep drills at 150mm centres unless otherwise described.

4.7 PLANT MIX 1 (Hydrozone 1 - Low water usage)

- 4.7.1 Delosperma cooperi (138m² @ 8/m²)
- 4.7.2 Plectranthus neochilus (138m² @ 8/m²)
- 4.7.3 Tulbaghia violacea (138m² @ 8/m²)
- 4.7.4 Scabiosa columbaria (138m² @ 8/m²)
- 4.5.5 Dimorphoteca jucunda (138m² @ 8/m²)

4.8 PLANT MIX 2 (Hydrozone 2 -Moderate water usage)

- 4.8.1 Chlorophytum saundersiae (101m² @ 6/m²)
- 4.8.2 Crocosmia aurea (101m² @6/m²)
- 4.8.3 Aristea ecklonnii (101m² @ 6/m²)
- 4.8.4 Aristida junciformis (101m² @ 6/m²)
- 4.8.5 Helichrysum petiole(101m² @ 6/m²)

4.9 PLANT MIX 3 (Hydrozone 1- Low water usage)

- 4.9.1 Bulbine frutescens (148m² @ 7/m²)
- 4.9.2 Aloe cooperi (148m² @ 7/m²)
- 4.9.3 Gazania krebsiana (148m² @ 7/m²)
- 4.9.4 Cotyledon orbiculata (148m² @ 7/m²)
- 4.9.5 Kalanchoe thyrsifolia (148m² @ 7/m²)

- 4.10 PLANT MIX 4 (Hydrozone 2 - Moderate water usage)
 - 4.10.1 Dietes bicolor (126m² @ 5/m²)
 - 4.10.2 Agapanthus inapertus (126m² @ 5/m²)
 - 4.10.3 Elegia tectorum (126m² @ 5/m²)
 - 4.10.4 Watsonia pillansi (126m² @ 5/m²)
 - 4.10.5 Mellinis nervigulumis(126m² @ 5/m²)

- 4.11 MIXED BULBS
 - 4.11.1 Haemanthus spp
 - 4.11.2 Scadoxus spp
 - 4.11.3 Hypoxis spp
 - 4.11.4 Dierama pendulum

5. DESCRIPTION

- 5.1 Water Feature 1 - as per detail
 - 5.1.1 Stone cladding (basalt rock - existing rock)
 - 5.1.2 Brick masonry wall 400mm wide
 - 5.1.3 Marbelite Waterproofing
 - 5.1.4 External water feature pump and housing
 - 5.1.5 Under-water light (sealed beam light 12V)
 - 5.1.6 Fountain nozzle
 - 5.1.7 Rock stack tower (basalt rock - existing rock)
 - 5.1.8 Electrical connections

- 5.2 Stone clad masonry seating walls (400mm wide x 450mm high) - as per detail
 - New Paving, same as existing to specification
 - Stone clad masonry seating walls (400mm wide x 450mm high) - as per detail
 - New Paving, same as existing to specification

6 IRRIGATION

Irrigation system must only be pressurized when irrigating, no 24hr pressurization of pipes. Please note that the awarded tender will need to provide as-built drawings and all manuals at completion. A training session will also be arranged where the contractor will train client representatives

- 6.1 Automatic irrigation - upgrade existing system (itemised schedule attached)
- 6.2 Connection to rainwater harvesting system
- 6.3 Municipal water supply connection

Allow for the complete maintenance and establishment of all planted and construction areas, as described in detail the Standard Specification, yet broadly entails:

- a. Maintenance will be for the period as indicated, beginning directly after the Landscape Architect's acceptance of the practical completion of the contract. Maintenance activities during the construction period are however deemed to be inclusive of the construction work.
- b. Replacing of plants that have died with the same or similar approved species, pruning of plants, regular mowing of lawn, weed control, application of fertilizers (measured elsewhere),

herbicides, fungicides and pesticides, hand watering of all trees, loosening of soil and as directed by the landscape architect and according to the Standard Specifications on Maintenance described elsewhere.

c. Maintenance of hydro seeded areas: Maintenance shall include re-seeding, weeding, grass cutting, and all work that may be required to keep the grassed areas in an acceptable condition. It also includes watering if required and the application of fertilizers.

d. In the event of project stages or in the event that the project value changes, the monthly amount due will be a pro-rata amount of the original tendered amount. It will not be based on the type of maintenance.

e. Rate exclude irrigation cost

f.

Provide maintenance plan and manual at practical completion

PART C4: SITE INFORMATION

C4. SITE INFORMATION

Rand Water Sites	Meeting starting point	GPS Coordinates
Rietvlei	Rand Water Rietvlei (Head Office), Visitor's Parking.	Rietvlei: 26°17'26.75 S, 28°02'11.29"E