

ERONGO REGIONAL COUNCIL



BIDDING DOCUMENTS

ISSUED ON:

FOR PROCUREMENT OF:

A CONTRACTOR FOR
THE CONSTRUCTION OF A WATER INFRASTRUCTURE
NETWORK FOR WLOTZKASBAKEN,
ERONGO REGION – PHASES 3, 4 & 5

PROCUREMENT REFERENCE NO: W/ONB/ERC – 001/2025/2026

CLOSING DATE: 15 July 2025 @10H00 a.m.

CONTRACT AMOUNT (ALL INCLUSIVE):

BIDDER'S DETAILS

Company
Name:

Representative:

Tel:

Cell:

Fax:

E-Mail:

Standard Bidding Document

Table of Contents

PART 1 – Bidding Procedures	1
Section I - Instructions to Bidders.....	2
Section II - Bidding Data Sheet (BDS)	19
Section III - Bidding Forms	27
Section IV - Evaluation Criteria.....	51
PART 2 – Employer’s Requirements	58
Section V - Employer’s Requirements.....	59
Section VI – Bill of Quantities.....	119
PART 3 – Conditions of Contract and Contract Forms.....	146
Section VII - General Conditions of Contract.....	147
Section VIII - Special Conditions of Contract	166
Section IX - Contract Forms	179

PART 1 – Bidding Procedures

Section I - Instructions to Bidders

Table of Contents

A.	General	4
1.	Scope of Bid	4
2.	Source of Funds.....	4
3.	Public Entities Related to Bidding Documents & to application for review	4
4.	Fraud and Corruption	5
5.	Eligible Bidders.....	6
6.	Qualifications of Bidders	7
B.	Contents of Bidding Document	9
7.	Sections of Bidding Document	9
8.	Clarification of Bidding Document.....	9
9.	Site visit/Pre-bid meeting	9
10.	Amendment of Bidding Document	9
C.	Preparation of Bids	10
11.	Cost of Bidding	10
12.	Language of Bid	10
13.	Documents Comprising the Bid	10
14.	Bid Submission Form and Schedules.....	10
15.	Alternative Proposal	10
16.	Bid Prices and Discounts.....	11
17.	Currencies of Bid and Payment.....	11
18.	Documents Comprising the Technical Proposal	11
19.	Period of Validity of Bids	11
20.	Bid Security/Bid Securing Declaration	11
21.	Format and Signing of Bid	12
D.	Submission and Opening of Bids	12
22.	Sealing and Marking of Bids.....	12
23.	Deadline for Submission of Bids	13
24.	Late Bids	13
25.	Withdrawal, Substitution, and Modification of Bids	13
26.	Bid Opening	13
E.	Evaluation and Comparison of Bids.....	14
27.	Confidentiality.....	14
28.	Clarification of Bids	14
29.	Determination of Responsiveness	14
30.	Nonconformities, Errors, and Omissions	14
31.	Correction of Arithmetical Errors	14

32.	Margin of Preference.....	15
33.	Evaluation of Bids.....	15
34.	Comparison of Bids.....	15
35.	Qualification of the Bidder.....	16
36.	Employer’s Right to Accept Any Bid, and to Reject Any or All Bids	16
F.	Award of Contract	17
37.	Award Criteria.....	17
38.	Notification of Award	17
39.	Signing of Contract	17
40.	Performance Security	18
41.	Advance Payment and Security.....	18
42.	Plant and Materials on site	18
43.	Debriefing.....	18

Section I - Instructions To Bidders

A. General

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| 1. Scope of Bid | <p>1.1 The Public Entity as defined in Section II “Bidding Data Sheet” (BDS) also referred to herein as Employer invites bids for the construction of Works, as described in the BDS and Section VII, “Special Conditions of Contract” (SCC).</p> <p>The name and identification number of the Contract are provided in the BDS and the SCC.</p> <p>1.2 The successful Bidder shall be expected to complete the Works by the Intended Completion Period specified in the BDS.</p> <p>1.3 Throughout these bidding documents, the terms:</p> <ul style="list-style-type: none">(a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax,) with proof of receipt;(b) if the context so requires, “singular” means “plural” and vice versa;(c) “day” means calendar day unless otherwise stated. |
| 2. Source of Funds | <p>2.1 The Works shall be financed by the Public Entity’s own budgetary allocation, unless otherwise stated in the BDS.</p> |
| 3. Public Entities Related to Bidding Documents & to application for review | <p>3.1 The public entities related to these bidding documents are the Public Entity, acting as procurement entity (Purchaser), the Procurement Policy Unit, in charge of issuing standard bidding documents and responsible for any amendment these may require, the Central Procurement Board in charge of vetting Bidding document, receiving and evaluation of bids in respect of major contracts and the Review Panel, set up under the Public Procurement Act, 2015 (hereinafter referred to as the Act.)</p> |

**The Chairperson
Review Panel
Ministry of Finance
Private Bag 13295
Windhoek, Namibia**

4. Fraud and Corruption

4.1 The Government of the Republic of Namibia requires that bidders/suppliers/contractors, participating in procurement in Namibia, observe the highest standard of ethics during the procurement process and execution of contracts.

4.2 The Employer will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices in competing for the contract in question:

For the purposes of this Sub-Clause:

- (i) “corrupt practice” is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- (v) “obstructive practice” is deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation.

4.3. Bidders, suppliers and public officials shall also be aware of the provisions stated in section 67 and 68 of the Public Procurement Act, 2015 which can be consulted on the website of the Procurement Policy Unit (PPU) : www.mof.gov.na/procurement-policy-unit

5. Eligible Bidders

- 5.1 A Bidder may be a natural person, private entity, or government-owned entity or any combination of them in the form of a joint venture, under an existing agreement, or with the intent to constitute a legally-enforceable joint venture. All partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms.
- 5.2 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:
- (a) they have a controlling partner in common; or
 - (b) they receive or have received any direct or indirect subsidy from any of them; or
 - (c) they have the same legal representative for purposes of this bid; or
 - (d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the Bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
 - (e) a Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which the party is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or
 - (f) a Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid; or
 - (g) a Bidder, or any of its affiliates has been hired (or is proposed to be hired) by the Employer as Engineer for the contract.
- 5.3 (a) A bidder that is under a declaration of ineligibility by the Government of Namibia in accordance with applicable laws at the date of the deadline for bid submission and thereafter shall be disqualified
- (b) Bids from contractors appearing on the ineligibility lists of African Development Bank, Asian Development Bank, European Bank for Reconstruction and Development, Inter-American Development Bank Group and World Bank Group shall be rejected.

- 5.4 Government-owned enterprises in the Republic of Namibia shall be eligible only if they can establish that they are legally and financially autonomous and operate under commercial law, and that they are not a dependent agency of the Government.

6. Qualifications of Bidders

- 6.1 All bidders shall provide in Section III, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary.
- 6.2 Bidders shall include the information and documents listed hereunder with their bids, unless otherwise **stated in the BDS**. The non-submission of the documents by the Bidder within the prescribed period may lead to the rejection of its bid.
- (a) copies of original documents defining the constitution or legal status, place of registration, and principal place of business of the Bidder;
 - (b) total monetary value of construction works performed for each of the last five years;
 - (c) experience in works of a similar nature and size for each of the last five years or as otherwise **stated in the BDS**; and clients who may be contacted for further information on those contracts;
 - (d) major items of construction equipment proposed to carry out the Contract;
 - (e) qualifications and experience of key site personnel and technical personnel proposed for the contract;
 - (f) report on the financial standing of the Bidder for the last three years, such as certified copies of Financial Statements/Audited Accounts as filed at the Registrar of Companies;
 - (g) evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);
 - (h) authority to seek references from the Bidder's bankers; and
 - (i) information regarding any litigation, current or during the last five years, in which the Bidder was/is involved, the parties concerned, the issues involved, the disputed amounts, and awards;
 - (j) proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.

6.3 To qualify for award of the Contract, bidders shall meet the following minimum qualifying criteria:

- (a) a minimum average annual financial amount of construction work over the period **specified in the BDS**.
- (b) experience as prime contractor in the construction of a minimum number of works of a nature and complexity equivalent to the Works over a period as **specified in the BDS** (To comply with this requirement, works cited should be at least 70 percent complete);
- (c) proposals for the timely acquisition (own, lease, hire, etc.) of the essential equipment **listed in the BDS**;
- (d) a Contract Manager/Supervisor with five years' experience in works of an equivalent nature and volume, including no less than three years as Manager or as otherwise **specified in the BDS**; and
- (e) liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of no less than the amount **specified in the BDS**.

A consistent history of litigation or arbitration awards against the Applicant or any partner of a Joint Venture may result in disqualification.

B. Contents of Bidding Document

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| <p>7. Sections of Bidding Document</p> | <p>7.1 The Bidding Document consists of all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 10.</p> <p style="margin-left: 40px;">Section I - Instructions to Bidders (ITB)</p> <p style="margin-left: 40px;">Section II - Bidding Data Sheet (BDS)</p> <p style="margin-left: 40px;">Section III - Bidding Forms</p> <p style="margin-left: 40px;">Section IV - Employer's Requirements</p> <p style="margin-left: 40px;">Section V - General Conditions of Contract</p> <p style="margin-left: 40px;">Section VI - Special Conditions of Contract</p> <p style="margin-left: 40px;">Section VII - Contract Forms</p> |
| <p>8. Clarification of Bidding Document</p> | <p>7.2 The Invitation for Bids issued by the Employer is not part of the Bidding Document.</p> <p>8.1 A prospective Bidder requiring any clarification of the Bidding Document shall contact the Employer in writing at the Employer's address indicated in the BDS.</p> <p style="margin-left: 40px;">The Employer will respond in writing to any request for clarification, provided that such request is received 14 days prior to the deadline for submission of bids.</p> <p style="margin-left: 40px;">Should the Employer deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so following the procedure under ITB 10.</p> |
| <p>9. Site visit/Pre-bid meeting</p> | <p>9.1 Bidders, at the Bidders' own responsibility and risk, are encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing their Bids and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidders' own expense.</p> <p>9.2 The Bidder or its designated representative is invited to attend a pre-bid meeting, as provided for in the BDS. The purpose of the pre-bid meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.</p> <p style="margin-left: 40px;">Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.</p> |
| <p>10. Amendment of Bidding Document</p> | <p>10.1 At any time prior to the deadline for submission of bids, the Employer may amend the Bidding Document by issuing addenda and extend the deadline for submission of bids, if needed.</p> |

C. Preparation of Bids

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| 11. Cost of Bidding | 11.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs irrespective of the outcome of the bidding process. |
| 12. Language of Bid | 12.1 The Bid, supporting documents as well as all correspondence relating to the bid exchanged by the Bidder and the Employer shall be in English Language. |
| 13. Documents
Comprising the
Bid | <p>13.1 The Bid shall comprise the following:</p> <ul style="list-style-type: none"> (a) Bid submission Form (in the format indicated in Section IV); (b) Qualification information and documentary evidence establishing the Bidder's qualifications to perform the contract; (c) completed Bill of Quantities / Activity Schedule; (d) the following documentary evidence is required <ul style="list-style-type: none"> 1. have a valid certified copy company Registration Certificate; 2. have an original valid good Standing Tax Certificate or a certified valid copy thereof; 3. have an original valid good Standing Social Security Certificate or a certified valid copy thereof; 4. have a valid certified copy of Affirmative Action Compliance Certificate, proof from Employment Equity Commissioner that bidder is not a relevant employer, or exemption issued in terms of Section 42 of the Affirmative Action Act, 1998; 5. have a certificate indicating SME Status (for Bids reserved for SMEs); 6. An undertaking on the part of the Bidder that the salaries and wages payable to its personnel in respect of this proposal are compliant to the relevant laws, Remuneration Order, and Award, where applicable and that it will abide to sub-clause 4.6 of the General conditions of Contract if it is awarded the contract or part thereof. |
| 14. Bid Submission
Form and
Schedules | 14.1 The Bid Submission Form, Schedules, and all documents listed under ITB 13.1 shall be prepared using the relevant forms, if so provided. |
| 15. Alternative
Proposal | 15.1 Alternative Technical Proposals and completion dates if allowed shall be indicated in Section V – Specifications. The |

evaluation methodologies for their consideration shall be given in Section III.

16. Bid Prices and Discounts

16.1 The Contract shall be for the whole Works, as described in ITB Sub-Clause 1.1, based on the priced Activity Schedule/Bill of Quantities submitted by the Bidder.

16.2 Bidders shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by Bidders, shall not be paid for by the Public Entity when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. **Corrections, if any, shall be made by crossing out, initialing, dating and rewriting.**

16.3 All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 14 days prior to the deadline for submission of bids, shall be included in the rates, prices, and total Bid price submitted by Bidders.

16.4 The price to be quoted in the Bid Submission Form shall be the total price of bid after any discount offered.

The discount if any and the conditions of its application shall be indicated separately.

17. Currencies of Bid and Payment

17.1 The bid price and rates shall be in Namibian Dollars and fixed for the duration of the contract unless otherwise **specified in the BDS.**

17.2 Unless otherwise **specified in BDS** interim payment for Plant and Material on site is applicable as per GCC 39.7.

18. Documents Comprising the Technical Proposal

18.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in the Bidder Qualification Form (section IV), in sufficient details to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.

19. Period of Validity of Bids

19.1 Bids shall remain valid for a period **specified in the BDS.** The Bid Validity period should not exceed 180 days.

19.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified additional period. The request and the responses thereto shall be made in writing.

20. Bid Security/Bid Securing Declaration

20.1 The Bidder shall furnish either a subscription to a Bid Securing Declaration or a Bid Security in its original form with its bid as part of its bid, if so **required in the BDS.**

20.2 Bid Security shall be in the form of a Bank Guarantee from a local commercial bank as per the format contained in section

IV and shall be valid for a period of **30 days beyond the validity period of the bid or beyond any period of extension.**

20.3 Any bid not accompanied by an enforceable and substantially compliant Bid Security or a subscription to a Bid Securing Declaration in the Bid Submission Form, if required in accordance with ITB 20.1, shall be rejected by the Employer as non-responsive.

20.4 Bid Security shall be forfeited or the Bid Securing declaration exercised for non-compliance on the part of the Bidder for reasons mentioned in the Bid Security format contained in Section III or the Bid Suring Declaration contained as Appendix to the Bid Submission Form.

21. Format and Signing of Bid

21.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 13.1 and clearly mark it “ORIGINAL”. In addition, the Bidder shall submit the number of copies **as specified in the BDS**, clearly marked with the label “COPY.” In the event of any discrepancy between the original and the copies, the original shall prevail.

21.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder.

D. Submission and Opening of Bids

22. Sealing and Marking of Bids

22.1 Bidders may always submit their bids by mail or by hand. Procedures for submission, sealing and marking are as follows:

- (a) Bidders submitting bids by mail or by hand shall enclose the original and each copy of the Bid, including alternative bids, if permitted in accordance with ITB 15, in separate sealed envelopes, duly marking the envelopes as “ORIGINAL”, “ALTERNATIVE” and “COPY.” These envelopes containing the original and the copies shall then be enclosed in one single envelope. The rest of the procedure shall be in accordance with ITB sub-Clauses 22.2.

22.2 The inner and outer envelopes shall:

- (a) bear the name and address of the Bidder;
- (b) be addressed to the Employer as indicated in ITB 22.1;
- (c) bear the specific identification of this bidding process indicated in accordance with ITB 1.1; and
- (d) bear a warning not to open before the time and date for bid opening.

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| 23. Deadline for Submission of Bids | <p>23.1 Bids shall be delivered to the Employer at the address and no later than the time and date specified in the BDS.</p> <p>The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 10.</p> |
| 24. Late Bids | <p>24.1 Late bids shall not be considered. They will be returned unopened</p> |
| 25. Withdrawal, Substitution, and Modification of Bids | <p>25.1 No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Submission Form or any extension thereof.</p> |
| 26. Bid Opening | <p>26.1 The Employer shall open the bids at the time place and address specified in the BDS in the presence of Bidders` designated representatives who choose to attend.</p> <p>26.2 The bidders' names, the Bid Prices, the total amount of each bid, any discounts, any alternative bid, bid modifications and withdrawals, the presence or absence of bid security, and such other details as the Employer may consider appropriate, will be announced and recorded by the Employer at the opening.</p> |

E. Evaluation and Comparison of Bids

- 27. Confidentiality** 27.1 Information relating to the examination, evaluation, comparison, and post-qualification of bids and recommendation of contract award, shall not be disclosed to Bidders or any other person not officially concerned with such process.
- 27.2 Any attempt by a Bidder to influence the Employer in the evaluation of the bids or Contract award decisions may result in the rejection of its bid.
- 28. Clarification of Bids** 28.1 To assist in the examination, evaluation, and comparison of the bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its bid. No change in the prices or substance of the bid shall be sought, offered, or permitted, except to confirm the correction of arithmetical errors discovered by the Employer in the evaluation of the bids, in accordance with ITB 31.
- 29. Determination of Responsiveness** 29.1 The Employer's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB13.
- 29.2 A substantially responsive bid is one that meets the requirements of the Bidding Document without material deviation, reservation, or omission.
- 29.3 The Employer shall examine the technical aspects of the bid submitted in accordance with ITB 18, Technical Proposal, in particular, to confirm that all requirements of Section V (Employer's Requirements) have been met without any material deviation, reservation or omission.
- 29.4 If a bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.
- 30. Nonconformities, Errors, and Omissions** 30.1 Provided that a bid is substantially responsive, the Employer may waive any non-material non-conformity in the bid, request that the Bidder submit the necessary information or documentation, to rectify nonmaterial nonconformities in the bid related to documentation requirements but not related to any aspect of the price of the bid; and shall rectify quantifiable nonmaterial nonconformities related to the Bid Price.
- 31. Correction of Arithmetical Errors** 31.1 Provided that the bid is substantially responsive, the Employer shall correct arithmetical errors on the following basis:
- (a) only for unit price contracts, if there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in

the opinion of the Employer there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;

- (b) if there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.

32. Margin of Preference

32.1 **Unless otherwise specified in the BDS**, Margin of preference shall not apply.

33. Evaluation of Bids

33.1 The Employer shall use the criteria and methodology defined in this clause and no other evaluation criteria or methodologies shall be permitted.

33.2 To evaluate a bid, the Employer shall consider the following:

- (a) the bid price, excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities for admeasurement contracts or Schedule of Prices for lump sum contracts, but including Daywork items, where priced competitively; and,
- (b) price adjustment for correction of arithmetic errors, discounts, non-conformities, due to the supplementary criteria as defined in Section III, and Margin of Preference, if applicable.

33.3 If this Bidding Document allows Bidders to quote separate prices for different contracts, and to award multiple contracts to a single Bidder, the methodology to determine the lowest evaluated price of the contract combinations, including any discount offered in the Bid Submission Form, is specified in Section III (Evaluation and Qualification Criteria).

33.4 If the bid for an admeasurement contract, which results in the lowest Evaluated Bid Price, is seriously unbalanced, front loaded or substantially below updated estimates or if any item in the Priced Activity Schedule is front loaded or contains an erroneous amount in the opinion of the Employer, the Employer may after clarification require the Bidder to produce detailed price analysis for any or all items that the amount of the performance security be increased at the expense of the Bidder.

34. Comparison of Bids

34.1 The Employer shall compare all substantially responsive bids in accordance with ITB 33 to determine the lowest evaluated bid.

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| 35. Qualification of the Bidder | 35.1 The Employer shall determine to its satisfaction whether the Bidder that is selected as having submitted the highest scoring substantially responsive bid meets the qualifying criteria. |
| 36. Employer's Right to Accept Any Bid, and to Reject Any or All Bids | 36.1 The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. |

F. Award of Contract

- 37. Award Criteria** 37.1 Subject to ITB 36.1, the Employer shall award the Contract to the Bidder whose offer has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.
- 38. Notification of Award** 38.1 Prior to the expiration of the period of bid validity, the Employer shall, for contract amount above the prescribed threshold of N\$ 2 M, notify the selected bidder of the proposed award and accordingly notify unsuccessful bidders. Subject to Challenge, the Employer shall notify the selected Bidder, in writing, by a Notification of award for award of contract. The Notification of award shall specify the sum that the Employer will pay the Contractor in consideration of the execution and completion of the Works (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”) and the requirement for the Contractor to remedy any defects therein as prescribed by the Contract. Within seven days from the issue of notification of award, the Purchaser shall publish on the Public Procurement Portal (www.mof.gov.na/procurement-policy-unit) and the Purchaser’s website, the results of the Bidding Process identifying the bid and lot numbers and the following information:
- (i) name of the successful Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded; and
 - (ii) an executive summary of the Bid Evaluation Report.
- 38.2 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.
- 39. Signing of Contract** 39.1 Promptly upon issue of notification of award, the Employer shall send to the successful Bidder the Contract Agreement.
- 39.2 Within thirty (30) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.

40. Performance Security

40.1 Within thirty (30) days of the receipt of the notification of award from the Employer, the successful Bidder shall furnish the Performance Security in accordance with the conditions of contract, using for that purpose the Performance Security Form included in Section IX (Contract Forms).

40.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or to sign the Contract Agreement within the prescribed delay shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security.

41. Advance Payment and Security

41.1 The Public Entity shall provide an Advance Payment on the Contract Price as stipulated in the GCC, subject to a maximum amount, **as stated in the BDS**. The Advance Payment shall be guaranteed by a security as per the format contained in Section VIII.

42. Plant and Materials on site

42.1 Unless otherwise **specified in BDS** interim payment for Plant and Material on site is applicable as per GCC 39.7.

43. Debriefing

43.1 The Purchaser shall promptly attend to all debriefing for the contract made in writing and within 30 days from the date of the publication of the award or date the unsuccessful bidders are informed about the award.

Section II - Bidding Data Sheet (BDS)

The following specific data for the works to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

A. General	
ITB 1.1	Replace the last part of the first sentence of the first paragraph of ITB 1.1 reading: “Section VII, “Special Conditions of Contract” (SCC).” With: “Section VIII – Special Conditions of Contract (SCC).”
ITB 1.1	The Public Entity is: Erongo Regional Council.
ITB 1.1	The Works are THE CONSTRUCTION OF A WATER RETICULATION NETWORK FOR WLOTZKASBAKEN, ERONGO REGION - PHASES 3, 4 & 5.
ITB 1.1	The name and identification of the Contract is: A CONTRACTOR FOR THE CONSTRUCTION OF A WATER RETICULATION NETWORK FOR WLOTZKASBAKEN, ERONGO REGION, PHASE 3, 4 & 5, W/ONB/ERC – 001/2025/2026
ITB 1.2	The Intended Completion period is 420 Calendar Days (14 months) from possession of site including <u>public holidays and builder’s holiday.</u>
ITB 2.1	The Funding Agency is: Erongo Regional Council
ITB 5.3	A list of firms debarred from participating in Public Procurement in Namibia is available at http://www.mof.gov.na/procurement-policy-unit. A list of firms debarred by World Bank is available at http://www.worldbank.org/debarr
ITB 6.1	Bidders are referred to Section III – Bidding Forms where provision is made for the proposed methodology, programme, etc. as listed in ITB.13.1 (e).
ITB 6.2	The information required from bidders in ITB Sub-Clause 6.2 is modified as follows: Refer to ITB 13.1 (e) where a list is provided.
ITB 6.2 (c)	Contractors should have at least three years of experience in similar works and familiarity with the area and conditions will be advantageous.

ITB 6.3 (a)	The Contractor must have a minimum average annual financial amount of construction of N\$ 10 000 000.00 per year over the last 3 years for each year.
ITB 6.3 (b)	The number of works is: 3 The period is: 8 years
ITB 6.3 (c)	The essential equipment to be made available for the Contract by the successful Bidder shall include, but is not limited to the following: • <u>22t Hydraulic Excavator with minimum fly wheel power of 145kw;</u> • <u>Hydraulic Excavator with jack hammer attachment ('Tok Tok')</u> • Self-Propelled Compactors; • Water Tankers; • LDV (Light Delivery Vehicle); • Jack Hammers.
ITB 6.3 (d)	The Contract Manager shall have at least five (5) years' experience in works of an equivalent nature or three (3) years with a tertiary qualification in Civil Project Management. The Site Agent / Supervisor shall have at least 5 years' experience in projects of this nature.
ITB 6.3 (e)	The minimum amount of liquid assets and/or credit facilities net of other contractual commitments of the successful Bidder shall be 15% of the contract price offered.
ADD ITB 6.4	Bidders may not subcontract components of the Works amounting to more than 25 percent of the Contract Price. The prior consent of the Employer shall be obtained to appoint proposed Sub-Contractors to execute any part of the Works, other than the Contractors listed subcontractors that he must declare in his Bid with detailed experience on each.

B. Bidding Documents																			
ITB 7.1	The Bidding Document shall consist of the following sections as will be clearly identifiable with the colour annotation for each section: <table> <tr> <td>Section I - Instructions to Bidders (ITB)</td><td> Pink</td></tr> <tr> <td>Section II - Bidding Data Sheet (BDS)</td><td> Yellow</td></tr> <tr> <td>Section III - Bidding Forms</td><td> Green</td></tr> <tr> <td>Section IV - Evaluation Criteria</td><td> Pink</td></tr> <tr> <td>Section V - Employer's Requirements</td><td> Blue</td></tr> <tr> <td>Section VI – Bill of Quantities</td><td> Yellow</td></tr> <tr> <td>Section VII - General Conditions of Contract</td><td> Green</td></tr> <tr> <td>Section VIII - Special Conditions of Contract</td><td> Green</td></tr> <tr> <td>Section IX - Contract Forms</td><td>White</td></tr> </table>	Section I - Instructions to Bidders (ITB)	 Pink	Section II - Bidding Data Sheet (BDS)	 Yellow	Section III - Bidding Forms	 Green	Section IV - Evaluation Criteria	 Pink	Section V - Employer's Requirements	 Blue	Section VI – Bill of Quantities	 Yellow	Section VII - General Conditions of Contract	 Green	Section VIII - Special Conditions of Contract	 Green	Section IX - Contract Forms	White
Section I - Instructions to Bidders (ITB)	 Pink																		
Section II - Bidding Data Sheet (BDS)	 Yellow																		
Section III - Bidding Forms	 Green																		
Section IV - Evaluation Criteria	 Pink																		
Section V - Employer's Requirements	 Blue																		
Section VI – Bill of Quantities	 Yellow																		
Section VII - General Conditions of Contract	 Green																		
Section VIII - Special Conditions of Contract	 Green																		
Section IX - Contract Forms	White																		
ITB 8.1	The Public Entity's address for clarification is: Erongo Regional Council Private Bag 5019, Swakopmund House Acacia, c/o Tobias Hainyeko Street, Swakopmund Due date for clarification shall be Tuesday 1 July 2025 @ 10h00 a.m.																		
ITB 9.2	A non-compulsory pre-bid meeting has been scheduled for: Date : 12 June 2025 Time : 10:00 a.m. Venue : Erongo Regional Council Satellite Office in Wlotzkasbaken Notes : Briefing will take place at the offices followed by a site visit. Bidders are encouraged to attend the non-compulsory pre-bid meeting to ensure they are familiar with the site conditions.																		
ITB 10.1	Bidders are to acknowledge and confirm receipt and understanding of all addenda issued and include it herein. Please refer to Section III of this document.																		

C. Preparation of Bids	
ITB 13.1(a)	Replace: “Section IV” With: “Section III”
ITB 13.1(b)	Refer to Section III for format and order of documents to be submitted.
ITB 13.1(c)	Add the following: “The BoQ is to be completed in full by filling in the rates and totals in the format as provided herein under Section VI – Bill of Quantities. It shall be completed in black indelible ink by hand. An electronic version shall be distributed to all bidders that are also to be completed and submitted upon request to do so by the Project Manager.”
ITB 13.1(d)	Refer to Section III for format and order of documents to be submitted.
ADD: ITB 13.1(e)	(e) Bid Forms in the format indicated in Section III; 1. Form 19: Letter of Undertaking by Financial Institution for The Issue of a Performance Guarantee and Supply of Bank Rating for The Project Statements and References 2. Form 20: Company Vat Registration Certificate 3. Form 21: Preliminary Programme 4. Form 22: Knowledge of Local Conditions 5. Form 23: Notices to Bidders Any additional materials required to be completed and submitted by the Bidders are: 1. The bidder shall attach evidence of the signatory authorized to sign the bid (if applicable). This authorization shall consist of written confirmation and may include a delegation of power by resolution of the Board of a company or from the CEO, himself holding power from the Board or from a Director being a shareholder of a company or through a Power of Attorney. The name and position held by each person signing the authorization must be typed or printed below the signature. 2. The signatory authorized to sign the bid shall initial all pages of the Bid Document including all attachments and documents attached by the Bidder.
ITB 15	Delete this clause in its entirety as no Alternative Proposals shall be accepted.

ITB 17.1	The Contract is not subject to price adjustment in accordance with GCC Clause 44.
ITB 17.2	Interim Payment for Plant and Material on site is applicable as follows: 80% payment for materials on site for the full value of all plant and material on presentation of the supplier's tax invoices, proof of payment and by cession of rights from the Supplier to the Contractor and from the Contractor to the Employer.
ITB 18.1	Replace this clause in its entirety with the following: “The Bidder shall furnish a Technical Proposal with all Forms as listed in ITB13 duly completed in sufficient details to demonstrate the adequacy of the Bidders’ proposal to meet the work requirements and the completion time.
ITB 19.1	The Bid shall be valid for 180 calendar days after the deadline set for the submission of bid, the deadline being counted as day one of the validity period.
ITB 20.1	The Bid shall include a subscription to a Bid Securing Declaration.
ITB 20.2	Replace: “Section IV” With: “Section III”
ITB21.1	One additional copy is required in addition to the Original bid.

D. Submission and Opening of Bids	
ITB 23.1	The deadline for submission of bids shall be: Date: 15 July 2025 Venue: Erongo Regional Council Head Office, House Acacia, c/o Tobias Hainyeko Street, Swakopmund. Time: before 10:00 a.m.
ITB 23.1	The Employer's address for the purpose of Bid submission is: Attention: Ms. Monalisa Gomes (mgomes@erongorc.gov.na) Address: Erongo Regional Council Head Office, House Acacia, c/o Tobias Hainyeko Street, Swakopmund.
ITB 26.1	The bid opening shall take place at: Venue: Erongo Regional Council Head Office, House Acacia, c/o Tobias Hainyeko Street, Swakopmund. Date: 15 July 2025 Time : 10:00 a.m.

E. Evaluation and Comparison of Bids	
ITB 32.1	Margin of preference shall apply to local suppliers / service providers as per Section IV.
ITB 33.1	Refer to Section IV – Evaluation Criteria for a detailed setting out of the evaluation methodology, criteria, and requirements.
ITB 33.2 (b)	Replace: “Section III” With: “Section IV”
ITB 33.3	This Bid shall be awarded as per the evaluation methodology, criteria and requirements set out in Section IV – Evaluation Criteria.
ITB 33.4	Add the following: “Front loaded and unbalanced rates shall be cause for a bidder to be declared non-responsive should the clarifications not be sufficient. Front loaded and unbalanced construction rates are rates that are more than 50% above or below the average bid rate of administrative compliant and technical compliant bidders. ”
ITB 34	Replace this clause in its entirety with the following: “Bids shall be compared based on Section IV – Evaluation Criteria.”

F. Award of Contract	
ITB 37.1	Replace the sub-clause in its entirety with: <i>Subject to ITB 36.1, The Employer Shall award the contract as set out in Section IV – Evaluation Criteria.</i>
ITB 38.2	Replace the sub-clause in its entirety with: <i>Within twenty-one (21) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.</i>
ITB 40.1	The Standard Form of Performance Security acceptable to the Public Entity shall be “a Bank Guarantee”. The Bank guarantee shall be 10 % of the contract price inclusive of provisional and contingency sums and 15% VAT. Replace: “Section VIII” With: “Section IX”
ITB 41.1	Delete this clause in its entirety as no advance payments shall be made.
ITB 42.1	Interim Payment for Plant and Material on site is applicable as follows: 80% payment for materials on site for the full value of all plant and material on presentation of the supplier’s tax invoices, proof of payment and by cession of rights from the Supplier to the Contractor and from the Contractor to the Employer.

Section III - Bidding Forms

FORM 1: BID SUBMISSION FORM.....	28
FORM 2: COMPANY REGISTRATION CERTIFICATE	30
FORM 3: CERTIFICATE OF GOOD STANDING WITH RECEIVER OF REVENUE	31
FORM 4: CERTIFICATE OF GOOD STANDING WITH THE SOCIAL SECURITY COMMISSION.....	32
FORM 5: AFFIRMATIVE ACTION COMPLIANCE CERTIFICATE OR EXEMPTION	33
FORM 6: SME STATUS CERTIFICATE	34
FORM 7: WRITTEN UNDERTAKING	35
FORM 8: BID SECURING DECLARATION.....	37
FORM 9: SCHEDULE OF WORK EXECUTED BY BIDDER	38
FORM 10: LIST OF CONSTRUCTION EQUIPMENT	40
FORM 11: SCHEDULE OF KEY PERSONNEL AND CV'S.....	41
FORM 12: SCHEDULE OF PROPOSED SUB-CONTRACTORS.....	42
FORM 13: CONSTITUTION OF LEGAL STATUS OF BIDDER:	43
FORM 14: METHOD STATEMENT.....	44
FORM 15: LETTER OF UNDERTAKING BY FINANCIAL INSTITUTION FOR THE ISSUE OF A PERFORMANCE GUARANTEE AND LETTER OF BANK RATING/AVAILABLE CREDIT FOR THE PROJECT.....	45
FORM 16: COMPANY VAT REGISTRATION CERTIFICATE	46
FORM 17: PRELIMINARY PROGRAMME.....	47
FORM 18: KNOWLEDGE OF LOCAL CONDITIONS.....	48
FORM 19: COMPANY FITNESS CERTIFICATE.....	49
FORM 20: NOTICES TO BIDDERS.....	50

NOTES:

Where the space provided in the bound documents is insufficient, separate schedules may be drawn up in accordance with the given formats. These schedules shall then be bound together with a suitable contents page and submitted with the Bid Documents.

All schedules must be signed by the Bidder.

The Bidder is also reminded to complete the bid price on the cover sheet of this document.

*Failure to complete the forms constitutes a **non-responsive and non-compliant bid**.*

THE FORMS MUST BE COMPLETED IN BLACK INK

FORM 1: BID SUBMISSION FORM

Date: _____

Bidder's Reference No.: _____

Procurement Reference No: _____

To: The Head of Procurement Management Unit
Erongo Regional Council
Private Bag 5019, Swakopmund
House Acacia
c/o Tobias Hainyeko Street
Swakopmund
Namibia

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instruction to Bidders (ITB) Clause 10;
- (b) We offer to execute in conformity with the Bidding Documents the following Works:
_____;
- (c) The total price of our Bid after discounts, if any, offered in item (d) below is:

_____;
- (d) The discounts offered and the methodology for their application are:

_____;
- (e) Our bid shall be valid for a period of 90 calendar days from the closing date and fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (f) We hereby confirm that we have read and understood the content of the Bid Securing Declaration attached hereto and subscribe fully to the terms and conditions contained therein, if required. We understand that non-compliance to the conditions mentioned may lead to disqualification.
- (g) If our bid is accepted, we commit to obtain a Performance Security and a Preference Security (if applicable) in accordance with the Bidding Document;

- (h) We, including any subcontractors or suppliers for any part of the contract, do not have any conflict of interest in accordance with ITB 5.2;
- (i) We are not participating, as a Bidder in more than one bid in this bidding process other than alternative offers submitted in accordance with ITB 15;
- (j) Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible under the laws of Namibia;
- (k) We are not a government owned entity / We are a government owned entity but meet the requirements of ITB 5.4;
- (l) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed;
- (m) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive; and
- (n) If awarded the contract, the person named below shall act as Contractor's Representative:

Name: _____

In the capacity of: _____

Signed: _____

Duly authorized to sign the Bid for and on behalf of: _____

Date: _____

Seal of Company: _____

FORM 2: COMPANY REGISTRATION CERTIFICATE

The Bidder must submit a valid certified copy of the company's registration that clearly indicates the stream of business of the company and its principal place of business.

FORM 3: CERTIFICATE OF GOOD STANDING WITH RECEIVER OF REVENUE

The Bidder shall provide an Original Valid Certificate of Good Standing with the Receiver of Revenue, or a valid certified copy thereof attached securely to this page by stapling or fixing with adhesive.

FORM 4: CERTIFICATE OF GOOD STANDING WITH THE SOCIAL SECURITY COMMISSION

The Bidder shall provide an Original Valid Certificate of Good Standing with the Social Security Commission or a valid certified copy thereof, attached securely to this page by stapling or fixing with adhesive.

FORM 5: AFFIRMATIVE ACTION COMPLIANCE CERTIFICATE OR EXEMPTION

The Bidder shall provide a valid certified copy of Affirmative Action Compliance Certificate, proof from Employment Equity Commissioner that bidder is not a relevant employer, or exemption issued in terms of Section 42 of the Affirmative Action Act, 1998, attached securely to this page by stapling or fixing with adhesive.

FORM 6: SME STATUS CERTIFICATE

The Bidder shall provide a valid certified copy certificate indicating SME Status, attached securely to this page by stapling or fixing with adhesive. Preference will be given to SME's.

FORM 7: WRITTEN UNDERTAKING**Republic of Namibia****Ministry of Labour, Industrial Relations and Employment Creation**

Written undertaking in terms of section 138 of the Labour Act, 2015 and section 50(2)(D) of the Public Procurement Act, 2015

1. EMPLOYER'S DETAILS

Company Trade Name:

Registration Number:

VAT Number:

Industry / Sector:

Place of Business:

Physical Address:

Tell No:

Fax No:

Email Address:

Postal Address:

Full name of Owner / Accounting Officer:

.....

Email Address:

2. PROCUREMENT DETAILS

Procurement Reference No.:

Procurement Description:

.....

Anticipated Contract Duration:

Location where work will be done, goods / services will be delivered:

.....

3. UNDERTAKING

I.....owner / representative

ofname of company

hereby undertake in writing that my company will at all relevant times comply fully with the relevant provisions of the Labour Act and the Terms and Conditions of Collective Agreements as applicable.

I am fully aware that failure to abide to such shall lead to the action as stipulated in section 138 of the Labour Act, 2007, which include but not limited to the cancellation of the contract / licence / grant / permit or concession.

Signature:

Date:

Seal:

Please take note:

1. *A labour inspector may conduct unannounced inspections to assess the level of compliance*
2. *This undertaking must be displayed at the workplace where it will be readily accessible and visible by the employees rendering service(s) in relations to the goods and services being procured under this contract.*

FORM 8: BID SECURING DECLARATION

(Section 45 of act, regulation 37(1) (b) and 37 (5))

Date:

Procurement Ref No.: Ref: W/ONB/ERC – 001/2025/2026

To: Procurement Management Unit, Erongo Regional Council

I/We* understand that in terms of section 45 of the Act a public entity must include in the bidding document the requirement for a declaration as an alternative form of bid security.

I/We* accept that under section 45 of the Act, I/we* may be suspended or disqualified in the event of;

- a) modification or withdrawal of a bid after the deadline for submission of bids during the period of validity;**
- b) refusal by a bidder to accept a correction of an error appearing on the face of a bid;**
- c) failure to sign a contract agreement in accordance with the terms and conditions set forth in the bidding document, should I/We* be successful bidder; or**
- d) failure to provide security for the performance of the procurement contract if required to do so by the bidding document.**

I/We* understand this Bid Securing Declaration ceases to be valid if I am/We are* not the successful Bidder

Signed:
[insert signature of person whose name and capacity are shown]

Capacity of:
[indicate legal capacity of person(s) signing the Bid Securing Declaration]

Name:
[insert complete name of person signing the Bid Securing Declaration]

Duly authorized to sign the bid for and on behalf of: [insert complete name of Bidder]

Dated on _____ day of _____

Corporate Seal (where appropriate)

[Note*: In case of a joint venture, the Bid Securing Declaration must be in the name of all partners to the joint venture that submits the bid.]

*delete if not applicable / appropriate

FORM 9: SCHEDULE OF WORK EXECUTED BY BIDDER**9.1 ANNUAL AMOUNTS OF CONSTRUCTION WORKS PERFORMED DURING THE LAST 5 YEARS:**

Number of works of a nature and amount similar to the Works performed as prime Contractor over the last 8 years: [Also list details of work under way or committed, including expected completion date(s).]

Project / Contract Name and Country	Name of Client and Contact Person	Type of Work Performed and Year of Completion	Value of Contract in NAD	Year of Completion

SIGNED ON BEHALF OF THE BIDDER:

9.2 PERFORMANCE EVALUATION SHEET

This sheet should be completed for a minimum of three (3) different projects from three (3) different Project Managers. (Bidder to make own copies and attach hereto.)

A. Project Details:

Project Name:

Contractor Name:

Project Description:

.....
.....

Approximate Value of Project: N\$

Location of Project:

Contract Period:

Name of Consulting Engineering/Project Management Firm:.....

Name of Project Engineer/Manager:

Contact Details of Project Engineer/ Manager:.....

Signature of Project Engineer/ Manager:Date:

B. Contractor Evaluation

The Contractor shall be graded on a scale of 1 to 10:

1 = exceptionally poor; 10 = exceptionally good

Was the contract completed within the contract period? Yes

☐

No

☐

1	Management Skills	1	2	3	4	5	6	7	8	9	10
2	Site Organisation	1	2	3	4	5	6	7	8	9	10
3	Site Cleanliness	1	2	3	4	5	6	7	8	9	10
4	Safety of Workmen	1	2	3	4	5	6	7	8	9	10
5	Co-ordination of Sub-Contractors	1	2	3	4	5	6	7	8	9	10
6	Quality of Workmanship	1	2	3	4	5	6	7	8	9	10
7	Finishing	1	2	3	4	5	6	7	8	9	10
8	Response to Defects	1	2	3	4	5	6	7	8	9	10
9	Programming	1	2	3	4	5	6	7	8	9	10
10	Communication	1	2	3	4	5	6	7	8	9	10

FORM 10: LIST OF CONSTRUCTION EQUIPMENT

Major items of Contractor's Equipment proposed for carrying out the Works. [Refer to ITB Sub-Clause 6.3.] **(Proof of lease agreement/arrangements to be provided and/or arrangements to purchase equipment)**

After the award of the Contract, the contractor must satisfy the Project Manager that all equipment listed hereunder, or equal, are available on the site when required. The appointed Contractor must maintain the equipment in good working order for the duration of the Contract.

The Contractor furthermore undertakes without additional cost to the Employer, to provide any additional equipment on the site which is necessary, in the opinion of the Employer, to complete the Contract within the bidding contract period.

Item of Equipment	Description, Make and Age (Years)	Condition (New, Good, Poor) and Number Available	Owned, Leased (From Whom?) (Provide Proof of Lease engagement)

FORM 11: SCHEDULE OF KEY PERSONNEL AND CV'S

Qualifications and experience of key personnel proposed for administration and execution of the Contract. [Attach biographical data. Refer to ITB Sub-Clause 6.3 (d).]

The Bidder shall submit with his Bid abbreviated curriculum vitae for each candidate and alternative (if offered) using as a minimum detail requirement. The Contractor may if so desired attach more elaborate CV's of the key staff proposed for the project. These will be securely attached to this page by stapling or alternatively by submitting an Appendix Document or file. (Refer to Section IV for minimum experience requirements that must be clearly shown.) Statements of personnel having a certain number of year experience will not be tolerated. Experience must be linked to previous projects in detail.

Position	Name	Years of Relevant Experience in Construction Industry	Years of Relevant Experience in Proposed Position	Nationality

FORM 12: SCHEDULE OF PROPOSED SUB-CONTRACTORS

Proposed subcontracts and firms involved. Refer to General Conditions of Contract Clause 7.

The Bidder shall list below the specialist subcontractors he intends to appoint for the various specialised items of work on this contract. The bidder should also include the specific staff/personnel and equipment that will be supplied by the sub-contractor that will be critical to the works.

If the Bidder intends to carry out the specialised work himself, he shall state this.

The acceptance of this Bid shall not be construed as approval of all or any of the listed specialist subcontractors. Should any or all of the specialist subcontractors not be approved subsequent to the acceptance of this Bid, this shall in no way invalidate this Bid and the bidding unit rates for the various items of work shall remain final and binding even in the event of a subcontractor not listed below, being approved by the Project Manager.

Sections of the Works	% Value of Subcontract	Subcontractor (Name and Address)	Experience in Similar Work

FORM 13: CONSTITUTION OF LEGAL STATUS OF BIDDER:

Bidder to submit evidence of signatory authorized to sign the bid: Signatories on the behalf of companies must confirm their authorization by attaching a copy of that decision by the board of directors, duly signed and dated.

An example is displayed below:

CERTIFICATE OF AUTHORITY FOR SIGNATORY

By a decision taken by the board of directors at a meeting

held on 20..... at

Mr (s).....

whose signature appears below, is duly authorised to sign all documents in connection with this bid and for any contract that may arise there from;

On the behalf of (capital letters, print)

SIGNED ON BEHALF OF THE COMPANY :

IN HIS CAPACITY AS :

DATE :

SIGNATURE OF SIGNATORY :

WITNESSES : 1.

: 2.....

COMPANY STAMP :

FORM 14: METHOD STATEMENT

The Bidder shall provide a detailed work breakdown structure complete with a method statement for the implementation of the works. The method statement must relate to the preliminary programme as supplied under Form 17.

FORM 15: LETTER OF UNDERTAKING BY FINANCIAL INSTITUTION FOR THE ISSUE OF A PERFORMANCE GUARANTEE AND LETTER OF BANK RATING/AVAILABLE CREDIT FOR THE PROJECT

The Bidder shall provide a **letter of undertaking from a financial institution** stating that such financial institution **will** issue a **performance guarantee** as required by the bidding document should the Bidder be successful in his bid. The bidder must additionally supply a letter from a financial institution that **clearly indicate** the **amount of credit** available for the Bidder to effectively complete the works or alternatively indicate the bidders' bank rating.

FORM 16: COMPANY VAT REGISTRATION CERTIFICATE

The Bidder shall provide a certified copy of the Company's valid VAT registration certificate, securely attached to this page by stapling or fixing with adhesive.

FORM 17: PRELIMINARY PROGRAMME

The Bidder must set out here a preliminary programme indicating the proposed sequence and duration of execution of the various activities included in the Contract. This programme is solely for the purpose of assisting in adjudicating the bids, and in no way replaces or supersedes the programme required in terms of the General Conditions of Contract and the Particular Conditions of Contract.

Bidders to take note that a method statement shall not be seen as a programme and vice versa. These are two separate documents that must relate to each other. The programme is to be minimum a two-tier programme in a Gantt Chart format.

FORM 18: KNOWLEDGE OF LOCAL CONDITIONS

The Bidder shall state below what direct knowledge and experience of local conditions and/or similar conditions is held by his employees and/or principals at the time of Bid and, if relevant, what steps, if any, he intends to take to have such knowledge and experience at his disposal in the event that his Bid is successful.

FORM 19: COMPANY FITNESS CERTIFICATE

The Bidder shall provide a valid certified copy of their Local Authority Fitness / Registration certificate.

FORM 20: NOTICES TO BIDDERS

In submitting my/our Bid, the Bid Sum given in my/our Bid Submission Form includes in full the effects of the following notice(s) to Bidders. Notices are to be signed and affixed/attached behind this page.

NOTICE NUMBER	SUBJECT MATTER OF NOTICE

Section IV - Evaluation Criteria

This section contains supplementary criteria to **ITB 33** that the Employer shall use to evaluate and award the bid. The evaluation is split into a administrative, technical and financial evaluation as set out below. The order of priority for evaluation follows the format as set out below. Bidders must be compliant to the stage of evaluation to advance to the next evaluation stage.

For sake of clarity, a bidder who is not compliant to the Administrative Evaluation will be disqualified and not be considered for further evaluation. The same shall be applicable for each further stage of evaluation.

(a) Administrative Evaluation

Full compliance is required to proceed to step (b) – Technical Evaluation. A detailed Administrative Evaluation Checklist is provided for the Bidders to confirm the Administrative Evaluation Criteria.

Bidders who are not fully compliant to the Compulsory Documentation and the Additional Documentation under the administrative evaluation shall not be considered for further evaluation.

(b) Technical Evaluation

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract. This must be consistent with the Bidder's proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in this bid document.

The technical evaluation consists of a **maximum of 100 points** of which the bidder must **score a minimum of 80 points (80%)** to be considered substantially responsive and be considered for financial evaluation. The bidders Technical Score (TS) will be used for the determination of his Bid Index.

(c) Financial Evaluation

Bids will be checked for their financial soundness. The financial evaluation is explained in detail on page 56 providing the evaluation criteria in order of priority.

(d) Determination of Highest Bid Index for Award

The award shall be done based on the highest Bid Index.

(e) Post-Qualification Requirement

Successful bidders will be required to provide the following before contract signing:

- i) Proof of working capital for a minimum amount of 20% of the Contract Sum (Originally issued and stamped statement from a financial institution as proof, or a letter of intent from any legally registered Financial Institution, or proof of credit facility from a financial institution stating the above-mentioned amount),
- ii) Preliminary works programme encompassing all aspects of the works and,
- iii) Performance Security in the name of the Employer which is equivalent to 10% of the total contract value.

Bidders who do not meet the Post-qualification Requirements as set out above will not be considered for award.

(a) ADMINISTRATIVE COMPLIANCE CHECKLIST

Criteria	Yes	No	Remark/s
Compulsory Documentation			
Bidder has duly completed and signed the Bid Submission Form [ITB 13.1 (a); Form 1]			
Bidder has submitted a Company Registration Certificate that indicates the stream of business relevant to the procurement activity. [ITB 6.2 (a); ITB 13 (d) 1. ; Form 2]			
An original valid or certified copy of a valid “Good Standing Tax Certificate” or an original valid letter or certificate from the Ministry of Finance, Directorate: Inland Revenue indicating that NO TAX registration is required. [ITB 13.1 (d) 2.; Form 3]			
An original or certified copy of a valid “Good Standing Certificate” from the Social Security Commission [ITB 13.1 (d) 3.; Form 4]			
Have a valid certified copy of Affirmative Action Compliance Certificate , proof from Employer Equity Commissioner that bidder is not a relevant Employer, or exemption issued in terms of Section 42 of the Affirmative Action Act, 1998 [ITB 13.1 (d) 4.; Form 5]			
A certificate indicating SME Status [ITB 13.1 (d) 5.; Form 6]			
Bidder has made a Written undertaking in terms of Section 138 of the Labour Act, 2015 and Section 50[2][D] of the Public Procurement Act, 2015 [ITB 13.1 (d) 6.; Form 7]			
Bidder submitted a Bid Securing Declaration [ITB 20; Form 8]			
Additional Compulsory Documentation for Compliance (Failure to submit will lead to disqualification)			
Bidder has submitted a detailed record of previous works completed over the last 5 years complete with references and a minimum of three evaluation sheets completed by three different project managers for three different projects completed within the last 5 years. [ITB 6.2 (b); ITB 6.2 (c); ITB 13.1 (b); Form 9]			
Bidder has submitted a detailed list of all construction equipment that he owns and/or will lease complete with proof of ownership and/or lease engagements. These shall be, as a minimum, in accordance with the equipment listed under ITB 6.3. [ITB 6.3 (d); 13.1 (b); Form 10]			
Bidder has submitted a detailed list of all personnel to be employed for this project complete with detailed CV's indicating relevant experience with references. [ITB 6.3 (e); 13.1 (b); Form 11]			
Bidder has submitted a detailed list of all proposed subcontractors he will be employing for this project complete with references for similar works completed and the value of the works to be completed by the subcontractor. [ITB 6.2 (j); Form 12]			

Bidder has submitted a Signing Authority/ Power of Attorney stating that the person, who signed the bid on behalf of the company/ joint venture/ consortium, is duly authorized to do so complete with certified company registration documentation. [ITB 6.2 a; ITB 13.1; Form 13]			
Bidder submitted a method statement. [ITB 6.1; Form 14]			
Bidder has submitted a valid letter of undertaking from a financial institution for the issue of a performance guarantee and letter of bank rating/available credit facilities. Letter of undertaking for performance guarantee shall not be subject to any conditions and follow the format as provided herein. [ITB 6.4, 13.1 (e); Form 15]			
An original valid or certified copy of a valid “Good Standing VAT Certificate” or an original valid letter or certificate from NamRA that NO VAT registration is required. [ITB 13.1 (e); Form 16]			
Bidder has submitted a two-tier preliminary programme. [ITB 13.1 (e); Form 17]			
Bidder submitted a confirmation of knowledge of local conditions and that they have completed works in similar conditions. [ITB 6.3 (e); Form 18]			
Copy of valid “Registration/ Fitness Certificate” from a LA Health Department of the Ministry of Health & Social Services [ITB 13 (e) ; Form 19]			
Bidder acknowledge receipt of all Bid Notices [ITB 6.3 (e); Form 20]			
The signatory authorized to sign the bid has initialled all pages of the Bid Document including all attachments and documents attached by the Bidder. [ITB 13 (e)]			
Bidder has submitted one original bid document clearly marked ORIGINAL and one copy clearly marked COPY . [ITB 21.1]			
Original and copy of the bid shall be typed or written in ineditable ink, in English and signed by the person duly authorized to sign on behalf of the Bidder [ITB 21.2]			

(b) TECHNICAL EVALUATION**(Bidders to score a minimum of 80% to be considered substantially responsive)**

DESCRIPTION	MAXIMUM SCORE	NOTES
1. Major Construction Equipment Hydraulic Excavator (22t & 145kw) Hydraulic Excavator Jack Hammer Self-Propelled Compactor Water Truck Loader / JCB Vehicles/concrete mixers/jack hammer	20 5 5 3 2 3 2	Owned = full points, If leased = 50% of points If leased and proof of lease arrangements are submitted = full points
2. Similar Experience Details of Project Manager with 5 years relevant experience or 3 years relevant experience with a qualification in civil engineering attached Forman/Site Agent with minimum of 5 years' relevant experience Contractor with similar experience for a minimum period of 5 years Contractor familiar with the project area and conditions (Min. of 3 projects)	70 20 15 20 15	4 points for each relevant project successfully completed and 1 additional point per project if in hard rock conditions 2 points for each relevant project successfully completed and 0.5 additional point per project if in hard rock conditions 4 points for each relevant project successfully completed and 1 additional point per project if in hard rock conditions 1 point for completing Form 15 and 4 points for doing projects within proven similar conditions
3. Financial Capability Financial Capacity (financial statements for the past 3 years) Adequacy of working capital (credit lines, money in hand, other financial resources available)	10 5 5	If bank rating letter or sufficient proof of credit is submitted and fulfils requirements as per BDS , 3 points will be given with an additional 2 points if the statements were audited and can be verified. If credit lines are shown for leasing of equipment and suppliers = 2 points if letter of access to credit facility is submitted indicating substantial amounts to assist the Bidder on this project = 5 points, but if no amount indicated = 3 points
Bid document substantial responsiveness	100	

(c) FINANCIAL EVALUATION

The financial evaluation shall be done in the following steps:

1. Bids will be checked for arithmetical errors and corrected by multiplying the rate by the quantity. This includes the checking of rates being balanced in relation to the average bid rates and the cost estimate rates. Bidders with unbalanced and front loaded rates (especially for rate only items) shall be contacted for clarification. Should the bidder not be able to clearly and satisfactorily provide clarity on the unbalanced rate, the bid shall be considered non-compliant and be disqualified.
2. Bids shall be checked that the **sum of the fixed charge** and **time related items** under **Part 1: Preliminary and General** shall not exceed **10%** of the bid price before contingencies and VAT. If it exceeds, the Bid shall be considered non-compliant and be disqualified.
3. Bids that are more than 10% above or below the estimated price up to this stage shall be considered non-responsive and disqualified. All bidders complying to the Administrative and Technical Evaluation as well as the Financial Evaluation up to this point is considered substantially compliant.

(d) DETERMINATION OF HIGHEST BID INDEX FOR AWARD

The Bid Index (**BI**) is calculated using the following weighted formula:

$$\mathbf{BI} = (\mathbf{FS} \times 0.7) + (\mathbf{TS} \times 0.3)$$

TS in the formula above refers to the Technical Score and FS to the Financial Score. The Technical Score and Financial Scores are determined as follow:

Technical Score:

The total points scored for the Technical Evaluation shall be the Technical Score (**TS**).

Financial Score:

The Financial Score shall be determined using the following formula:

$$\frac{\text{Lowest Bid Based}}{\text{Bid Price}} \times 100 \frac{\text{Total sum of all bid prices of bidders successful in technical evaluation}}{\text{Number of successful bidders in technical evaluation}} = \mathbf{Financial\ Score\ (FS)}$$

The bid shall be awarded to the Bidder with the Highest Bid Index that is substantially compliant and responsive to all stages of evaluation.

PART 2 – Employer’s Requirements

Section V - Employer’s Requirements

Table of Contents

SPECIFICATIONS..... 60

DRAWINGS 118

SPECIFICATIONS

CONTENTS - PROJECT SPECIFICATIONS

NO	DESCRIPTION	PAGE
5.1	PREFACE TO PROJECT SPECIFICATIONS	61
5.2	PROJECT SPECIFICATIONS	62
5.3	PROJECT AMENDMENTS AND ADDITIONS TO THE STANDARD SPECIFICATIONS.....	71

5.1 PREFACE TO PROJECT SPECIFICATIONS

The Project Specifications form an integral part of the contract documents and shall be deemed to be included in and form part of the specifications. In the case of any discrepancy or conflict with any part or parts of the Standard Specifications, or the drawings, the Project Specification shall take precedence and shall govern.

In certain clauses the Standard Specifications allow a choice to be specified in the Project Specifications between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract. Details of such alternatives or additional requirements applicable to this contract are contained in this part of the Project Specifications. It also contains some additional specifications required for this particular contract.

The number of each clause and each payment item in this part of the Project Specifications consists of the prefix PS followed by a number corresponding to the number of the relevant clause or payment item in the Standard Specifications. The number of a new clause or a new payment item which does not form part of a clause or a payment item in the Standard Specifications and which is included here, is also prefixed by PS followed by a new number. The new numbers follow on the last clause or item number used in the relevant section of the Standard Specifications.

The Standardized Specification for Civil Project Engineering Construction (SANS 1200) have been written to cover all phases of work usually encountered on Civil Engineering Projects, and they may therefore cover items of work not contemplated on this particular project.

The Project Specifications form an integral part of the Contract Documents and supplement the Standard Specifications. In the event of any discrepancy with a part or parts of the Standard Specifications or the Schedule of Quantities, the Project Specifications shall take precedence. The Standard Specifications which form part of this contract have been written to cover all phases of work normally required for Civil contracts, and they may therefore cover items not applicable to this particular contract.

5.2 PROJECT SPECIFICATIONS

The Project Specifications provides an overview of the work to be concluded under this project.

CONTENTS – PROJECT SPECIFICATIONS

NO	DESCRIPTION	PAGE
PS 1	INTRODUCTION	64
PS 2	GENERAL DESCRIPTION OF WORKS	64
PS 2.1	GENERAL	64
PS 3	CONSTRUCTION OF water network	64
PS 4	NATURE OF GROUND AND SUBSOIL CONDITIONS	64
PS 5	CONSTRUCTION PROGRAMME	65
PS 6	SITE FACILITIES AVAILABLE	65
PS 7	SITE FACILITIES REQUIRED	65
PS 7.1	LABORATORY FACILITIES	65
PS 7.2	CONTRACTOR'S SITE SANITARY FACILITIES	66
PS 7.3	SITE OFFICE AND ASSOCIATED FACILITIES	66
PS 8	SURVEY BEACONS, BENCHMARKS AND REFERENCE PEGS	66
PS 9	LOCATION OF SITE CAMP AND MATERIALS STORAGE AREA	66
PS 10	ACCOMMODATION OF EMPLOYEES	67
PS 11	CONTRACT SIGNBOARDS	67
PS 12	PROVISION OF SURVEY INSTRUMENTS FOR ENGINEER'S REPRESENTATIVE	67
PS 13	SAFETY AND SECURITY ON SITE	67
PS 13.1	SECURITY	67
PS 13.2	SAFETY	67
PS 13.3	SAFEGUARDING OF EXCAVATIONS	67
PS 14	OVERHAUL	67
PS 15	SOURCES OF MATERIALS	68
PS 15.1	CONCRETE AGGREGATES	68
PS 15.2	SELECTED GRANULAR BEDDING MATERIAL (BEDDING FOR PIPES)	68
PS 15.3	SELECTED FILL MATERIAL (BEDDING FOR PIPES)	68
PS 16	FEATURES REQUIRING SPECIAL ATTENTION	68

PS 16.1	EXISTING SERVICES	68
PS 16.2	SITE SUPERVISION AND TESTING	68
PS 16.3	DISPOSAL OF SPOIL OR SURPLUS MATERIAL	68
PS 16.4	TRAFFIC CONTROL AND ACCESS TO PROPERTY	69
PS 17	QUALITY CONTROL	69
PS 18	COPYRIGHT	69
PS 19	APPLICABLE STANDARDIZED AND GENERAL SPECIFICATIONS	69

PS 1 INTRODUCTION

The contract consists of the construction of a water reticulation infrastructure for Wlotzkasbaken that is divided into three phases which will be constructed as one project. The locality is clearly shown on the bid drawings.

This bidding document covers the construction of all disciplines i.e. Civil works.

PS 2 GENERAL DESCRIPTION OF WORKS

The Contractor should take note that the General Description of the Works serves to outline the extent of the works, but does not limit the amount of work which may be required of the Contractor under this contract. Reference must be made to the Project Specifications, the Schedule of Quantities, and the Construction Drawings for a more detail description of the works.

PS 2.1 GENERAL

The following activities will form part of the Contract:

- a) Establishment of Equipment, Plant, and Site Camp of the Contractor;
- b) Setting out of the works;
- c) Construct the water reticulation network;
- d) Installation of fittings and house connections;
- e) Finishing and trimming of site.

PS 3 CONSTRUCTION OF WATER NETWORK

The bulk water line will be constructed from the reservoir situated next to the bulk NamWater line to Wlotzkasbaken. The internal water networks will be fed from the bulk water line. The elevation from the reservoir to Wlotzkasbaken will provide sufficient head for the entire network. The water network to be constructed will consist of the following:

- | | | | |
|----|---|---|---------|
| a) | 160 mm diameter uPVC Class 9 water lines | - | 2,203 m |
| b) | 110 mm diameter uPVC Class 9 water lines | - | 3,219 m |
| c) | 90 mm diameter uPVC Class 9 water lines - | | 5,988 m |
| d) | 75 mm diameter uPVC Class 9 water lines | - | 579 m |
| e) | 160mm diameter valves | - | 8 off |
| f) | 110mm diameter valves | - | 16 off |
| g) | 90mm diameter valves | - | 19 off |
| h) | 75mm diameter valves | - | 5 off |

PS 4 NATURE OF GROUND AND SUBSOIL CONDITIONS

No ground water is expected at the levels of excavation proposed for this Contract. Bidders are however to fully acquaint themselves with the subsoil conditions in this area. No specific payment shall be made if water is encountered during construction. The bidders must therefore, if considered necessary, allow in the normal excavation rates for such possibilities.

The whole of the construction site is situated on intermediate to **hard sand with hard rock** expected throughout the site. **No blasting** shall however be allowed with only mechanical breaking being allowed.

Should blasting however become a requirement due to unforeseen conditions, the contractor shall make use of a blasting specialist. The blasting shall be done by a qualified and registered blaster with a license suitable for the specified blasting conditions. All safety regulations applicable to blasting operations in built up areas shall be strictly adhered to.

The above-mentioned information is a general guideline and will not relieve the Contractor of his responsibilities in terms of the General Conditions of Contract to satisfy himself with the conditions on site.

PS 5 CONSTRUCTION PROGRAMME

The project duration will be as per **ITB 1.2** in the **BDS**, which time should include all periods during which the Contractor closes down (public holidays).

The construction programme required in terms of the General Conditions of Contract shall include all the important features of the work, the various operations to be carried out and must be submitted for approval to the Project Manager within 14 days from the date of the Notification of award.

The expected target dates for this Contract are as follows:

- | | |
|----------------------------------|---|
| (a) Bid Advertisement | Monday, 2 June 2025 |
| (b) Non-Compulsory Site Meeting | Thursday, 12 June 2025 |
| (c) Bid closing | Tuesday, 15 July 2025 |
| (d) Award of Contract | Friday, 15 August 2025 |
| (e) Commencement of Construction | Monday, 1 September 2025 |
| (f) Construction Period | 14 (Fourteen) Months Inclusive of Public and Builders Holiday |

The above-mentioned dates are estimated start dates and could vary depending on various unforeseeable circumstances. Should the above dates not be met, it will not entitle the contractor to claim for any additional cost.

PS 6 SITE FACILITIES AVAILABLE

The Contractor shall make his own arrangements for the supply of water, telecommunications and power required by him for the execution of the works. The Bidder shall allow for the cost of all such arrangements.

Water, telecommunications, and electricity required for the Works may be taken from suitably situated supply points, with approval from the relevant authorities/owners.

Cost incurred in installing water, telecommunications or electrical supply line from the supply points to the construction camp and/or Works shall be for the Contractor's account.

The Contractor will be held responsible for any damages to the supply lines and fittings for the duration of the contract.

PS 7 SITE FACILITIES REQUIRED

PS 7.1 LABORATORY FACILITIES

The Contractor will not be required to have a testing laboratory on site. A recognised testing laboratory will be appointed by the contractor to carry out all acceptance control as required by the Project Specifications. No additional payments will be made towards the testing of work and the Contractor should allow for the required testing in his Tender.

The Engineer will not require any laboratory facilities. Acceptance control testing required by the Engineer will be carried out in special cases by an approved independent laboratory. A provisional sum has been provided in the Schedule of Quantities for any tests ordered by the Engineer.

PS 7.2 CONTRACTOR'S SITE SANITARY FACILITIES

The Contractor shall provide and maintain adequate and proper ablution facilities for his site personnel. As the nature of the project will affect remote site areas, adequate toilet facilities within 200 m of the work area must always be maintained.

Latrines shall be effectively screened from view and maintained in a clean and sanitary condition. The Contractor shall make all the necessary arrangements for the regular removal and emptying of the sanitary pails at his own cost.

If at any time the contractor fails to observe the previously mentioned conditions and after being notified by the Project Manager, fails to rectify conditions, the Project Manager shall have the right to order such materials and appoint any workers as may be seen necessary to maintain the sanitary facilities as set out above. All related costs will be for the contractor's account.

PS 7.3 SITE OFFICE AND ASSOCIATED FACILITIES

The contractor shall provide on the site of the works suitable office facilities to ensure the smooth running of the works. The Contractor will also provide a conference room of at least 12 square meters with a boardroom table and seating for at least ten people at no additional cost to the Client. All contract related documentation and drawings shall be kept available in this office. He shall establish a means of communication for the receiving of notices and instructions by telephone and fax or e-mail during all office hours.

A site office is not required for the project manager. However, the contractor shall ensure that a complete set of all construction drawings is always kept safely and neatly on site.

PS 8 SURVEY BEACONS, BENCHMARKS AND REFERENCE PEGS

At the start of the project, the Contractor will receive a drawing indicating all the erf pegs that have been placed by the surveyor. It will be the Contractor's responsibility to confirm that all of the pegs, as indicated on the drawing, have been placed and inform the Project Manager of any missing erf pegs, prior to starting with construction. The Contractor shall have a period of two weeks in which to verify the information. Should the Contractor not inform the Project Manager of any missing erf pegs during the two-week period, the Project Manager will accept that the supplied information is correct.

The Contractor is responsible for the setting out of the Works and no separate payment will be made therefore as the cost involved for the setting out of the Works is deemed to be included in the bidding sum for the item "Contractor's General Obligations".

The works shall be set out by a qualified surveyor. The Contractor shall also ensure that no survey beacons, erf pegs, and benchmarks are covered up or disturbed.

After the completion of the Construction and prior to the issue of the Practical Completion Certificate, the Contractor will supply a Land Surveyor's Certificate, certifying that all pegs have been checked and re-established where necessary. The cost of such a survey will also be for the account of the Contractor.

PS 9 LOCATION OF SITE CAMP AND MATERIALS STORAGE AREA

The Contractor will establish his site camp and material storage area at a location on Site which is approved by the Project Manager and Employer.

Before occupying the Site for the execution of this Contract, the Contractor shall submit for the Project Manager's approval, a proposal for the layout of all his camp and storage areas.

PS 10 ACCOMMODATION OF EMPLOYEES

Except for a night watchman, employees may not be housed or accommodated in the site camp without permission from the Employer.

PS 11 CONTRACT SIGNBOARDS

Two contract Sign Boards is required to be erected for this contract. The Sign Board shall be erected to the standards of the Association of Consulting Engineers of Namibia (ACEN), which will be made available to the Contractor.

PS 12 PROVISION OF SURVEY INSTRUMENTS FOR ENGINEER'S REPRESENTATIVE

The Contractor shall provide the Engineer's representative with a good quality Engineer's level and levelling staff and other survey equipment as may be necessary. The survey equipment shall always be maintained in good order and adjustment.

The Contractor shall provide at his expense two men to assist the Engineer's representative when checking any section of the Works.

PS 13 SAFETY AND SECURITY ON SITE**PS 13.1 SECURITY**

It shall be the responsibility of the Contractor to control access to the site during the execution of the Contract to prevent any unauthorised persons from entering the site. All employees shall wear PPE at all times with a clearly identifiable safety bib and identification card.

The Contractor shall make use of a registered security company for security on site and at night at his site camp.

PS 13.2 SAFETY

The Contractor shall appoint a Responsible Person as well as an assistant for him and their names shall be forwarded to the Project Manager in writing before any work may commence. The Responsible Person shall legally be responsible for all safety on site. No work may be executed on site if neither of these two persons is on site.

The Contractor will always be responsible for the safety of his personnel and the site in general. All laws, rules, and regulations including the Machinery and Occupational Safety Act shall be strictly followed in this regard and all the necessary precautions and measures shall be taken to ensure the safety of personnel, the public, and equipment.

PS 13.3 SAFEGUARDING OF EXCAVATIONS

The responsibility of safeguarding of excavations lies entirely with the Contractor.

The contractor shall to a detailed photo survey of the area of works prior to commencing any works. The photo survey is to be shared with the Project Manager for record keeping.

PS 14 OVERHAUL

All rates bidding for material or excavation shall allow for all hauling to or from the site. For this Contract "free haul" shall therefore continue indefinitely and no overhaul shall be paid, unless otherwise specified.

PS 15 SOURCES OF MATERIALS**PS 15.1 CONCRETE AGGREGATES**

Concrete aggregates must be sourced by the contractor. These aggregates, both course and fine, must be comprehensively tested for compliance and approved by the Engineer before being delivered to site.

PS 15.2 SELECTED GRANULAR BEDDING MATERIAL (BEDDING FOR PIPES)

The Contractor will have to identify his own sources for selected granular material to be used for bedding flexible pipes. Excavated material can be used for bedding if suitable but may not contain rock/stone material larger than 2mm. These materials will have to be tested and the results submitted to the Engineer for approval prior to the construction activities involving these materials. Because no overhaul is paid, it is of utmost importance that each Tenderer identifies suitable sources of materials at Tender stage, so as to establish the transport cost thereof to be included in the Tender.

PS 15.3 SELECTED FILL MATERIAL (BEDDING FOR PIPES)

Selected fill may be obtained from the specified trench excavations on the site but may not contain particle sizes larger than 2mm for filling up to 150mm above the top of pipe and 76mm from there to NGL level.

PS 16 FEATURES REQUIRING SPECIAL ATTENTION**PS 16.1 EXISTING SERVICES**

The Contractor shall make himself acquainted with the position of all existing services before any excavation or other work likely to affect the existing services is commenced. The cost of working alongside or next to existing services should be included in this rate or in the Bidder's excavation rates.

The Contractor will be held responsible for any damage to "known" existing services caused by or arising out of his operations. Existing services will be considered "known" if it is either shown on the construction drawings or shown to the Contractor on site.

PS 16.2 SITE SUPERVISION AND TESTING

The Contractor shall ensure that sufficient supervisory staff, the required transport, instruments, equipment, and tools are available to control works on site. The Project Manager or his representative will not act as supervisor, foreman or surveyor.

All construction activities shall be executed and supervised by suitably qualified and experienced personnel. The responsibility of proving quality of work lies with the Contractor. With the assistance of the Project Manager, an acceptable quality assurance system shall be implemented. The Contractor will be required to follow the procedures set by this Quality Assurance system. Failure to do so will result in the rejection of work constructed in non-compliance with the approved Quality Assurance system.

PS 16.3 DISPOSAL OF SPOIL OR SURPLUS MATERIAL

All costs related to the disposal of unwanted rubble and waste shall be deemed to be included in the bidding rates and no additional claims in this regard will be considered. Good quality surplus material obtained from on-site excavations and not used as selected fill upon instruction to do so, can be spread on site upon approval of the Project Manager.

Building rubble and domestic waste shall be removed from site and be dumped at a location approved by the Project manager and Employer. Burning of any kind of waste on site will not be allowed.

PS 16.4 TRAFFIC CONTROL AND ACCESS TO PROPERTY

The successful Contractor must allow for provision and erection of all necessary barricading, road traffic sign-boarding, lighting and for the posting of flagmen where required. When sections of a road must be closed, the correct warning signs must be displayed in positions which will allow traffic to change course without vehicles having to reverse or turn around. The road signs to be displayed during the contract shall be in accordance with "The South African Roads Traffic Signs Manual."

All work shall be done with the least interference with traffic and the Engineer shall have the power to demand rearrangements if, in his opinion, traffic is unnecessarily hampered.

Continuous access to property must always be afforded to residents by the Contractor as the construction works are within a built-up area.

PS 17 QUALITY CONTROL

It will be the full responsibility of the Contractor to undertake appropriate quality control and quality assurance measures on site. The Project Manager shall audit the Contractor's Quality Assurance system on a regular basis to ensure that adequate independent checks and tests are being carried out and to ensure that the Contractor's own controls are sufficient to identify any possible quality problems which could cause a delay on the programme. The Project Manager will submit a Quality Assurance Manual to the successful Contractor at the site handover.

Quality control tests on materials and work executed will be very important on this Contract. Materials not tested and approved will not be allowed on site.

Compaction tests on back fill materials to trenches shall be **compulsory**. The Contractor shall include in his rates the testing of compaction effort as specified in the particular specifications.

PS 18 COPYRIGHT

All records connected with or referring to the contract in any way shall become the property of the Employer in whom the copyright shall rest.

PS 19 APPLICABLE STANDARDIZED AND GENERAL SPECIFICATIONS

The applicable specifications for this Contract will be "Standardized Specification for Civil Engineering Construction, SANS 1200, 1986 of the South African Bureau of Standards"

Any reference to the General Conditions of Contract of the SANS 1200 will be interpreted to be the General Conditions of Contract.

None of the above standard specifications are included into this document.

The following sections of the SABS 1200 will be applicable:

SABS 1200 A	GENERAL
SABS 1200 D	EARTHWORKS
SABS 1200 DB	EARTHWORKS (PIPE TRENCHES)
SABS 1200 GA	CONCRETE (SMALL WORKS)
SABS 1200 L	MEDIUM-PRESSURE PIPE LINES

SABS 1200 LB

SABS 1200 L

SABS 1200 M

SABS 1200 ME

BEDDING (PIPES)

ERF CONNECTIONS (WATER)

ROADS (GENERAL)

SUBBASE

5.3 PROJECT AMENDMENTS AND ADDITIONS TO THE STANDARD SPECIFICATIONS

Should any requirements of the Project Specifications conflict with any requirements of the Standardized and /or Particular Specifications in this document, the requirements of the Project Specification described herein shall prevail and take preference.

PSA GENERAL**PSA 1 MATERIALS (CLAUSE 3)****PSA 1.1 Quality (Clause 3.1)**

All materials proposed by the Contractor shall be tested. The tests, as well as the materials, shall be approved by the Engineer prior to any such materials being built into the Works and all costs involved shall be deemed to be included in the rates tendered. Any materials built in without the prior approval by the Engineer may be required to be removed at the Contractor's own cost.

Approved samples of material such as paving, kerbing etc. will be placed at the site offices of the Contractor to be used as reference against material delivered to site. Should material be delivered to site that is not of the same or higher quality as the approved samples, such material will be removed from site on the Contractor's own cost.

If required by the Engineer, the Contractor shall deliver samples of materials to be tested to a laboratory indicated by the Engineer.

PSA 2 PLANT (CLAUSE 4)**PSA 2.1 Contractor's Offices, Stores and Services (Clause 4.2)**

No housing is available for the Contractor's employees and the Contractor shall make his own arrangements to house his employees and for transport to, on and from site. Only one security guard will be allowed on site overnight and over weekends at the site camp.

The Contractor will be required to provide his own facilities, for example, a fenced in yard, offices, workshops, stores, and any other temporary structures required by the Contractor for the storage of all material and plant. The extent of the Contractor's camp shall be restricted to a maximum area of 150m² allocated by the Project Manager. The cost of providing and removal of the Contractor's facilities shall be paid for under provision of facilities on site and removal of the site establishment respectively.

Add the following:

The Contractor's attention is drawn to the applicable regulations framed under the Machinery and Occupational Safety Act, 1983 (Act No 6 of 1983). When working in built-up areas, the Contractor shall provide and use suitable and effective silencing devices for pneumatic tools and other plant that would otherwise cause a noise level exceeding 85 dB during excavations and other work. Alternatively, he shall, by means of barriers, effectively isolate the source of any noise in order to comply with the said regulations.

PSA 3 SURVEY (CLAUSE 5.1)**PSA 3.1 Setting out of Works (Clause 5.1.1)**

Preservation and Replacement of Pegs subject to the Land Survey Act (Clause 5.1.2)

Existing erf pegs will be dealt with strictly according to Clause 5.1.2 of SABS 1200 A.

Add the following:

Only the required erf pegs will be set out prior to construction. The Client accepts that these erf pegs will be disturbed and that they will be replaced at no additional cost to the Contractor. All other pegs must be protected as set out in Clause 5.1.2.

The Contractor shall be responsible for the setting out of the works. Further, the Contractor shall, prior to commencing with any construction activities, determine the existing ground levels, left centre and right and at every stake value. This will be done for roads and sewer lines.

Should these levels differ from the level provided by the Engineer, the Contractor must inform the Engineer in writing in order to agree the construction quantities prior to the commencement of the construction.

Should the Contractor commence with construction without submitting any survey information and/or do not inform the Engineer of any discrepancies between the survey information provided by the Engineer and that of the Contractor, the quantities calculated by the Engineer will be accepted as correct and no claim for additional payment will be accepted due to such discrepancies.

No additional payment will be made by the Client for any survey work required by the Engineer.

PSA 4 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES (CLAUSE 5.4)

Before commencement of construction the Contractor shall, in conjunction with the relevant authority, determine the exact position on site of all underground services. All such services shall be deemed to be known services. No payment will be made to verify "known" services.

The Contractor shall excavate all existing services by hand to establish their exact position and level.

PSA 4.1 Existing Services

(a) General

The location of some existing services is indicated on the drawings, but it is, however, not guaranteed that these are all the existing services on the Site. The Contractor must have the positions of services on the drawings confirmed by the service departments. The location of all existing services obtained from the relevant municipal and other departments are shown at their approximate positions on the Drawings. It is the responsibility of the Contractor to find the exact position of existing services. If it is required to relocate or change existing services, the Contractor must inform the Engineer immediately after having determined the location of the service, to enable him to make timeous arrangements with the relevant authorities for the relocation or changes to the service in question. The Contractor shall excavate the necessary trenches to enable the relocation of services by other departments. Having located a service, it shall be considered a known service and the Contractor must keep records of co-ordinated positions of each service. A copy of these records shall be submitted to the Engineer. The Contractor shall take extreme care to avoid damage to such a service as the cost for the repair of such a service will be for the account of the Contractor. The Contractor must furthermore co-operate with the relevant Municipal departments and allow them reasonable access and

sufficient space and time to carry out the required work. Sewerage lines shall where and if required, be relocated by the Contractor.

A method must be developed by the Contractor to search for all existing services with hand excavation. It is suggested that trenches are formed at intervals across the sidewalk(s) of the street, or the street itself if necessary, to determine the positions of all the services.

The Contractor has to accept liability for the cost to repair known services damaged as a result of his operations, either by his authorised signature, or by admittance to the Engineer, who will confirm such admittance in writing to the Contractor. The Engineer reserves the right to deduct the cost to have such damaged services repaired by the relevant service departments, from payments due to the Contractor. The Contractor is also responsible for the cost of temporary arrangements for water supply if the time needed for repair exceeds 12 hours.

All exposed pipes, cables and appurtenant structures shall be backfilled before nightfall, and if this is not possible, watchmen shall be placed at the exposed services to ensure that the exposed pipe, cable or other service is not damaged or stolen during the night. Should anything be stolen or damaged in this way, the Contractor is also responsible for the cost of the repair and replacement thereof.

Any damage or loss resulting from failure to comply with this Clause will be to the Contractor's account.

(b) Encasing of Pipes (Clause 5.4L)

The encasing of pipes, ducts or any other services shall only be done where and when instructed by the Engineer. Class 25 MPa concrete shall be used for all encasings. Measurement and payment shall be done in accordance with Clause 8.2.12 L.

PSA 4.2 Measurement and payment for location existing services

The Contractor will be compensated for hand excavation in soft material in accordance with authorised dimensions agreed with the Engineer prior to excavation. The rate shall include full compensation for the detection, exposure, excavation, backfilling, watering, and compaction of the backfill to at least the same density as the in-situ material before excavation. The rate shall also include proper documentation of the services.

Unit: Cubic Meter (m³)

PSA 4.3 Measurement and payment for protection of existing services by encasing in concrete

Where instructed by the Engineer, existing services will be protected by means of encasing in 25 MPa concrete. The rate shall include all formwork, concrete, placing and finishing as per the approved dimensions.

Unit: Cubic Meter (m³)

PSA 5 ACCOMMODATION OF TRAFFIC (CLAUSE 8.8.2)

PSA 5.1 General

The Contractor shall ensure that all streets adjacent to or crossing the Site and which are affected by the Works and/or Temporary Works are kept in a safe condition for pedestrians and vehicular traffic.

The Contractor shall organise his work to reduce the inconvenience to traffic to a minimum, and no public road or street shall be completely closed without prior approval. If so ordered, the Contractor shall provide suitable bridges at street and driveway crossings where traffic must cross open trenches. The Contractor shall construct temporary accesses to adjacent private properties if necessary, to ensure access.

The Contractor must protect completed layerworks to prevent damage thereto. Any damage caused to completed layerworks shall be for the Contractor's expenses.

The Contractor shall provide and maintain in proper condition all necessary barricades, lights, warning signals and all direction signs necessary to enable traffic to follow the routes of diversion throughout their length. The Contractor shall provide flagmen at all deviations and/or obstructions where deemed necessary by the Engineer.

All signs shall be as shown on the signs and deviation drawings. All traffic signs and the control of traffic shall be in accordance with either the South African (1982) or Namibian Road Traffic Signs Manual. Typical signs and equipment covered under this section, includes: Moveable Barricades, Road Closed Sign, Residents Only Signs, Stop and Go Sign, Drums, Traffic Cones, etc.

The Contractor shall liaise and co-operate with the relevant Traffic Authorities and Engineers Representatives wherever the Works affect existing roads. The Contractor shall sign an indemnity clearing the Local Authority, as applicable, from all liabilities in respect of excavations and works on or adjacent to trafficked roads.

PSA 5.2 Measurement and Payment for General Traffic Accommodation

Provide and maintain in terms of the Namibian Road Sign policy the required traffic accommodation signage for construction work for the duration of the contract. Payment of incremental amounts (calculated by the division of the Tendered sum by the number of months required to complete the activities for which the relevant sum was tendered) will be authorised in each of the subsequent progress certificates until the sum tendered has been paid.

Unit: Sum

PSA 6 TOLERANCES (CLAUSE 6)

PSA 6.1 Degrees of Accuracy (clause 6.2)

A Degree of Accuracy II will be applicable to this contract.

PSA 7 MEASUREMENT AND PAYMENT

PSA 7.1 Payment

(a) Fixed-charge and value-related items (Clause 8.2.1)

Replace sub-clause 8.2.1 to read as follows:

Payment of the fixed charge and value related items will be made in three instalments, as follows:

- (1) The first instalment, 50 % of all items listed under 8.3, in the schedule of quantities, will be paid in the first payment certificate after the contractor has met

all his obligations under these items and has made a substantial start with construction in accordance with the approved programme.

- (2) The second instalment, 35 % of the items stated above, will be paid when the value of the work done reaches one half of the tendered amount, excluding contingencies and price adjustments.
- (3) The third and final instalment, 15 % of the items stated above, will be paid when the works have been completed and the Contractor has fulfilled all the requirements of the contract.

These items will be subject to the reduction of retention money as provided for in the contract.

Add the following:

The tender amount for fixed charge and time related items shall be limited to a maximum of 10% of the total Tender Sum excluding contingency and VAT amounts allowed for in the Schedule of Quantities.

PSA 7.2 Sums Stated Provisionally by the Engineer (Clause 8.5)

- (a) Provisional Sum for the compilation of “As Built” drawings

This provisional sum shall cover the costs for the updating and record keeping of all as-built information of the project. The information must be updated electronically, and a full hard-copy and electronic set of drawings are to be handed to the engineer.

Unit: Provisional Sum (PS)

- (b) Provisional Sum for Control tests ordered by Engineer

This provisional sum shall cover the cost of acceptance control tests specifically ordered by the Engineer and executed by an approved commercial laboratory.

Unit: Provisional Sum (PS)

PSA 7.3 Percentage charges and profit

The item will cover all additional cost the Contractor might incur such as bank charges, financing cost etc. for items noted under PSA 7.2

Unit: Percentage (%)

PSD EARTHWORKS**PSD 1 MATERIALS (Clause 3.1)****PSD 1.1 CLASSES OF EXCAVATION (CLAUSE 3.1.2)**

The classification "soft", "intermediate", "boulder excavation class A" and "boulder excavation class B" shall not be applicable to this Contract. All material will be measured as soft, and the Contractor should allow in his rates for any additional cost should he encounter hard excavations. Refer to PSDB 1.1 for classes of excavations.

PSD 2 CONSTRUCTION (clause 5)**PSD 2.1 SAFEGUARDING OF EXCAVATIONS (CLAUSE 5.1.1.2)**

The Contractor shall be responsible to ensure the safety of all excavations.

PSD 2.2 DISPOSAL (CLAUSE 5.2.2.3)

All excess material shall be disposed of at a site to be found by the Contractor and approved by the Engineer.

PSD 2.3 FREE-HAUL (CLAUSE 5.2.5.1)

The free-haul distance for all earthworks on this Contract shall be unlimited.

PSD 2.4 OVERHAUL (CLAUSE 5.2.5.2)

No overhaul shall be paid and the transport of all material shall be deemed to be within the free-haul distance.

PSD 3 TOLERANCES**PSD 3.1 POSITIONS, DIMENSIONS, LEVELS ETC. (CLAUSE 6.1)**

All excavations, terraces, and embankments shall be done to comply with the requirements for finishing to a Degree of Accuracy II.

PSD 4 MEASUREMENT AND PAYMENT**PSD 4.1 BASIC PRINCIPLES (CLAUSE 8.1)**

Free-haul shall be unlimited. No overhaul shall be paid.

PSDB EARTHWORKS (PIPE TRENCHES)**PSDB 1 MATERIAL (CLAUSE 3)****PSDB 1.1 Classes of Excavation (Clause 3.1)**

The classification of "Soft", "intermediate", "boulder excavation class A" and "boulder excavation class B" in terms of sub-clause 3.1.2 of SABS 1200 D shall not be applicable. All material which does not classify as "hard rock excavation", in terms of sub-clause 3.1.2(c) of SABS 1200 D shall be classified as "soft excavation".

PSDB 1.2 Backfill Material (Clause 3.5)

All road reserves shall be considered as areas subject to traffic loads, and therefore the backfill shall be compacted in layers not more than 300 mm (Ideally 150mm) to a minimum of 93% of Modified AASHTO maximum density For gravel material and 100% of Modified AASHTO maximum density for sand. Backfill material shall be screened for rock/stone/boulders larger than 150mm which shall be removed and disposed off. The bidder should allow for this in his rates as no additional payment shall be made in this regard. (See also clause 5.7.2)

PSDB 1.3 Safety of Excavations (Additional sub-clause)

It will be the full responsibility of the Contractor to ensure that all excavations are safe. See also SABS 1200 D Clause 5.1.1 Safety. The costs of all safeguarding of excavations will be deemed included in the rate for excavation.

PSDB 1.4 Trench Bottom (Clause 5.5)

Trenches shall be excavated and trimmed to a depth of not less than 100mm below the bedding level of the pipes, as indicated on pipeline longitudinal sections. These depths shall be maintained for the full width and length of the trench and all stones, rocks or other projections trimmed accordingly.

PSDB 1.5 Disposal of Excavated Material (Clause 5.6.3 and 5.6.4)

Surplus material from the trench excavation shall be disposed at a site to be found by the Contractor and approved by the Engineer.

PSDB 1.6 Deficiency of Backfill Material (Clause 5.6.5)

The free-haul distance shall be unlimited.

PSDB 1.7 Completion of Backfilling (Clause 5.6.6)

The Contractor shall be responsible for settlement of backfill. If the completed backfill is eroded, it shall be the responsibility of the contractor to ensure that the backfill is restored to its original state to the satisfaction of the Engineer at the Contractor's expense.

The finishing-off of the pipeline surface, to its original state, shall be included in the price for excavation and backfill.

PSDB 2 CONSTRUCTION

PSDB 2.1 Transport for Earthworks for Trenches (Clause 5.6.8)

No distinction shall be made or paid for overhaul, and freehaul shall be deemed to extend indefinitely.

PSDB 2.2 Accommodation of Traffic (Clause 5.1.3)

The provision of accommodation of traffic as set out in PSA 5 will also be relevant to this clause and no additional payment will be made for accommodation of traffic.

PSDB 3 TESTING (CLAUSE 7)

PSDB 3.1 Testing (Additional sub-clause)

The Contractor shall bear the cost of all tests regardless of whether the test indicate acceptable compaction or not, notwithstanding the contents of Sub-clause 7.1.

For this Contract, the following minimum number of tests shall be done by the Contractor:

- (a) Pipe Bedding: one density test per 100m of trench length per section prepared or part thereof for each pipe scheduled separately constructed at a time as a section. A minimum of 3 density tests to be taken at a time. (Min. 90% Mod AASTO with a CBR of 10)
- (b) Backfilling: one density test per 100m of trench length per section prepared or part thereof for each 300mm layer of backfill for each pipe scheduled constructed at a time as a section. (Min. 93% Mod AASTO with a CBR of 15) A minimum of three tests to be taken at a time.

The positions of these minimum number of density tests, shall be determined randomly by the Contractor, and shall be clearly documented with the results. The results of the tests shall be submitted to the Engineer and shall prove to the Engineer that the work was done satisfactorily.

Additional tests, over and above the minimum tests could be ordered by the Engineer. Payment for these tests will be made under Payment item PSA 7.1 if the tests indicated that the density is as specified. If any tests fail, the cost of such tests shall be for the account of the Contractor.

As an alternative to density tests, the contractor may do DCP tests at 20m intervals of trench length or part thereof for each pipe scheduled separately constructed at a time as a section. (Max. 140mm fall for first 5 blows and 100mm thereafter per 5 blows) DCP's may be done for each 1m of filling from trench bottom.

PSDB 4 MEASUREMENT AND PAYMENT**PSDB 4.1 Excavation (Clause 8.3.2)**

The rates shall cover the cost of safeguarding the excavations as well as interference (limiting working space) caused by pipe routes running close to existing services and structures.

Unit: meter (m)

PSDB 4.2 Reinstate Road Surfaces complete with all courses (Clause 8.3.6.1)

The road layers shall conform to that of all the gravel surfaces specified for construction under this contract. The following payment items will be relevant:

(a) Reinstate surfaced road complete with all layers

Unit: Square Meter (m²)

(b) Reinstate gravel shoulder complete with all layers

Unit: Square Meter (m²)

PSDB 4.3 Accommodation of Traffic (Clause 8.3.7)

Payment for this item will be as stated in PSA 5.

PSGA CONCRETE (SMALL WORKS)**PSGA-3 MATERIAL****PSGA-3.2 Cement****PSGA-3.2.1 Applicable Specifications**

- Add the following at the end of this clause:

“The SABS approved the European Pre-standard (ENV) specifications for Common and Masonry cements and issued these standards as SABS ENV 197-1 and SABS ENV 413-1 respectively for general use. These standard specifications (and specifications directly related thereto) will be applicable to this contract and the reference to the various cements to be used will be based on the descriptions, notations and types as specified therein.

SABS 471, SABS 626 and SABS 831 have however not been withdrawn and are still applicable. SABS ENV 197-1, SABS ENV 197-2, SABS ENV 413-1 and SABS ENV 413-2 shall therefore be deemed to be included wherever reference is made to SABS standard specifications in the project document and on the drawings. In case of conflict, SABS ENV 197-1 and SABS ENV 413-1 will govern.”

PSGA-3.2.2 Alternative Types of Cement**PSGA-3.2.2.1 Portland Fly Ash Cement (Additional subclause)**

Portland fly ash cement shall be used in concrete for all water-retaining structures. For that purpose CEM II B-V 32,5 or CEM II B-W 42,5 in compliance with the requirements of SABS ENV 197:1992 shall be used, or Portland fly ash cement may be produced on site by blending CEM I 42,5 with 25% Pulverized Fuel Ash (PFA).

If aggregates to be used in this Contract are alkali-reactive, the cement used on this Contract shall not have an alkali content ($\text{Na}_2\text{O} + 0,658 \text{ K}_2\text{O}$) which exceeds 0,6 % by mass of the cement. The total alkali content of the concrete shall not exceed $2,1 \text{ kg/m}^3$ for aggregates falling in the rapidly expanding group (e.g. Malmesbury Group Metasediments) or $2,8 \text{ kg/m}^3$ for Cape Granite. The Contractor shall submit the necessary test results to prove the above.

The concrete mix must be determined by means of a proper mix design by an accredited laboratory and must be approved by the Engineer.

PSGA-3.2.2.2 Pulverised Fuel Ash (PFA)

If PFA is blended with OPC on site, the following additional requirements shall apply:

- (a) PFA shall be obtained from only one power station, from which the PFA has to be approved for use in concrete. Should the Contractor wish to change the source of PFA during the Contract, he shall inform the Engineer accordingly in advance, carry out tests on the PFA, produce trial mixes in accordance with the Specifications and obtain the Engineer's approval

in writing. After receiving the approval, the Contractor shall inform the Engineer in writing as to the date when the PFA from the new source is to be used.

- (b) All PFA shall comply with the requirements of BS 3892 Part 1 1982.
- (c) The Contractor shall obtain the producer's test certificates for each consignment of PFA, which shall be retained as record documents.
- (d) Each consignment shall be tested for loss of ignition (which shall not exceed 7 %), and the percentage mass retained on a 45 micron sieve by wet screening (which shall not exceed 12,5 %). Testing shall be carried out in accordance with the procedures specified in BS 3892 Part 1 1982.
- (e) In addition, the chloride content and sulphate (SO₃) content of the PFA shall be tested every three months for each power station source.

If PFA and OPC are blended on site, PFA shall be stored separately from cement and shall have separate delivery facilities. It shall be stored in the same manner as specified for cement. When handled in bulk and stored in silos, PFA shall require a greater silo capacity and more efficient filters than portland cement, and furthermore, provision must be made for aeration in the storage silo. The percentage of PFA by mass shall be 25 % of the total cementitious material in the concrete, which is defined as the total mass OPC and PFA combined.

PSGA-3.2.2 Storage of cement

- Add the following after the words "...may promote deterioration." In the second paragraph:

"It is of prime importance that cement to be used in concrete for water-retaining structures shall always be stored in a cool environment, and it is strongly advised that cement silos be painted white to reduce any temperature rise in the stored cement."

PSGA-3.3 **Water**

- Add the following to this clause:

To limit heat gain in concrete for water-retaining structures, the temperature of mixing water must preferably be below 20 °C when added to the concrete mix.

PSGA-3.4 **Aggregates**

PSGA-3.4.1 Applicable specifications

- Add the following:

The aggregates shall comply with the requirements of SABS 1083. The maximum water absorption of the coarse aggregate shall not exceed 1 % and the flakiness index shall not exceed 25 %. The maximum water demand of the fine aggregate shall be 190 l/m³.

Aggregates to be used in this contract shall be tested in accordance with subsection C-15 of SABS 1083 to determine whether they are potentially alkali-reactive. If they are alkali-reactive they shall either be replaced with aggregates that are non-reactive or the requirements of PSG-3.2.2.1 in respect of alkali-reactiveness shall apply.

The content of chloride ion in the aggregates shall be determined and shall be within the limits specified in SABS 1083. Test results in this regard shall be submitted to the Engineer.

At tender stage the Contractor shall assure himself by means of tests and test mixes by an accredited laboratory that the fine and coarse aggregates that he intends to use comply with the specification. The tendered rates shall therefore be deemed to allow for the importation of aggregates, if necessary, that do comply with the Specification.

The Contractor shall be responsible for locating the sources of all aggregates.

PSGA-3.4.3 Storage of aggregates

- Add the following additional subclauses:

“(c) the aggregate to be used for water-retaining structures shall at all times be stored in a cool environment and, if at time of mixing, the ambient temperature exceeds 30 °C, only the coarse aggregate shall be sprayed with water to assist cooling. It is advisable that all aggregate stockpiles be shaded from the sun by means of 80% shade netting.”

The Contractor shall ensure adequate drainage of the coarse aggregate stockpile.

PSGA-3.5 Admixtures

PSGA-3.5.1 Approval of Admixtures Required

The Contractor shall, by way of the information required in sub clause 3.5.1, prove to the satisfaction of the Engineer that proposed admixtures are non-toxic, suitable for water retaining structures, beneficial and not detrimental to the durability of the concrete. The use of plasticizers with air-entraining properties will not be allowed.

PSGA-3.5.2 Air-entraining Agents

Air-entraining agents shall not be used.

PSGA-4 PLANT**PSGA-4.5 Formwork****PSGA-4.5.3 Ties**

Formwork ties in water-retaining structures shall be of the 12 mm Extended Coil Tie with Water-Bar type by Form-scaff. No ferrules or ferrule pipes may be used in structural elements of water-retaining structures. The Contractor shall allow in his rates for the specified formwork ties and ensure that his formwork is compatible with these ties.

After removal of plastic spacing cones of the extended coil ties from concrete, the openings in the concrete shall be roughened with a mechanical wire brush. Thereafter the openings shall be painted with cement mortar and filled with a non-shrink grout such as "Standard Bedding Grout" by Samson or a similar approved non-toxic product compatible with the chemicals used in the water. The grout filling shall be applied in such a way as to protect the ties against corrosion.

PSGA-5 CONSTRUCTION**PSGA-5.1 Reinforcement****PSGA-5.1.3 Cover**

In Sub clause 5.1.3(a) amend the words " ... or stirrup" to read: "bar, secondary reinforcement, tie stirrup, tying-wire knots or wire ends."

Add to Sub clause 5.1.3 : "Tying wire shall not encroach on the specified minimum cover by more than a single strand thickness."

The minimum concrete cover to reinforcement shall be 50mm.

The cover blocks for water-retaining structures shall be manufactured from concrete of grade, durability, density and impermeability at least equal to that specified for the respective elements except that 12 mm stone instead of 19 mm stone shall be used. The size of the cover blocks shall be 60 mm x 60 mm, with a thickness equal to the specified cover. Wires shall be cast into the blocks to enable them to be fixed to the reinforcement. The wires shall be fully galvanised Class A as per SABS 675 - 1993. The wires shall be carefully held in position while the concrete is setting to ensure that all the wires are inserted to a uniform and consistent depth of 50 % of the thickness of the cover block for all the cover blocks. The concrete shall be thoroughly compacted by means of a vibrator or vibratory table and the blocks shall be protected against early drying and shrinkage due to sun and wind, by being kept continually wet while still in the mould. After the blocks have been removed from the mould they shall be kept in water continuously until being used, and this period shall not be less than 14 days.

A proper mix design for concrete in cover blocks shall be submitted to the Engineer for approval.

PSGA-5.1.4 Splicing

Splice lengths in the case of water-retaining structures shall not be less than 58 diameters and in non-water-retaining structures not less than 40 diameters. Where applicable in water-retaining structures, splices shall be staggered so that they are evenly spread throughout the structure.

PSGA-5.2 Formwork**PSGA-5.2.1 Classification of finishes**

- Add the following additional sub-subclauses to subclause (c):

(i) Special off-shutter finish

Special off-shutter formwork shall produce a finish that will comply with the requirements of degree of accuracy I according to SABS 1200 G clause 6.2. For this contract the special off-shutter finish is applicable to all visible concrete.

Formwork for all classes of finish shall be made of steel panels. Small approved laminated wooden board inserts to steel framed panels may only be used in confined places and the use thereof will be subject to approval by the Engineer. The panels shall be free from rust, ridges, fins, bulges, imperfections, irregularities, chips and holes. The concrete surface shall be smooth and free from irregularities, bulges, ridges, imperfections, air bubbles, honeycomb or surface discolouration. Grout checks shall be used at all construction joints and chamfers at all corners.

Joints between panels shall be sealed tightly to prevent local honeycombing or leaching of concrete. Joints between panels shall form straight horizontal and vertical lines which shall be spaced evenly on the formed concrete surface, and shall be even and smooth and require minimal or no finishing. The layout of all formwork panels and construction joints shall be discussed with the Engineer before application and shall be approved in writing prior to erection of formwork.

(ii) Finish on blinding layers underneath the floor of the pump station

A blinding layer of 15 MPa/19 mm concrete with a minimum thickness of 75 mm shall be placed on the excavated or backfilled surface as applicable. Underneath the wall footing this blinding layer shall be finished to a rough surface with a straight edge. Elsewhere it shall have a wood-floated finish. A layer of 250 micron polyethylene sheet shall be placed on top of the cement/sand mortar prior to the construction of the reservoir floor.

(iii) Visible corners

All visible corners shall have a 25 mm x 25 mm chamfer.

PSGA-5.2.5 Removal of formwork

- Add the following to subclause 5.2.5.2:

Formwork for PFA concrete shall remain in place after placing of the concrete as indicated in Table 2 for Portland Blastfurnace cement.

PSGA-5.5 Concrete**PSGA-5.5.1 Quality****PSGA-5.5.1.3 Workability**

The workability range for all PFA concrete (slump) shall be between 50 and 75 mm.

PSGA-5.5.1.5 Durability

The maximum ratio of water to cementitious material shall be 0,5.

PSGA-5.5.1.7 Strength concrete

- (a) Due to the design approach and assumptions adopted for this contract, it is of the utmost importance that good strength concrete with consistent quality and composition is used throughout. All possible measures to limit shrinkage shall be applied.
- (b) In addition to the requirement that the Contractor design the mixes to the specified strengths, the cementitious material content shall be such as not to cause alkali-aggregate reaction and shall not exceed 380 kg/m³ for 30 MPa/19 mm concrete or 460 kg/m³ for 40 MPa/19 mm concrete.
- (c) All concrete shall be based on designed mixes. Trial mixes shall be made by an approved laboratory with suitable experience in the design of PFA concrete mixes and mix designs and cube results submitted to the Engineer.

PSGA-5.5.3 Mixing**PSGA-5.5.3.2 Ready-mixed concrete**

The use of ready-mixed concrete for this contract shall be permitted provided that it complies with the requirements of this specification. Test results obtained by such a production facility shall not be regarded as part of the quality control system, and the Contractor shall take his own samples of concrete on site and have them tested in accordance with clause 7 of SABS 1200 G and Clause

PSGA-5.5.5 Placing

- Add the following to subclause 5.5.5.1:

The Contractor shall give the Engineer at least 24 hours' notice of his intention to cast concrete.

- Add the following to subclause 5.5.5.5:

Concrete in water-retaining structures shall not be allowed to fall freely through a height of more than 2,4 m.

PSGA-5.5.5.10 Additional subclause after subclause 5.5.5.9

No kickers in walls or columns will be allowed.

PSGA-5.5.7 Construction Joints

- Add the following to subclause 5.5.7.1:

Before construction work commences the Contractor shall indicate on the drawings his proposal for positioning construction joints and submit these to the Engineer for his comment and approval.

- Replace the first sentence of clause 5.5.7.3 with the following:

The method adopted for forming joints not covered by 5.5.7.1 and unforeseen joints (see 2.4.3) in non-water-retaining structures shall be one of items (a) to (d) and in water-retaining structures shall be as in subclause (e) hereafter.

Add the following additional paragraph to clause 5.5.7.3 after item (d):

(e) Construction joints in water-retaining structures:

Depending on the weather conditions, the surface of the concrete shall be sprayed with a high pressure water jet within 24 hours of casting to remove all laitance and fine particles to a depth of at least 10 mm and to expose the coarse aggregate embedded in sound concrete. The Contractor shall ensure that the green concrete is not damaged or disturbed during the preparation of the joint and that waterstops are not damaged.

After the reinforcement for the next pour has been fixed and the formwork erected, the construction joint shall be cleaned thoroughly with a pressurised water jet. The joint shall then be wetted continuously with water for 24 hours to completely saturate the concrete immediately before new concrete is cast. Before the new concrete is cast all excess water shall be removed from the construction joint and the new concrete shall be cast directly onto the prepared surface.

This procedure must be read in conjunction with the notes on the concrete drawings.

(f) Plastic sheets and tubes

Plastic sheets and tubes used for curing shall be waterproof and may not be torn or be otherwise discontinuous. It shall be white or light-coloured. Black or other dark coloured plastic sheets will not be allowed under any circumstances. Sheets and tubes shall be held down or fixed securely to the elements being cured and joints in sheets shall be taped to

prevent loss of moisture from the concrete. Care shall be exercised to prevent staining of exposed concrete.

(g) Duration of curing

The curing period shall be at least 10 days.

(h) General

Notwithstanding the preceding specifications, the Contractor shall also ensure that the concrete shall not be exposed to thermal shocks during the first 28 days after casting and he shall take the necessary, additional precautionary measures to shield the concrete with plastic sheets or hessian during extreme warm, cold, dry or windy weather conditions. Hessian shall be wetted should the conditions necessitate this. Curing shall be done in such a manner as not to cause staining, contamination or marring of the surface of the concrete.

The Contractor shall take the necessary precautions to prevent water used for curing from penetrating the soil underneath or adjacent to the structures. The water shall be drained away effectively as soon as possible to prevent any ponding.

PSGA-5.5.9 Adverse weather conditions

PSGA-5.5.9.2 Replace the first sentence with the following:

The temperature of the concrete when deposited shall not be allowed to exceed 25 °C.

PSGA-5.5.10 Concrete Surfaces

PSGA-5.5.10.2 Add the following to subclause 5.5.10.2:

(a) Wood-floated Finish

When a wood-floated finish is specified, the surface shall first be treated as specified in subclause 5.5.10.1, and after the concrete has hardened sufficiently, it shall be floated to a uniform surface free from trowel marks with a wood float. The levelled surface shall be wood-floated either by hand or by machine only, to remove trowel marks.

(b) Steel-floated Finish

When a steel-floated finish is specified, the surface shall be treated as specified for a wood-floated finish above, except that when the bleed water has disappeared and the concrete has hardened sufficiently to prevent the migration of concrete foam to the surface, the levelled surface shall be floated with a steel trowel on which a firm uniform pressure shall be applied to provide a dense, smooth, uniform surface free from trowel marks.

(c) Power-floated Finish

When a power-floated finish is specified, the surface shall be treated as specified for a wood-floated finish above, except that the levelled concrete surface shall be power-floated to provide a dense, smooth, uniform surface of high quality free from trowel marks.

PSGA-5.5.11 Watertight Concrete

- Add the following to this clause:

All water-retaining structures and valve chambers built under this contract shall be watertight without the addition of supplementary cement plaster, coatings or membranes. Ensuring watertightness is the exclusive responsibility of the Contractor and he shall take all the measures deemed necessary to achieve this. All remedial work that has to be undertaken to ensure watertightness shall be for the Contractor's own account. Refer also to the relevant payment clause in this regard.

PSGA-5.5.14 Defects

PSGA-5.5.14.1 Add the following to subclause 5.5.14.1:

The method of repair of defects in the concrete shall be by first applying an approved cement-based, epoxy-modified anti-corrosion and bonding agent like SikaTop-Armatec110 EpoCem by Sika to the prepared surface, followed by an approved one-component, non-sag, cement based patching and repair mortar like SikaRep LW by Sika. All products shall be applied strictly in accordance with the manufacturer's specification or such other methods as may be acceptable to the Engineer. All repair materials shall be equivalent to concrete in respect of thermal properties and structural elasticity. Such repairs will only be allowed after the defects were inspected by the Engineer and his written approval has been obtained.

PSGA-5.7 **Items built into water-retaining structures** (Additional Clause)

The building in of items, such as puddle pipes, into water-retaining structures may be executed in either of the following ways, viz:

- (a) the items shall be positioned prior to construction of the relevant part of the water retaining structure and subsequently cast in simultaneously with the concreting of the specific part of the water-retaining structure; or
- (b) recesses or holes may be blocked out in or through the relevant part of the water-retaining structure, and the item may then be positioned afterwards and grouted or concreted in, in an approved manner.

The Contractor's attention is drawn to the fact that the decision as to which alternative to adopt is solely his and that finally the works shall be completed as specified and as detailed on the drawings.

In the case of (b) above where pockets were left for the later casting in of items, the following procedure shall be followed:

The old concrete surface shall be treated with an approved bonding agent such as Baralatex. The pocket shall be filled with the same type and strength of concrete as the original type. After removal of the shutters, the area shall be sealed with an approved sealant to ensure that the concrete cures correctly, does not dry out quickly and therefore does not shrink and crack, which will be unacceptable.

Building in of items will not be measured separately as it is included in the supply and installation of the pipes and specials measured in Section 1200 L.

PSGA-5.8 Items built into existing structures (Additional clause)

Where pipes or other items have to be built into existing water-retaining structures, the existing concrete shall be cut out carefully to obtain sufficient space to install the items.

The building in of the items shall then proceed as described in PSG-5.7(b). Building in of the items will not be measured separately as it is included in the supply and installation of the pipes and pipe specials as measured in Section 1200 L. The cost of breaking into existing concrete and making good after installation will however be measured separately.

PSGA-6 TOLERANCES

PSGA-6.2 Permissible deviations

PSGA-6.2.3 Specified PDs

Replace the permissible deviation for cover to reinforcement (item (a)3)) with -0 +5 mm irrespective of the Degree of Accuracy.

PSGA-7 TESTS

PSGA-7.1 Facilities and frequency of sampling

PSGA-7.1.2 Frequency of sampling

PSGA-7.1.2.1 Replace this clause with the following:

“Subject to the requirements of 7.1.2.4, while concrete of a particular grade and in sufficient quantity is being placed under the same conditions, sets of samples (each sample, as defined in 2.3(b), being sufficient for four cubes) shall be taken until 30 valid test results have been obtained.

The sets of samples shall be taken in accordance with SABS Method 861 as close as is practicable to the start of placing and at appropriate intervals after that, or from one particular batch and then from subsequent batches chosen at appropriate intervals.”

PSGA-7.2 Testing**PSGA-7.2.1 General**

- Add the following:

The Contractor shall allow in his tendered rates for all the costs for quality or process control testing.

PSGA-7.2.4 Early-strengths Testing

- Add the following to this clause:

Of each sample of four cubes, one cube shall be tested at 7 days and the remaining three cubes at 28 days.

PSGA-8 MEASUREMENT AND PAYMENT**PSGA-8.1 Measurement and rates****PSGA-8.1.2 Reinforcement**

PSGA- 8.1.2.2 Replace subparagraph (a) with the following:

“The mass of steel bars will be measured as the total mass of the steel, irrespective of diameters.”

PSGA-8.1.2.3(a)

- Delete the words “nominal size 25 mm” in the first line of this subparagraph
- Delete subparagraph (b)

PSGA-8.1.3 Concrete

- Add the following:

Payment for concrete in water-retaining structures will be made as follows:

- (a) Full payment will be made for concrete when it has been placed and accepted by the Engineer as described in subclause 8.1.3.3 and other relevant clauses, except that payment for curing and testing for watertightness, including any repair work necessary, will be made separately in the case of water-retaining structures.
- (b) A provisional sum is allowed in the Schedule of Quantities for the curing of all concrete in water-retaining structures measured under item 8.4.3 as scheduled. If in the opinion of the Tenderer the provisional sum is not sufficient to cover all his costs for curing, he shall make provision therefor in his tendered rates for concrete. The provisional sum will be paid fully when curing has been done as specified.

If curing has not been done in accordance with the specifications, payment of the full amount, or as much thereof as determined by the Engineer, will be withheld permanently.

- (c) A provisional sum is allowed in the Schedule of Quantities for testing the watertightness of the concrete in water-retaining structures measured under item 8.4.3 including the repair thereof if necessary, as described in PSG-7.2.5. This amount will only be paid when the relevant structure has passed the watertightness test in all respects and certified as such by the Engineer. If in the opinion of the Tenderer the provisional sum allowed is not sufficient to cover his costs for the watertightness tests, he shall make provision therefor in his tendered rates for concrete.

PSGA-8.1.4 Casting in of pipes and specials (Additional clause)

No separate items will be scheduled for building in items supplied under this Contract except for those specially measured in the Schedule of Quantities. The relevant rates for supply and installation shall cover the cost for casting in the items supplied under this Contract whether the items are positioned prior to construction or subsequently placed in blocked-out holes.

PSGA-8.4 Scheduled Concrete items

PSGA-8.4.3 Strength concrete, grade

- Add the following to the payment paragraph:

“The tendered rate for concrete to be used in water-retaining structures shall also include all measures necessary to store cement, water and aggregates in a cool environment to ensure that the ingredients of the concrete are cool at the time of mixing.”

PSGA-8.4.7

No-fines Concrete (describe class and position) (New clause and payment item)

Unit: m³

The relevant measurement and payment clauses for strength concrete (clause 8.4.3) shall apply.

PSGA-8.4.8

Disinfection of water-retaining structures (describe structure) (New clause and payment item)

Unit : Sum

The sum shall include all costs to disinfect the water-retaining structure as specified, including discharge of wash water at a suitable site to be found by the Contractor.

PSGA-8.4.9

Curing of concrete (structure to be stated) (Additional item)

Unit: Provisional Sum

The stated sum shall include all costs to cure the concrete as specified in Clause 5.5.8 and PSG-5.5.8 in the structures stated. The curing of concrete in other structures not stated will be deemed to be included in the rates tendered for concrete under item 8.4.3. Payment will be made in accordance with PSG-8.1.3(b).

PSGA-8.4.10

Test for watertightness of structures (describe structure) (New clause and payment item)

.Unit: Provisional Sum

The stated sum shall include all costs associated with the execution of the watertightness test as specified in PSG-7.2.5, including all labour, equipment and special fittings to isolate the specific element under test. Water for the first watertightness test will be provided free of charge by the Employer. In the event of failure, water for subsequent tests shall be for the Contractor's own account.

The full provisional sum will only be paid when the structure has passed the water tightness test and has been certified as such by the Engineer. No payment will be made for the test if the structure did not pass the test for water tightness.

PSGA-8.9

Installation of pipes and pipe specials in existing concrete (describe items and locality) (Additional clause and item)

Unit: Sum

The tendered sum for each item shall cover the cost of breaking out existing concrete sufficient to allow the installation of the item in its correct position, additional cost for installation not measured elsewhere, and making good of the concrete after completion of the installation of the item. The sum tendered shall be regarded as an extra over the cost for supply and installation of the item which has been measured elsewhere under Section 1200 L.

PSGA-8.10 Miscellaneous Items (New clause and payment item)

These items will be measured per metre, per square metre, or per number or as a sum as scheduled.

The rate or sum shall cover the cost of the complete supply and installation of the scheduled item in accordance with the specifications and as described in the schedule of quantities and as detailed on the drawings including casting into concrete where applicable.

PSL MEDIUM PRESSURE PIPELINES**PSL 1 MATERIALS****PSL 1.1 GENERAL (CLAUSE 3.1)**

The materials for pipes and fittings shall be manufactured in accordance with the Codes of Practice listed in SANS 1200 L: Medium Pressure Pipelines.

Steel pipes and fittings shall be protected as specified, and where buried, shall be protected with a petrolatum mastic and tape such as Denso or similar. The application shall be carried out strictly in accordance with the manufacturer's instructions. Steel fittings and specials shall be manufactured from Grade B steel.

Pipes shall be delivered as indicated on the Drawings. Offers for pipes of alternative materials will be considered as provided for in the Conditions of Tender.

PSL 1.2 PIPES

Pressure pipes used shall be:

- uPVC Class 9

Sewer pipes used shall be:

- for diameters 200 mm and smaller – uPVC (minimum hoop strength 400 kPa)

PSL 1.3 VALVES

The following shall apply to valves:

- Gate Valves will be resilient seal gate valves : AVK or similar approved by engineer
- Valves will close clockwise
- Valves will have a non-rising spindle, and fitted with a cap top
- Valves to be class 16 (PN16) valves and gate valves will comply with the requirements of SANS 664:1974
- Flanged valves will be drilled to the nominal pressure class of BS 4504 table 10 or SANS 1123, table 1000-3
- Valves will all receive an electrostatic epoxy powder coating as surface protection - internal and external.
- Butterfly valves shall be wafer type valves and will be gearbox operated with fully replaceable seats.

All valves shall receive a body pressure test in the factory to 1,5 x the working pressure of the valve. All valves shall be accompanied by a test certificate. No valves will be accepted without such a certificate.

Due to problems encountered with TVT butterfly valves, these will not be accepted. Valves shall be Compact or equivalent.

PSL 1.4 PIPES OF NOMINAL BORE UP TO 150 MM (CLAUSE 3.4.2)

Steel pipes and specials from 100 mm diameter upwards shall be flanged.

PSL 1.5 JOINTING MATERIALS

Jointing materials are not measured separately and all bolts, nuts, washers, gaskets, rubber rings, etc. are deemed to be included in the price for supply and installation of pipes and specials.

a) Flexible Couplings (Clause 3.8.2)

All flexible couplings for steel pipes shall be "Viking Johnson" couplings without centre register, or approved similar.

Rubber rings shall be of the wedge type and shall be manufactured from natural or synthetic rubber only. Reclaimed rubber shall not be used in the manufacture of the rubber rings.

The use of flexible stepped couplings will not be permitted.

b) Flanges and accessories (Clause 3.8.3)

All flanges, not jointing to existing flanges, shall be drilled in accordance with SABS 1123 Table 1000/3. The type, drilling pattern and sizes of flanges jointing to existing flanges shall match those of the existing flanges and shall be determined on Site. It is the responsibility of the Contractor to ensure the correct fit of all new flanges where they are jointed to existing flanges.

c) Loose flanges (Clause 3.8.4)

All bolts and nuts shall comply with the requirements of SABS 135. Stainless steel bolts and nuts shall be used for all stainless steel pipes and fittings. All other bolts and nuts shall be cadmium coated. Gaskets shall be manufactured from "Klingerite" or approved similar material.

d) Existing pipelines, flanges and fittings

It is the responsibility of the Contractor to establish the exact dimensions of all existing pipeline outer diameters, flanges and other fittings where these are to be connected to the new pipeline and appurtenant works. These shall be measured before orders for fittings, etc. are made. The Contractor shall carry the cost of all additional expenses if incorrect fittings are delivered to site.

PSL 1.6 QUALITY CONTROL

An independent inspector shall be appointed to carry out factory quality control tests during the manufacture and corrosion protection of steel pipes and specials. This shall cover welding, dimensional tolerances, surface preparation and coating procedures. A report from the independent inspector shall accompany all pipes and specials delivered to site.

The Contractor shall make available on site, equipment to test for coating thickness and holidays. Tests shall be conducted on site under the supervision of the Engineer.

PSL 1.7 PROTECTION OF PIPES IN CONTACT WITH SOIL

All steel pipes, fittings, and specials in contact with soil shall over and above the protection as described above be protected with "DENSO" tape and/or mastic or approved similar. Application shall be strictly in accordance with the manufacturer's instructions. A polyethylene

tape of 300 microns minimum shall be spirally wrapped over the petrolatum tape and fixed to the clean pipe ends with pressure sensitive tape.

PSL 1.8 JOINTS, NUTS, BOLTS AND WASHERS (CLAUSE 3.9.5)

All nuts, bolts and washers shall be cadmium coated or hot dip galvanised. These items are not measured separately and shall be deemed to be included in the cost of jointing.

PSL 2 CONSTRUCTION

PSL 2.1 LAYING (CLAUSE 5.1)

Vertical and horizontal deflections indicated on the drawings may be taken up by deflecting joints to the maximum allowed for the type and size of pipe in accordance with the manufacturer's instructions. These deflections will only be allowed at the positions indicated on the drawings and to the vertical and horizontal alignments given.

Bends shall be installed true to line, level and deflection and shall be anchored in concrete as indicated to counteract thrust. Tees for air valves and scours shall be constructed in accordance with the drawings.

PSL 2.2 KEEPING PIPELINES CLEAN (CLAUSE 5.1.3)

The interior surfaces of all pipes, specials, valves and fittings shall at all times be kept free from dust, silt, foreign matter and access for rodents, animals and birds shall be prevented. Pipes and specials shall not be used as shelters by staff or for the storage of garments, tools, materials, food containers or similar goods. Particular care shall be exercised at all times to prevent facial contamination of pipe interiors by staff, casual visitors, or passers-by.

The Contractor shall at his own expense make good any damage to valves and fittings or clogging of off-takes or malfunctioning of fittings which result from his failure to keep the pipeline in a thoroughly clean condition.

Metal night-caps shall be used to close off all ends of each laid section of pipeline when work is stopped at the end of the day or for longer periods and shall be left on the ends of sections of completed pipe work until such sections are tied-in with the remainder of the completed pipeline. The night-caps shall consist of a steel plate welded into a half coupling which must be provided with a sufficient number of lugs to secure the ring and gasket and shall be strong enough to withstand external water and earth pressure in the event of flooding or collapse of earth and the joint shall be watertight.

The Contractor shall also, at his own expense, blank-off all air valves, scour valve and off-take tees with 3 mm thick blank flanges which shall be fixed to plain ended tee branches by half couplings welded to the blank flanges. These shall be watertight and shall not be removed until the valves or other fittings are about to be fitted.

Notwithstanding the use of night-caps the Contractor shall at his own expense make good all damage to pipe linings and fittings caused by the ingress of dirty water, silt, sand, debris, vermin, insects, and other foreign matter. The Contractor shall at his own expense and to the satisfaction of the Engineer clean the interior of the pipeline of such contaminants.

PSL 2.3 JOINTING METHODS (CLAUSE 5.2)

All flanges shall be installed with bolt holes off-centre and symmetrically off-set from the vertical centre line of the flange. Flanges shall be installed truly square to the axis of the pipe.

The Contractor shall ensure that the correct jointing materials, i.e. gaskets, bolts and nuts are available when required. Only correct diameters and lengths of bolts and studs shall be used. Flat washers shall be used under all nuts. The length of bolts and studs shall be such that at least two threads and not more than four threads protrude from the nut when fully tightened. The threads of bolts, studs, and nuts shall be thoroughly cleaned and then coated with a graphite/grease compound immediately prior to assembly.

Flanged fittings shall be so installed that there are no stresses induced into the pipe work, specials, or fittings by forcing ill-fitting units into position or by bolting up flanges with faces not uniformly in contact with their gaskets over their whole faces.

PSL 2.4 SETTING OF VALVES, SPECIALS AND FITTINGS (CLAUSE 5.3)

Valves and meters requiring special adjustment after installation shall be adjusted and commissioned by the respective suppliers or agents after installation. The Contractor, however, carries the responsibility to ensure that all components supplied and installed under the Contract meet all the performance requirements.

PSL 3 MISCELLANEOUS (New Clause)**PSL 3.1 TRANSPORT, HANDLING AND STORAGE OF PIPES, SPECIALS AND FITTINGS**

The Contractor shall be responsible for the receipt, off-loading, safe storage and/or stringing and safe guarding of all materials delivered to Site. The Engineer shall be afforded every opportunity of inspecting such materials on their arrival at Site prior to them being off-loaded. If their condition is unacceptable to the Engineer on arrival, the Contractor shall remove them forthwith from the Site and replace such materials at his own cost and to the satisfaction of the Engineer.

Pipes and specials shall only be transported on properly constructed or adapted vehicles containing correctly shaped and padded cradles or with strong, sawdust filled bags separating pipes and vehicle body as well as individual pipes from each other.

Pipes, specials and fittings shall not be subjected to rough handling at any time. Under no circumstances shall same be dropped during loading or off-loading or be allowed to collide with each other.

Pipes shall generally be distributed and stored as close as possible to the laying position in order to minimise double handling. Where pipes are strung alongside the trench, they should be placed on the side away from excavated material.

Where pipes, specials and fittings are to be stockpiled in bulk storage yards, the Contractor shall make his own arrangements for a suitable area which shall meet with the Engineer's approval. The stockpiling area shall be adequately fenced and protected by a lockable gate and a watchman shall be maintained at all times.

Pipes and specials shall be strung or stockpiled on level, well drained ground in a manner such that they will not be in contact with the ground, tree stumps, or other sharp objects and all vegetation and other combustible material shall be completely removed to at least five (5) metres from the nearest pipe or special.

Pipes may be strung on soft sand mounds which support the pipe at one third pipe lengths to maintain it clear of the ground.

Each class and size of pipe shall be stored separately in its own stockpile.

All rubber rings or other materials which will deteriorate under the action of sunlight, ozone or inclement weather, shall be stored in permanent shade in lockable weatherproof sheds. Welding and the running of welding machines and electric machinery shall not be permitted in or near places where rubber or plastic products are stored and care shall be taken at all times to prevent contamination of these products by oil or other petroleum derived solvents.

Valves shall be stored in orderly groups on prepared floors to prevent damage, distortion or corrosion of flanges or working parts. All metal valves may be stored in the open but full protection shall be afforded to valves with non-metallic seals or working parts. Under no circumstances shall valves be stored in direct contact with the ground.

PSL 3.2 THRUST BLOCKS

Before any thrust block is cast, the pipe special or fitting shall be supported and secured in its correct alignment and shall be jointed to the adjacent pipe work.

Concrete faces of thrust blocks shall be a minimum of 225 mm from flanges and 300 mm from flexible coupling centres. The bearing face of thrust blocks shall be cast against undisturbed soil or rock.

PSL 3.3 FINAL PAINTING

After successful hydrostatic testing of the pipeline and after completion of all construction work under this contract all external steel pipe surfaces, fittings and valves shall be prepared and painted as directed by the Engineer on site. The cost of final painting shall be included in the cost of the supply and installation of the items to be painted.

PSL 3.4 PROTECTION DURING THE RAINY SEASON

The backfilling of the trench shall follow closely on the pipe laying operation, particularly in the rainy season, to avoid the pipeline floating should water enter the open trench.

Placing of the selected fill blanket in the rainy season should never lag behind the pipe laying operation and all exposed pipes should be backfilled before stopping work at the end of the day.

It is the Contractor's responsibility to ensure that the pipeline is adequately protected against flotation. Should the laid pipes be disturbed in any way, the Contractor shall remove all backfill material covering the pipe as well as the affected pipes and bedding material. Relaying of the pipes shall thus commence with replacing and re-compacting the pipe bedding.

PSL 3.5 INSTALLATION OF VALVES

The Contractor shall ensure that all fittings and Tee-pieces that are to be installed are delivered together with the pipes. Under no circumstances will the Contractor be allowed to leave a gap in the main pipeline in order to install any fittings at a later stage.

Pipeline markers shall be installed at all horizontal changes in pipe direction. Along straight lengths of pipe, they shall be installed every 200 metres.

PSL 4 TESTING**PSL 4.1 STANDARD HYDRAULIC PIPE TEST (CLAUSE 7.3.1)**

In addition to the requirements of Clause 7.3.1 the requirements below will also apply. The requirements given below shall replace any requirements of Clause 7.3.1 where applicable.

Pipelines shall be hydrostatically tested as pipe laying proceeds and after installation of all valves, specials and fittings.

The Contractor shall be responsible for providing all water required for testing and the cost shall be included in the cost for testing, the source of which shall be subject to approval by the Engineer. The Contractor shall supply and install a water meter for this purpose.

The Contractor shall submit his proposals for the length of pipeline to be tested in one operation to the Engineer for approval. This shall include the proposed pressure to be used in each section tested.

Where the method of testing varies from this specification in any way, the Contractor shall submit a detailed method statement to the Engineer and no test shall proceed before approval of such method statement by the Engineer.

Test pressures shall be as indicated by the Engineer. Test pressures shall generally be 1,5 times the pipeline working pressure but shall be not less than 6 bar.

The state of valves during the test shall be as follows:

- (a) in-line isolating valves open, except where used to isolate a test length
- (b) scour isolating valves closed
- (c) air valve isolating valves open
- (d) by-pass isolating valves to in-line isolating valves and reflux-valves closed.

The Contractor shall be permitted to test against a closed inline isolating valve. He should bear in mind however that valve gates and seals are not expected to close drop tight at differential pressures exceeding the design pressure of the valve. Design pressures of valves shall be 1,25 times pipeline design pressure. No relaxation of specified leakage rates shall be permitted due to leaks past gates, blades or seals of isolating valves.

PSL 4.2 METHOD OF TESTING:

The Contractor shall provide an approved test pump, an accurate water meter, sealed pressure gauges and autographic pressure recorder, tested and certified by an independent testing organisation, and all other equipment, materials and labour required for the test.

The section of pipeline to be tested shall be clean and closed off at the ends by isolating valves, end caps or approved end-closure pieces. Free ends shall be firmly strutted against solid supports or thrust blocks designed to withstand safely two (2) times the calculated end thrust under maximum test pressure. It shall be incumbent on the Contractor to establish the need for blank flanges on isolating valve flanges in order to limit leakage rates past gates, blades and seals.

Testing water may be introduced at any air valve within the portion of the pipeline under test. A test manifold shall be placed between the selected air valve and its isolating valve. The manifold shall be provided with three branches, each fitted with drop-tight valves. The main branch shall be sized to suit the Contractor's test pump connection. The two smaller branches shall not be less than 12 mm nominal bore fitted with heavy duty needle valves and reducers to suit pressure gauge connections. A data logger that records both flow and pressure shall be connected to each of the small branches. A water meter carrying a valid calibration certificate shall be installed between the pump and test manifold. The Contractor shall accurately determine the reduced level at the data logger connection point. The Contractor shall also record the reduced level of the highest and lowest invert level of the section under test.

The section of pipeline to be tested shall be slowly filled with clean water of quality to the Engineer's approval, great care being exercised to remove all air from the pipeline. The section of pipeline under test shall be completely filled with water and kept full for not less than two (2) days.

During this initial filling stage, the pipeline joints and all specials, fittings and valves shall be visually inspected for visible leaks and same rectified before proceeding with the test.

After the specified absorption period and with the pipeline full of water, the data logger shall be put into operation at least fifteen (15) minutes before pressurisation of the pipeline commences. Water shall be added until the required test pressure is reached whereupon the valve on the test manifold shall be closed and sealed. The reading on the water meter shall be recorded.

The pressure shall be maintained for one hour and if a pressure drop occurs, more water shall be added to reinstate the test pressure and the valve closed again. The quantity of water added shall be measured by recording the readings before and after pumping. This procedure shall be repeated for a period of 24 hours, with water added at hourly intervals where necessary to reinstate pressure and water meter readings recorded. At the end of the 24 hours period, the aggregate quantity of water required to reinstate pressure over 24 hours shall be determined.

The Contractor shall give the Engineer 48 hours written notice of his intention to commence pressure testing and the Engineer may attend and supervise all or any part of tests. All records and recording graphs shall be handed to the Engineer as soon as tests over any section have been completed.

All valves, specials fittings and exposed joints, shall be inspected visually during the 24 hours pipeline test and all visible signs of leaks, sweating and distress shall be reported and attended to without delay.

PSL 4.3 REMEDIAL MEASURES:

Should the maximum leakage limits as specified be exceeded, the Contractor shall determine the position and cause of the leaks and shall take remedial measures at his own expense and to the satisfaction of the Engineer to stop such leaks and ensure the specified degree of water tightness.

If during the contract period of maintenance, the number of leaks and other defects is considered by the Engineer to be more than what could reasonably be expected from a well laid pipeline operating under normal conditions, he may order the Contractor to re-test parts or the whole of the pipeline at the Contractor's own expense and no claims for escalation in costs will be considered.

The Contractor shall be responsible for the repair of all pipe breakages that occur during hydrostatic testing of the pipeline and commissioning of control systems. The cost of the repair shall be borne by the Contractor.

PSL 5 MEASUREMENT AND PAYMENT (Clause 8)**PSL 5.1 SCHEDULED ITEMS (CLAUSE 8.2)**

(a) Supply, lay and bed pipes complete with couplings (Clause 8.2.1) Add the following:

The rates shall also cover the costs for the complete corrosion protection of steel pipes and fittings as specified in PSL-1, including Denso wrapping where applicable. The corrosion protection shall not be measured separately.

The Contractor shall ensure that he has sufficient spare pipes and couplings for his own use if required during pipeline testing and commissioning.

The rates shall cover the supply and installation of all bolts, nuts, washers and gaskets.

(b) Testing

No extra payment will be made for testing of pipelines.

(c) Anchor Blocks / Thrust Blocks and Pedestals (Clause 8.2.11)

Insert "concrete" before "and" in the last line of the last paragraph.

PSLA FITTINGS AND ANCILLARY ITEMS**PSLA 1 PIPEWORK****PSLA 1.1 General**

The general arrangement of pipes and specials shall be as shown on the drawing. Pipes and fitting flanges to be in accordance with SANS 1123, table 1000-3

PSLA 1.2 Bend and Branches

Bend and branches to be gusseted.

PSLA 1.3 Flanges

Flanges shall conform to SANS 1123 (1000/3) unless otherwise specified. All flanges shall be completed with bolts, nuts, washers and gaskets which are measured separately. Flanges mating to the water meter shall be drilled to SANS 1123 Table 1600.

PSLA 1.4 The water is expected to be mildly corrosive.

All buried steel pipes and fittings shall be wrapped with Denso Tape. All bolts and flanges to be packed with Denso mastic and then covered with Denso Tape. A polyethylene tape of 300 microns minimum shall be spirally wrapped over the petrolatum tape and fixed to the clean pipe ends with pressure sensitive tape.

PSLA 2 BUTTERFLY VALVES

Butterfly valves shall be of the wafer type suitable for installation between two flanges and shall close clockwise.

The materials shall be:

Make	:	COMPACT or similar and approved by Engineer
Body	:	Cast iron with nitrile rubber liner
Disk	:	Spherical graphite with nylon coating
Shaft	:	Stainless steel with shaft mounted replaceable O-rings
Gearbox	:	Weatherproof with spoken hand wheel. Gear Ratio: 30:1 minimum

PSLA 3 RESILIENT SEAL GATE VALVES

Resilient seal valves shall be of the flanged type and shall close clockwise.

The materials shall be:

Make	:	“AVK” or similar and approved by Engineer
Body, Bonnet, Gate	:	Spheroidal graphite iron SABS 936 Grade 42
Spindle	:	Stainless steel

PSLA 4 BALL ISOLATING VALVES

To be equal to Itap

PSLA 5 VIKING JOHNSON FLANGE ADAPTERS

Viking Johnson type flange adapters to be equal to Klamflex or similar and approved by Engineer and are to be provided as shown. The tie rods are to be secured to weld-on restraining flanges being part of the pipework. Four nuts per tie rod shall be provided one at each side of the flange and one at each side of the restraining flange. The number and size of the tie rods to be based on the design water pressure and approved by the Engineer.

PSLA 6 NUTS, BOLTS AND GASKETS

All nuts shall receive a washer.

The bolt assembly material shall be hot dipped galvanised. (Zinc).

PSLA 7 BUTTERFLY VALVE

- a) Butterfly valve with actuator for location at ch 0.
- b) For the butterfly valve also see description at PSLA 2.
- c) The actuators must be controlled by the MAG 3100, see above item PSLA 8.1, programmable percentage of the closing rate at the valve must be integrated.
- d) Type DREHMO-MATIC-C or equal, power supply to actuator from point in building with 30m – 100mm dia uPVC sleeve pipe and a pilot cable from the actuator in the chamber at ch0 into the existing building.
- e) All interconnections for complete working system.

PSLA 8 ALTERNATIVE OFFERS

Any alternative offers shall be priced separately and full specification sheets to be submitted with the tender.

PSLB BEDDING (PIPES)**PSLB 1 DEFINITIONS**

Main fill (Sub clause 2.3)

Delete "150mm" in line and substitute "300mm:".

PSLB 2 MATERIALS**PSLB 2.1 SELECTION (Clause 3.4.2)**

It is the Contractor's responsibility to find suitable sources of selected granular and selected fill material.

Suitable material excavated from trenches can be used for bedding material and shall be screened to not have particle sizes larger than 2mm. Otherwise bedding material shall be transported from borrow pits or commercial sources. Only one payment item has been included for selected granular material and one for selected fill material, irrespective of the source.

The freehaul distance for obtaining material for bedding shall be unlimited.

PSLB 3 CONSTRUCTION**PSLB 3.1 DETAILS OF BEDDING (Clause 5.1.2)**

Pipe bedding shall be in accordance with the bedding for flexible pipes Drawing LB-2.

PSLB 3.2 PLACING (Clause 5.1.3)

Placing and compaction of the pipe bedding shall be regarded as the most critical phase of the backfilling operation. Backfilling beyond the bedding cradle and thereafter the selected fill blanket shall only proceed after approval by the Engineer.

As soon as possible after trench bottoms have been passed by the Engineer, compacted material forming the bedding cradle shall be placed and trimmed to the required grade and level over the full width of the trench. Before laying the pipe, bell-holes for the couplings shall be excavated to ensure that the pipe is supported on the trench bottom over its full length and not on the coupling. The bell-hole shall be deep enough so that the coupling is at least 50 mm from the trench bottom. Under no circumstances may bricks, stones or pieces of timber be used for supporting pipes in the trench.

Bedding material shall be placed and compacted evenly on both sides of the pipe. The method adopted shall be subject to the Engineer's approval. Whatever method is adopted and approved, great care shall be exercised at all times to prevent damage to the pipe or disturbance of the pipe level and grade. The top of the completed bedding shall form a level surface completely filling the space between the pipe and trench walls, including any cavities that might exist in the trench walls.

Compaction shall be in layers not exceeding 150mm measured in the loose and watered to optimum moisture content and compacted to 90% of modified AASHTO maximum density with a CBR of 10. Particular care shall be taken to compact the material in the "wedges" formed by the curvature of pipe bottoms.

The Contractor may use his discretion as to whether he will backfill around joints before the pipeline is hydrostatically tested. The Contractor shall be responsible for the location and repair of any leaks on the pipeline under hydrostatic test and no extra payment will be made for any re-excavation and subsequent reinstatement which may be necessary to locate and remedy leaks. Should the Contractor elect to leave joint holes open until after the hydrostatic test, he shall provide at his own expense effective and approved barricades and fences around each hole for the protection of persons and animals. In built-up areas, barricades shall be clearly marked at night time with red warning lights.

PSLB 4 TOLERANCES

PSLB 4.1 MOISTURE CONTENT AND DENSITY (Clause 6.1)

Degree of accuracy II shall be applicable to bedding material.

PSLB 5 MEASUREMENT AND PAYMENT

PSLB 5.1 PRINCIPLES (Clause 8.1)

PSLB 5.2 Volume of Bedding Material (Clause 8.1.3)

Add the following to Clause 8.1.3

- (c) the area of the pipe will be subtracted from the area of the trench in the calculation of the volume of bedding.

PSLB 5.3 FREEHAUL DISTANCE (Clause 8.1.6)

The freehaul distance for acquiring bedding material shall be unlimited.

PSME SUBBASE**PSME 1 PHYSICAL PROPERTIES****PSME 1.1 G5 SUBBASE MATERIAL (CLAUSE 3.2.2)**

Replace clause 3.2.1.d with the following:

The CBR of the subbase layer will be minimum 25 at a compaction of 95% of MOD AASHTO maximum density. The subbase material shall be compacted to the specified MOD AASHTO maximum density. In the event of the inability to source the specified subbase material, some form of mechanical modification may be required to achieve the required material specifications. The tendered rates shall be deemed to include the above-mentioned circumstance.

The G5 Subbase material to be used for this contract must adhere to the following specifications:

G5 Gravel Wearing Course and shoulder material

- | | |
|---|-----|
| • CBR At 95% Mod. Aashto Density | 45 |
| • Minimum Compaction (Mod Aashto Density) | 95% |
| • Plasticity Index (Max.) | 10 |
| • Maximum Size (Mm) | 63 |
| • Minimum Grading Modulus (Gm) | 1.5 |

PSME 1.2 SELECTION (CLAUSE 3.5)

The Contractor will be responsible to source all material required for the construction as set out in the project specification. The material may be obtained from commercial sources or from borrow pits identified by the Contractor. Should material be obtained from borrow pits, written approval from the Owner must be submitted to the Engineer for the approval of the use of the borrow pit.

PSME 2 OVERHAUL

The free-haul distance for subbase material will be unlimited.

PSME 2.1 TOLERANCES**PSME 2.2 DIMENSIONS, LEVELS, ETC (CLAUSE 6.2).**

Degree of accuracy II shall apply.

PA STANDARD SPECIFICATION FOR THE SUPPLY OF PIPES, SPECIALS AND FITTINGS FOR CIVIL WORKS**PA 1 SCOPE**

This specification covers the design, manufacture and supply of CID and COD fibre cement pipes, uPVC, GRP, polyethylene, galvanized and epoxy-coated steel pipes, and stainless steel pipes.

This specification is a supplement to the relevant SABS specifications and will in no way relieve the Supplier or Contractor of the requirements of the relevant SABS specifications.

Where this specification is required for a project the following specifications, including this one, shall inter-alia, form part of the contract document.

Project Specifications SABS 1200 L

PA 2 GENERAL REQUIREMENTS

Pipes and fittings shall at all times be transported and handled in such a manner as to guard against loss or damage.

All fittings and specials shall be designed and tested for a minimum working pressure of 1,6 MPa or 1.5 time the working pressure of the pipeline whichever the highest

PA 3 MATERIALS

The requirements of Clause 3 of SABS 1200 L shall apply mutatis mutandis.

PA 4 FIBRE CEMENT PIPES AND FITTINGS**PA 4.1 PIPES AND COUPLINGS**

PA 4.1.1 Manufacture of pipes shall conform with SABS 1223

PA 4.1.2 Where single or double bitumen dipped pipes are specified, the pipes shall be bitumen dipped in accordance with the Standard Specification for the Bitumen Coating of Pipes and Couplings.

PA 4.2 FITTINGS

PA 4.2.1 All flanges shall be drilled to SABS 1123

PA 4.2.2 Fittings shall be manufactured from cast iron, hot dipped galvanised or epoxy lined and coated mild steel

PA 4.2.3 Clause 7(epoxy lining and epoxy coating) shall apply to the corrosion protection of steel fittings

PA 4.2.4 CID cast iron fittings shall have ends machined to class 18 dimensions

PA 4.2.5 Sufficient lubricant for couplings shall be supplied.

PA 4.2.6 Fittings shall be designed and tested for a minimum working pressure of 1,6 MPa or 1.5 times the working pressure of the pipeline whichever the highest.

PA 5 uPVC PIPES AND FITTINGS**PA 5.1 PIPES**

- PA 5.1.1 Pipes meet all the requirements of SABS 966 and shall carry the SABS mark.
- PA 5.1.2 Pipes shall have rubber ring joints
- PA 5.1.3 All fittings shall be supplied with sealing rings
- PA 5.1.4 The spigot end shall be chamfered at an angle of 15°. The chamfer shall be evenly formed both over its length and circumference. The chamfer shall in all respects conform to the SABS 966 specification.
- PA 5.1.5 The socket end shall be of a constant diameter and be evenly formed so as to allow the use of a standard sealing ring. The shape of the socket shall be that to fit the SABS approved sealing ring.
- PA 5.1.6 The sealing ring shall conform to the relevant SABS standard. No other rings shall be acceptable. A stiffener shall be fitted within the sealing ring and shall have dimensions such that the pipes can be jointed without the use of abnormal force (i.e. beyond that recommended by the pipe manufacturer's installation manual).
- PA 5.1.7 The working pressures uPVC pipes shall be downgraded for the relevant ambient and fluid temperatures and the Tenderer shall submit detailed calculations of the downgrading of the pipes as well as laying and testing instructions of the pipes with his offer. The Tenderer will be responsible for obtaining the relevant temperature data. Tenderers also take into account during their calculations that NamWater field test all newly constructed pipelines 1.5 times the specified working pressure of the pipe.

PA 5.2 FITTINGS

- PA 5.2.1 Fittings shall conform to SABS 966
- PA 5.2.2 All fittings shall be supplied with sealing rings
- PA 5.2.3 All fittings such as scour tees, hydrant tees, reducers, etc. shall be made from cast iron, hot dipped galvanised or epoxy lined and coated mild steel
- PA 5.2.4 Aluminium or uPVC fittings are not acceptable
- PA 5.2.5 Fittings shall be designed and tested for a minimum working pressure of 1,6 Mpa or 1.5 times the working pressure of the pipeline whichever the highest and shall have a rubber ring joint and internal shoulder where applicable.
- PA 5.2.6 All flanges shall be drilled to SABS 1123

PA 6 mPVC PIPES

No mPVC pipe offers will be accepted.

PA 7 POLYETHYLENE PIPES AND FITTINGS

Pipes and fittings shall be one of the following types:

- (a) Type 4 high density pipes and compression fittings to SABS 533 (if type not specified)
- (b) Type 1 low density pipes and nylon insert fittings to SABS 533
- (c) Non SABS (Agro) pipes and nylon insert fittings.

PA 8 GALVANIZED PIPES AND SPECIALS**PA 8.1 STRAIGHT GALVANIZED PIPES**

PA 8.1.1 Pipes shall conform to SABS 62

PA 8.1.2 Unless otherwise specified, pipes shall be medium class

PA 8.2 STEEL FITTINGS MANUFACTURED FROM STRAIGHT GALVANIZED PIPES

PA 8.2.1 Damage to galvanized surface due to welding shall be kept to the minimum

PA 8.2.2 Where accessible, welds on the inner surfaces of the fittings shall be treated with one coat of cold-galvanizing paint.

PA 8.2.3 Welds on the outside of fittings shall be cleaned and treated with one coat cold-galvanizing paint.

PA 8.2.4 Steel fittings to be hot-dip galvanized

PA 8.2.5 Fittings shall be manufactured from medium class pipe to SABS 62

PA 8.2.6 After fabrication fittings shall be hot-dip zinc-coated to SABS 763

PA 8.2.7 If not specified in SABS 763 or elsewhere, minimum thickness of galvanizing shall be 65µm (455g/m²)

PA 9 EPOXY PAINTED STEEL PIPES AND SPECIALS**PA 9.1 GENERAL REQUIREMENTS**

The pipes and specials shall be epoxy lined, on the inside, to SABS 1217

Unless otherwise specified, all buried steel pipes and pipes embedded in concrete shall be epoxy coated, on the outside, to SABS 1217 and all other pipes and specials, red lead primer coated, on the outside.

PA 9.2 MANUFACTURE**PA 9.2.1 Straight pipes**

a) Pipes shall be manufactured in accordance with the requirements of SABS 719. Pipes shall be manufactured from grade A or grade B carbon steel, except for branches, etc. of diameter 150 mm NB and smaller, which may be manufactured from medium class uncoated steel pipe to SABS 62. Pipes to be coupled by flexible couplings shall have the external weld bead ground flush with the barrel for a length of 200 mm from the end to be coupled.

d) The wall thickness shall be as specified on the drawings.

PA 9.2.2 Specials

a) Specials shall be manufactured from grade A or grade B carbon steel.

b) Specials to be coupled by flexible couplings shall have the external weld bead ground flush with the barrel for a length of 200 mm from the end to be coupled.

c) Flanges shall conform to the requirements of SABS 1123.

d) Dimensional requirements of specials pertaining to outside diameter, wall thickness, pipe ends shall conform to requirements of SABS 719.

- e) The wall thickness shall be as specified on the drawings.
- f) Centrelines of barrels and branches shall intersect at right angles.
- g) Thrust flanges and puddle flanges shall be fillet welded continuously to the barrel, around the whole circumference, on both sides of the flanges.
- h) Thrust flanges and puddle flanges shall conform to the dimensions of SABS 1123 flanges, but left un-drilled and un-machined.
- i) All finished specials shall be visually examined and shall be free of injurious defects.
- j) Welds shall be inspected by the application of a penetrate dye on the inside of the welds and no trace of the dye shall appear on the outside. The use of penetrate dye must not be used as a test, to evaluate the pressure class or the water tightness of the fitting.

PA 9.3 LINING OF STEEL PIPES AND SPECIALS

PA 9.3.1 The surface to be lined shall be treated as follows:

- a) Contaminants shall be removed by an appropriate method such as with an organic solvent emulsion cleaner or a suitable detergent.
- b) The surface shall be blast-cleaned with a suitable abrasive to achieve a preparation grade of not less than Sa 3, and shall have an average surface profile of 25 to 100µm.
- c) The surface shall be blown clean with clean dry compressed air, dusted off with clean dry brushes or vacuum-cleaned so as to give dust and debris, assessed in accordance with SABS 769, not greater than 0,1%.
- d) The clean pipe surfaces should be coated as soon as possible, but in any event before condensation, oxidation or contamination of the blast-cleaned surface can take place.
- e) Should immediate lining not be possible for reasons of breakdown, etc. or should any atmospheric oxidation take place between the completion of blast cleaning and commencement of lining, such oxidation shall be removed by open nozzle type localized blasting to restore the specified surface finish.

PA 9.3.2 The lining shall be applied as follows.

- a) The lining material shall be Copon EP 2300T two pack epoxy coating or Copon KSIR88 in the case of airless spray application. Substitute paints shall not be used without prior approval:
- b) 1st coat: All surfaces shall receive the first coat of epoxy resin in a colour red oxide or similar colour distinctly different from the subsequent coats. The application shall be free of all tears, runs, pinholes, holidays or dust particles, and the dry film thickness of the coat shall not exceed 50µm, above the peaks of the blast profile as measured by an eddy current instrument, unless otherwise recommended by the coating manufacturer. The first coat shall be allowed to dry for a minimum of 24 hours and a maximum of 72 hours or such other intervals as specified by the supplier of the epoxy resin, during which time the coat shall be protected against contamination by dust or other foreign matter, shall be kept dry and shaded from direct sunlight.

- c) 2nd coat: The second coat shall then be applied in a colour pale oxide or a shade tinted sufficiently to ensure complete and correct coverage of the first coat application. The application shall be free of all tears, runs, pinholes, holidays or dust particles. Drying and curing of the second coat shall be as for the first coat.
- d) 3rd coat: The third coat shall then be applied in a colour pale oxide or a shade tinted sufficiently to ensure complete and correct coverage of the second coat application. The application shall be free of all tears, runs, pinholes, holidays or dust particles. Drying and curing of the third coat shall be as for the first coat.
- e) 4th and subsequent coats, if applicable, shall be applied, dried and cured as specified for the previous coats.
- f) The final lining shall have a total dry film thickness not less than 200µm in any area measured by means of an eddy current instrument. The lining shall be allowed to dry completely and cure for the time specified by the supplier of the epoxy resin.
- g) The ends of a pipe, intended to be butt-welded to another on site, shall be left uncoated and unlined for a distance of 50mm from the end.
- h) A flanged pipe that is to be lined shall have the lining continued as a coating over the entire mating surface of the flanges.
- i) The end of the pipe to be lined and joined to another pipe by means of a coupling shall have the lining continued as a coating on the outside of the pipe for at least 150mm from the end.
- j) The whole lining shall be pinhole free when tested with a pinhole detector using a voltage of 80 to 100 Volts.

PA 9.4 COATING OF STEEL PIPES AND SPECIALS

PA 9.4.1 Epoxy Coating

- a) The surface preparation and application shall be as for the lining (Clause PD 10.3)
- b) The whole coating shall be pinhole free when tested with a pinhole detector using a voltage of 80 to 100 Volts.

PA 9.4.2 Red lead primer coating

- a) The surface preparation and application shall be as for the lining (Clause PD 10.3)
- b) A minimum of two coats of red lead primer, type 1 grade 2 to SABS 312 shall be applied.
- c) The primer shall be brush applied.
- d) The second coat shall not be applied until a minimum of 36 hours has elapsed since the completion of the application of the first coat.
- e) The total dry thickness of the coating shall be at least 60 µm.
- f) The coating shall overlap the extension of the lining by at least 40mm.

PA 10 STAINLESS STEEL PIPES AND FITTINGS**PA 10.1 GENERAL**

- PA 10.1.1 Pipes shall be manufactured from grade 304 stainless steel.
- PA 10.1.2 End flanges shall be manufactured from grade 304 stainless steel (unless specified to be mild steel)
- PA 10.1.3 Thrust and puddle flanges to be embedded in concrete may be manufactured from grade A or B carbon steel to SABS 719.
- PA 10.1.4 Thickness of flanges shall be as specified by SABS 1123 for mild steel flanges.
- PA 10.1.5 Flanges shall be drilled to SABS 1123.
- PA 10.1.6 Pipes shall have not more than one longitudinal seam.
- PA 10.1.7 All welds shall be in accordance with the requirements of SABS 044 part 3
- PA 10.1.8 Welds shall be inspected by the application of a penetrant dye on the inside of the welds and no trace of the dye shall appear on the outside. The use of penetrate dye must not be used as a test, to evaluate the pressure class or the water tightness of the fitting.
- PA 10.1.9 Dimensional requirements of specials pertaining to outside diameter, wall thickness, pipe ends shall conform to the requirements of SABS 719.
- PA 10.1.10 The wall thickness shall be as specified on the drawings.

PA 11 FLANGES

Flanges shall be drilled off-center to suit mating flanges drilled to SABS 1123

PA 12 BOLTS, NUTS, WASHERS AND GASKETS**PA 12.1 GENERAL**

- PA 12.1.1 If specified, all flanged items shall be supplied complete with bolts, nuts, washers and rubber insertion gaskets for jointing up to adjacent fittings
- PA 12.1.2 All bolts, nuts and washers to be hot dip galvanized to SABS 763
- PA 12.1.3 All bolts and nuts shall be ISO metric with hexagon heads to SABS 135
- PA 12.1.4 Bolts shall be of sufficient length for at least two screw threads to protrude outside nuts when assemblies are fully tightened
- PA 12.1.5 One washer will be supplied per stud/nut or bolt/nut combination

PA 13 TOLERANCES OF WELDED STEEL SPECIALS AND FITTINGS**PA 13.1 GENERAL**

- PA 13.1.1 Dimensional requirements of specials pertaining to outside diameter, wall thickness, pipe ends shall conform to requirements of SABS 719
- PA 13.1.2 The total angle of bends shall not deviate more than that given in the Schedule of Quantities by more than 30 minutes. Bends for pipes of outside diameter 219 mm or less may be of even curvature, but for bigger pipes all bends shall be gusseted and dimensional requirements and tolerances shall be in accordance with BS 534.
- PA 13.1.3 Tees shall be fabricated in accordance with BS 534 but the branch axis shall be truly at right angle to the barrel axis.

PA 13.1.4 Specials and fittings for which “exact” lengths are specified shall be subject to a tolerance of ± 6 mm.

PA 14 REQUIREMENTS TO BE SPECIFIED

In addition to the nominal bore, working pressure and flange table, the following requirements are to be specified on the drawings or in the tender document:

PA 14.1 GENERAL REQUIREMENTS

PA 14.1.1 Whether nuts, bolts, washers and gaskets are to be supplied (applicable to supply-and-delivery tenders only).

PA 14.1.2 Point of delivery.

PA 14.2 FIBRE CEMENT PIPES

Whether un-dipped, single or double bitumen dipped.

PA 14.3 POLYETHYLENE PIPES

Type of pipe

PA 14.4 GALVANIZED PIPES AND SPECIALS

Whether steel fittings shall be manufactured from straight galvanized pipe (9.2), or hot dip zinc coated (9.3)

PA 14.5 EPOXY PAINTED STEEL PIPES AND SPECIALS

Whether epoxy painted coating or red oxide primer is required on the outside of the pipe or special.

PA 15 MEASUREMENT AND PAYMENT

PA 15.1 GENERAL

All items shall be measured as set out in Clause 8 of SABS 1200L and as specified in the Schedule of Quantities and payment will be made in accordance with the tender price per unit of the particular item. In manufacture, supply and deliver Contracts it will be measured by length of pipes and number fittings and specials supplied at point of delivery.

Distinction shall be made between different types of pipes, fittings and specials as well as diameter and pressure ratings and shall be scheduled as separated items.

The rate tendered shall include for the fabrication, testing, lining and coating, protection, transport to site, off-loading storing and installation, where applicable, all in accordance with the relevant clauses of the specifications.

All pipes, fittings and specials manufactured, tested, lined and coated, in accordance with the specifications and transported and delivered to Site, stored and accepted and installed where applicable on Site, will be measured for payment purposes under this section and shall include for supplementary protection material required.

PB STANDARD SPECIFICATION FOR THE SUPPLY OF VALVES AND OTHER PIPELINE ACCESSORIES FOR CIVIL WORKS**PB 1 SCOPE**

This specification covers the design, manufacture and supply of isolating valves and flexible couplings.

This specification is a supplement to the relevant SABS specifications and will in no way relieve the Supplier or Contractor of the requirements of the relevant SABS specifications.

Where this specification is required for a project the following specifications, including this one, shall inter-alia, form part of the contract document.

Project Specifications SABS 1200 L

PB 2 GENERAL REQUIREMENTS**PB 2.1 Design Pressure**

Each valve and coupling shall have a working pressure as stated on the drawings and in the tender document.

PB 2.2 Flanges

Flanges shall be drilled off-center to suit mating flanges drilled to SABS 1123

PB 2.3 Bolts, Nuts, Washers and Gaskets

PB 2.3.1 IF SPECIFIED, FLANGED VALVES OR ANY OTHER ITEM SHALL BE SUPPLIED COMPLETE WITH BOLTS, NUTS, WASHERS AND RUBBER INSERTION GASKETS FOR JOINTING UP TO ADJACENT FITTINGS

PB 2.3.2 ALL BOLTS, NUTS AND WASHERS TO BE HOT DIP GALVANIZED TO SABS 763

PB 2.3.3 ALL BOLTS AND NUTS SHALL BE ISO METRIC WITH HEXAGON HEADS TO SABS 135

PB 2.3.4 BOLTS SHALL BE OF SUFFICIENT LENGTH FOR AT LEAST TWO SCREW THREADS TO PROTRUDE OUTSIDE NUTS WHEN ASSEMBLIES ARE FULLY TIGHTENED.

PB 2.3.5 ONE WASHER WILL BE SUPPLIED PER STUD/NUT OR BOLT/NUT COMBINATION

PB 2.4 Painting of Valves and other Accessories

Valve bodies from ferrous metals and the jointing faces thereof shall be given a protective coating of suitable paint as specified in Sections 8.3 and 8.4 of Particular Specification PA: STANDARD SPECIFICATION FOR THE SUPPLY OF PIPES, SPECIALS AND FITTINGS FOR CIVIL WORKS.

PB 2.5 Spares

Spares shall be easily procurable

PB 3 RESILIENT SEAL VALVES**PB 3.1 General**

Valves shall conform to SABS 664 (VOSA, AINSWORTH or equivalent)

Closure of valves shall be by clockwise rotation of handwheels.

Valves shall be of the non-rising spindle type.

All gears with a ratio of 1:3 and lower, shall be provided with easily replaceable shear pins to prevent damage to the valve if excessive force is applied.

PB 4 BALL VALVES**PB 4.1 Medium duty**

PB 4.1.1 VALVES SHALL BE OF THE FULL FLOW IN-LINE BALL VALVE TYPE, ITAP OR EQUIVALENT

PB 4.1.2 THE VALVE BED SHALL BE NYLON-LINED

PB 4.2 Heavy duty

PB 4.2.1 VALVES SHALL BE OF THE FULL FLOW IN-LINE BALL VALVE TYPE, GLEN OR EQUIVALENT

PB 4.2.2 360 ° ROTATION OF THE HANDLES SHALL BE POSSIBLE

PB 4.2.3 THE VALVE BED SHALL BE RUBBER-LINED

PB 4.2.4 THE HANDLE SHALL BE MANUFACTURED FROM MILD STEEL

PB 5 FLEXIBLE COUPLINGS**PB 5.1 General**

PB 5.1.1 FLEXIBLE COUPLINGS AND FLANGE ADAPTORS SHALL BE KLAMFLEX, VIKING JOHNSON, OR EQUIVALENT

PB 5.1.2 COUPLINGS AND FLANGE ADAPTORS SHALL BE HOT-DIP GALVANIZED OR EPOXY PAINTED AS SPECIFIED

PB 5.1.3 COUPLINGS SHALL BE SUPPLIED WITHOUT CENTRE REGISTER UNLESS OTHERWISE SPECIFIED

PB 5.1.4 BOLTS, NUTS, WASHERS TO BE HOT-DIP GALVANIZED

PB 6 MALLEABLE CAST IRON FITTINGS

Malleable cast iron fittings shall conform to SABS 1190

PB 7 REQUIREMENTS TO BE SPECIFIED

In addition to the nominal bore, working pressure and flange table, the following requirements are to be specified on the drawings or in the tender document:

PB 7.1 General Requirements

Whether nuts, bolts, washers and gaskets, etc. are to be supplied (applicable to supply-and-delivery tenders only)

PB 7.2 Valves

- a) Flanged, spigotted, socketted or wafter type
- b) With or without gearbox and with or without handwheel or cap top

PB 8 MEASUREMENT AND PAYMENT**PB 8.1 General**

PB 8.1.1 All items shall be measured as set out in clause 8 of sabs 1200l.

PB 8.1.2 The unit of measurement shall be as specified in the schedule of quantities and shall be the number of items supplied and installed, inclusive all nuts, bolts, washers, rubbers, and gaskets needed. In manufacture, supply and deliver contracts it will be measured by the number items supplied at point of delivery.

PB 8.1.3 Distinction shall be made between different types of items as well as diameter and pressure ratings and shall be scheduled as separated items.

PB 8.1.4 The rate tendered shall include for the fabrication, testing, lining, and coating, protection, transport to site, off-loading storing and installation, where applicable, all-in accordance with the relevant clauses of the specifications.

PB 8.1.5 All items manufactured, tested, lined, and coated, in accordance with the specifications and transported and delivered to site, stored, and accepted and installed where applicable on site, will be measured for payment purposes under this section and shall include for supplementary protection material required.

PB 8.1.6 Payment will be made in accordance with the tender price per unit of the particular item.

PD PD "DENSO" WRAPPING**PD 1 SCOPE**

This specification covers the protection of buried steel pipes, specials and couplings by means of petrolatum impregnated tape, "Denso", "Petro Tape", or equivalent.

PD 2 GENERAL REQUIREMENTS

The corrosion protection system shall be based on a specially formulated cold-applied high temperature petrolatum tape for corrosion protection of steelwork and pipelines.

PD 3 PROTECTION OF STEEL PIPES AND SPECIALS

Wire brush all pipes surfaces to remove loosely adhering corrosion product and other dirt. Prime bare metal surfaces with Denso Primer, leaving a thin film. Window Denso Tape circumferentially around the pipe, taking care to exclude air pockets. For pipes in excess of 80 NB, maintain 25 mm overlaps. Wind PVC outer wrap circumferential over the Denso Tape, staggered with the overlaps of the Denso Tape, Secure the PVC outer wrap at the ends of the rolls by one complete turn of self-adhesive tape.

PD 4 PROTECTION OF COUPLINGS

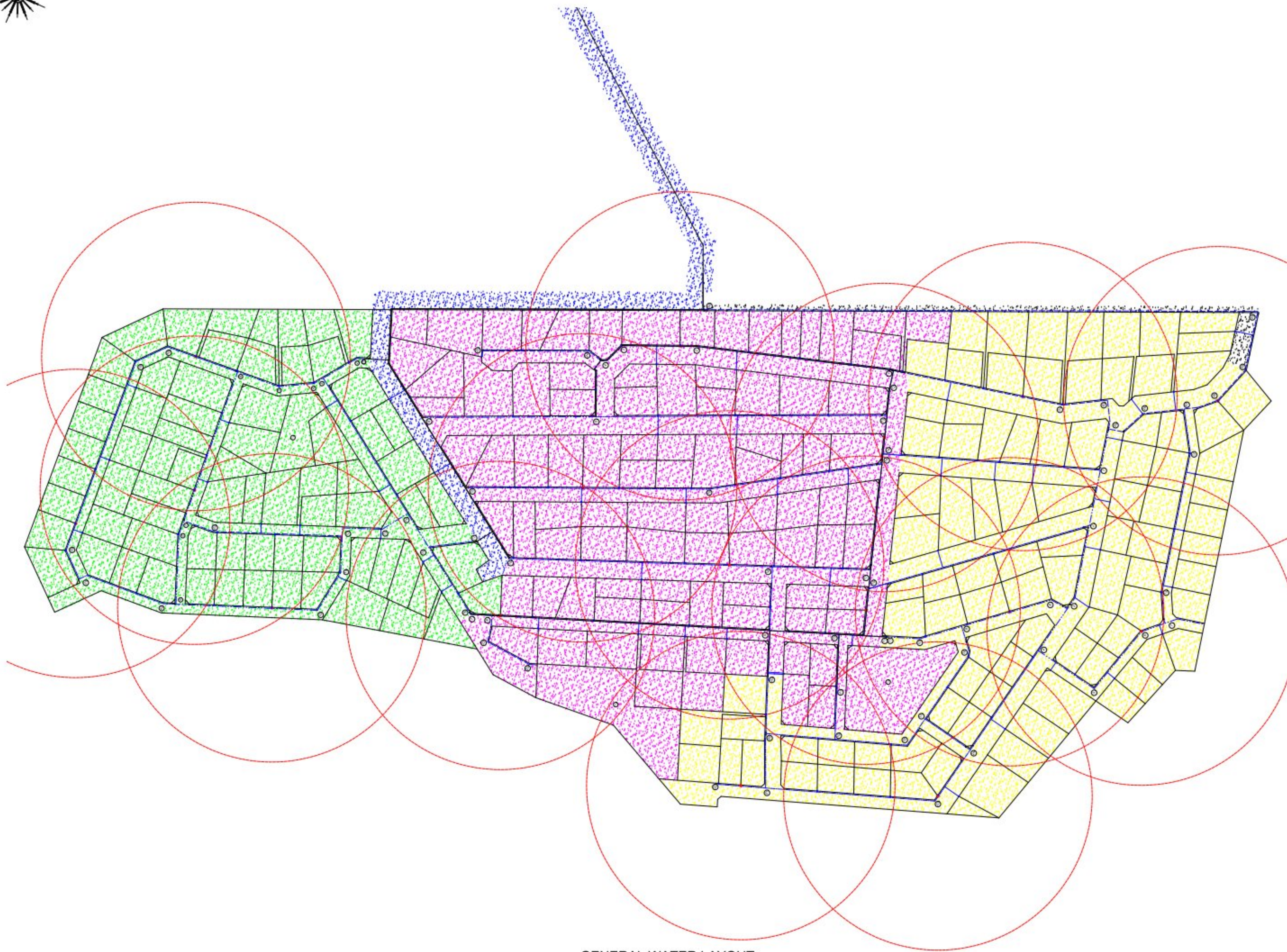
Remove all sand and dirt from the pipe barrel and coupling. Apply "Denso" Priming Solution liberally to bolt heads and nuts and a thin film on all other bare metal surfaces. Apply "Denso" Mastic to cover bolt heads and nuts on outside of flanges, and between flanges, to give 13 mm over on sleeve. Mould up to but not over bolts. Apply "Denso" Tape circumferentially over the mastic, taking care to exclude air pockets. Do not stretch the tape. One complete turn of tape is required, making an 80 mm overlap at the ends. Smooth the "Denso" tape over the mastic, pressing out any air pockets. Apply "Layflat" sheeting circumferentially over the whole joint. Use two complete turns of sheeting and secure the ends onto the pipe barrel by means of self-adhesive PVC tape.

DRAWINGS

A book of drawings will be issued together with the bid documents and will consist of A3 size drawings not to scale for bidding purposes. Once the successful Bidder is appointed, 3 sets of complete, to scale A1 drawings will be issued for construction purposes.

TABLE OF DRAWINGS

Drawing No	Description	Status	Rev No
P190050/P0/C/00	GENERAL WATER LAYOUT PHASES 3, 4 & 5	PROCUREMENT	A
P190050/P0/CW/00	WATER RETICULATION TYPICAL DETAILS (PART 1 of 2)	PROCUREMENT	A
P190050/P0/CW/01	WATER RETICULATION TYPICAL DETAILS (PART 2 of 2)	PROCUREMENT	A
P190050/P3/CW/00	PHASE 3 WATER RETICULATION LAYOUT & NODES	PROCUREMENT	A
P190050/P4/CW/00	PHASE 4 WATER RETICULATION LAYOUT	PROCUREMENT	A
P190050/P4/CW/01	PHASE 4 WATER RETICULATION NODES	PROCUREMENT	A
P190050/P5/CW/00	PHASE 5 WATER RETICULATION LAYOUT	PROCUREMENT	A
P190050/P5/CW/01	PHASE 5 WATER RETICULATION NODES	PROCUREMENT	A



GENERAL WATER LAYOUT
SCALE 1:3000

ALL DIMENSIONS AND LEVELS ARE TO BE VERIFIED ON SITE BY THE CONTRACTOR BEFORE COMMENCING ANY WORK.
ANY DISCREPANCIES MUST BE REPORTED TO THE ENGINEER IN TIMELY MANNER
THE COPYRIGHT ON THIS DRAWING, INCLUDING THE DESIGN AND DETAILS SHOWN HEREON, IS RESERVED BY THE ENGINEERS.
THIS DRAWING IS NOT TO BE USED IN WHOLE OR PART OTHER THAN FOR THE INTENDED PURPOSE AND PROJECT, AS STATED ON THIS DRAWING. REFER TO THE CONTRACT FOR FULL TERMS AND CONDITIONS.

NOTES:

160mm @ uPVC Class 9

110mm @ uPVC Class 9

90mm @ uPVC Class 9

Single House Connection

Double House Connection

Gate Valve

Fire Hydrant

PHASE 2

PHASE 3

PHASE 4

PHASE 5

A	31/01/2024	For Procurement	OS
No.	DATE	REVISION	NIT

CLIENT

 **Erongo
regional
Council**

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CONSULTING ENGINEERS
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PROJECT NAME

THE CONSTRUCTION OF A WATER
INFRASTRUCTURE NETWORK FOR
WLOTZKASBAKEN, ERONGO REGION

DRAWING TITLE

GENERAL WATER LAYOUT
PHASES 3, 4 & 5

DESIGNED	DS	DRAWING STATUS PROCUREMENT
DRAWN	DS	
APPROVED FOR WCE	DS	
REG. NO	E2017-31	
BASE DATE	07/2020	
DRAWING NO.		P190050/P/C/00
REVISIONS	A	SHEET SIZE : A

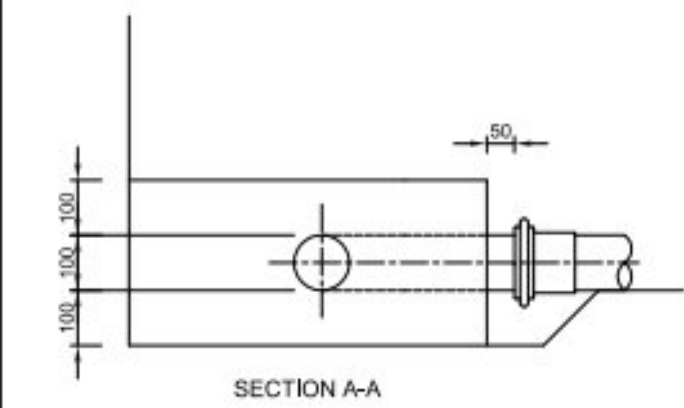
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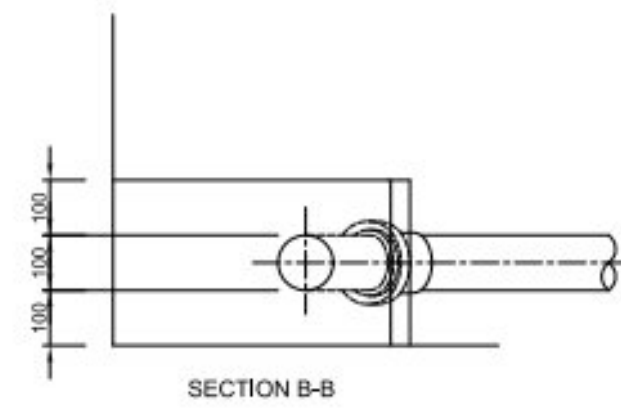
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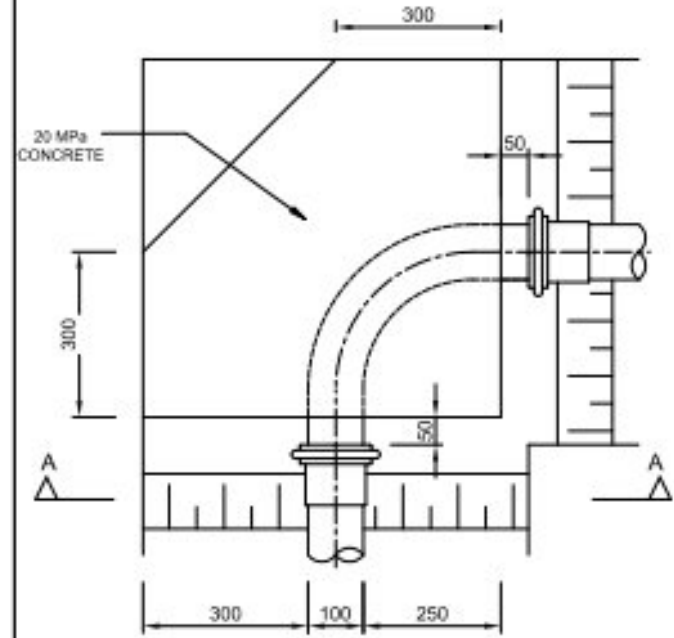
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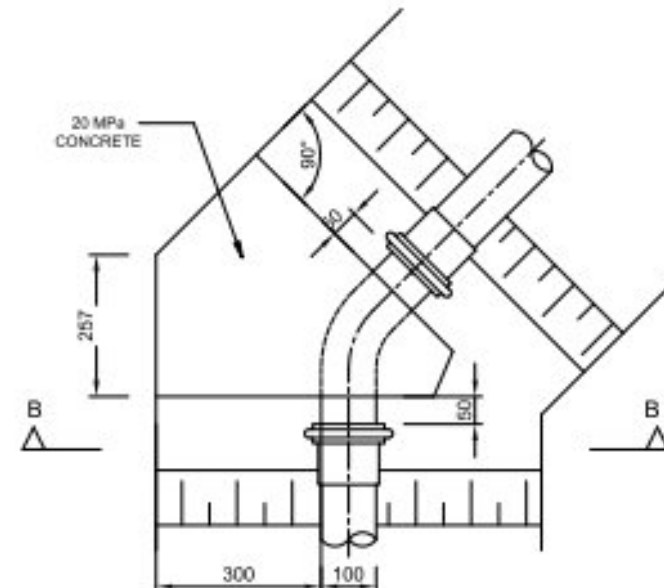
SECTION A-A



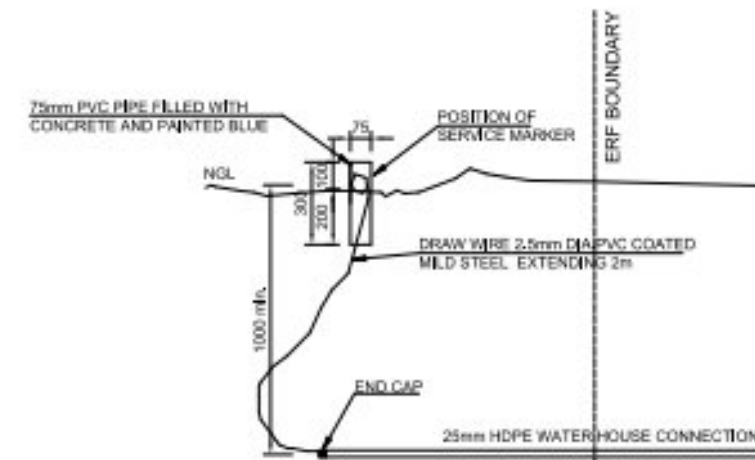
SECTION B-B



PLAN OF 90° BEND

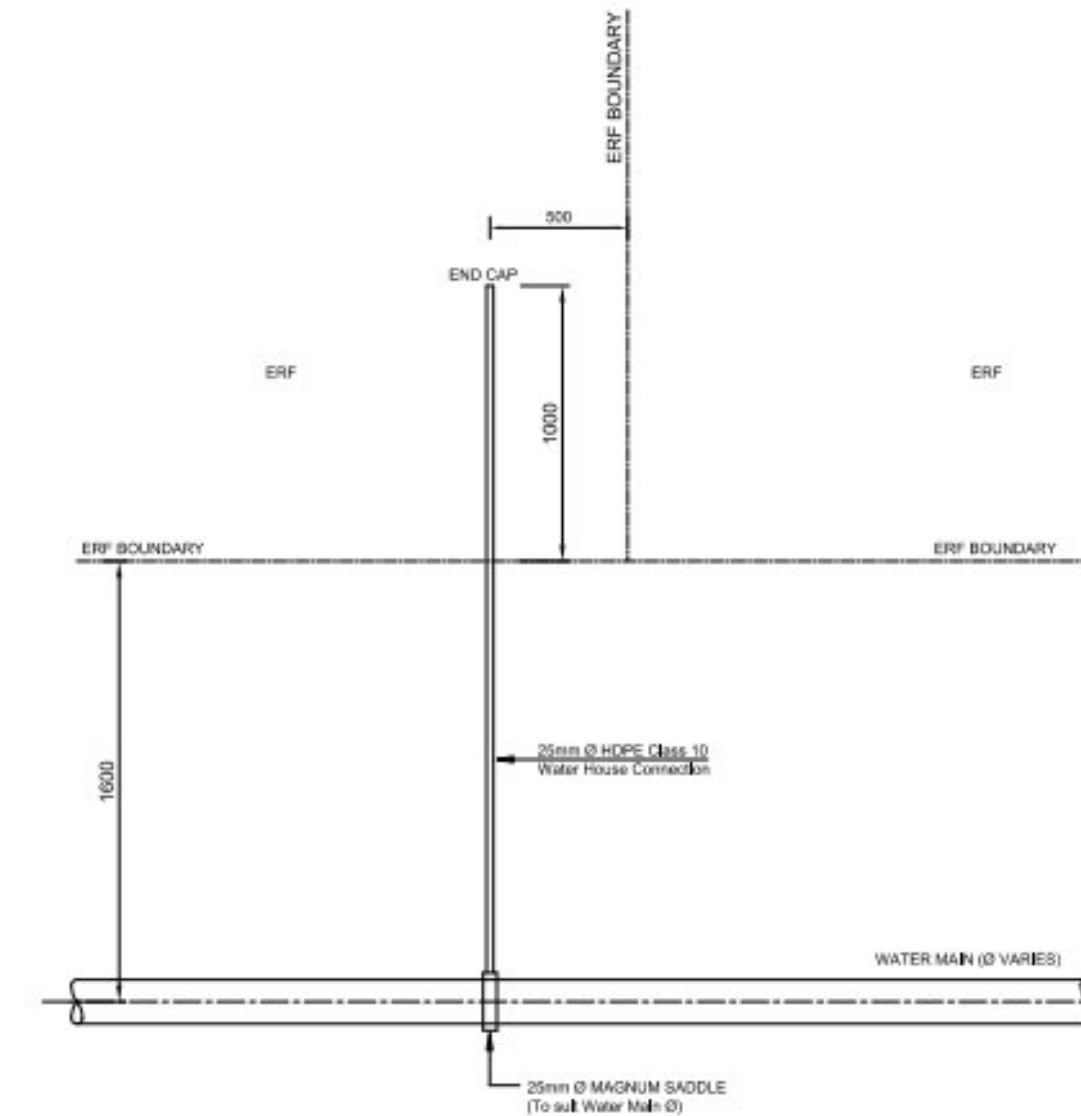


PLAN OF OTHER BENDS



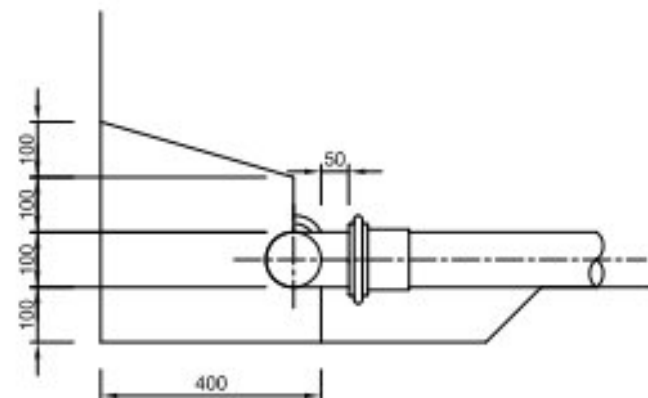
MARKER BLOCK DETAILS (WATER)

SCALE 1:20

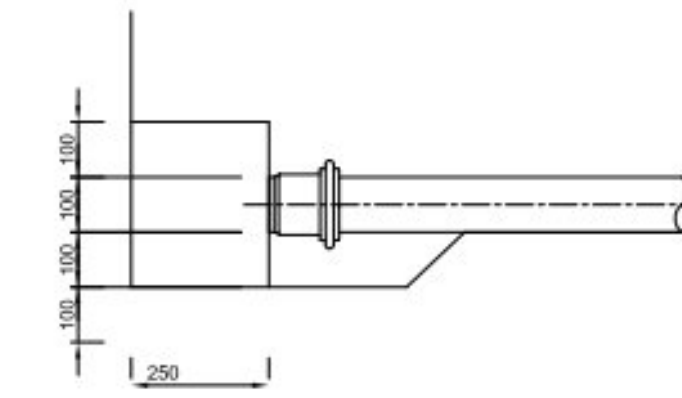


SINGLE HOUSE CONNECTION

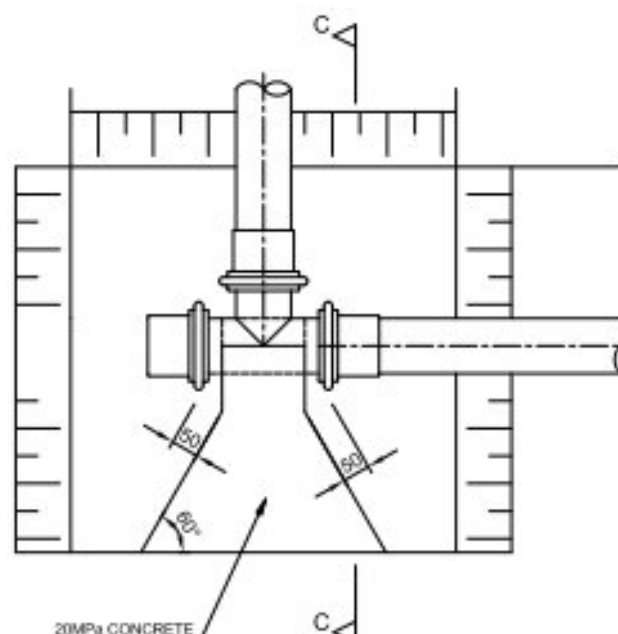
SCALE 1:20



SECTION C-C



SECTION D-D

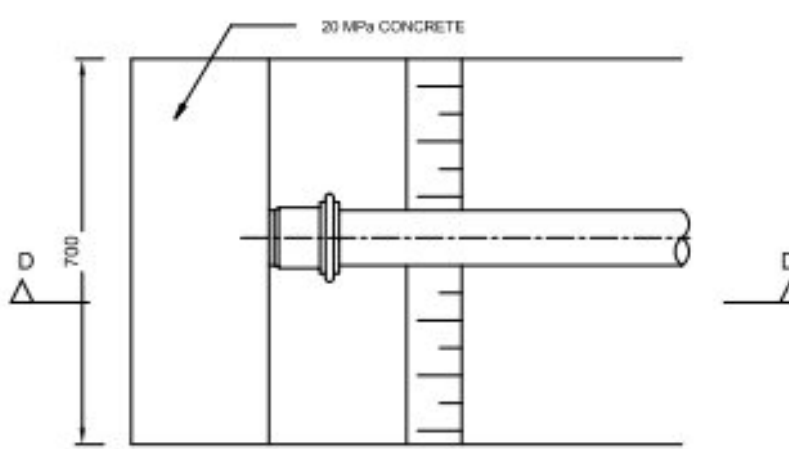


PLAN OF TEES

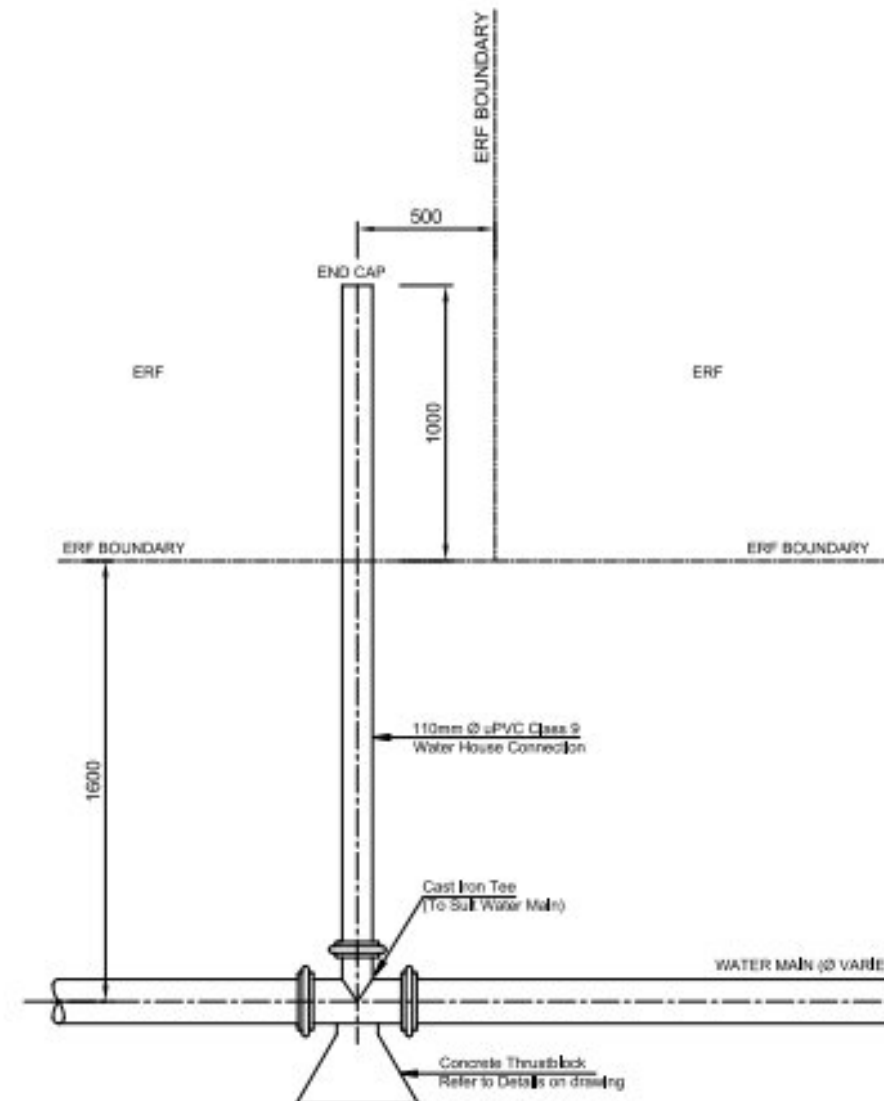
THRUST BLOCK DETAILS

SCALE 1:10

NOTE: 20MPa Concrete Strength

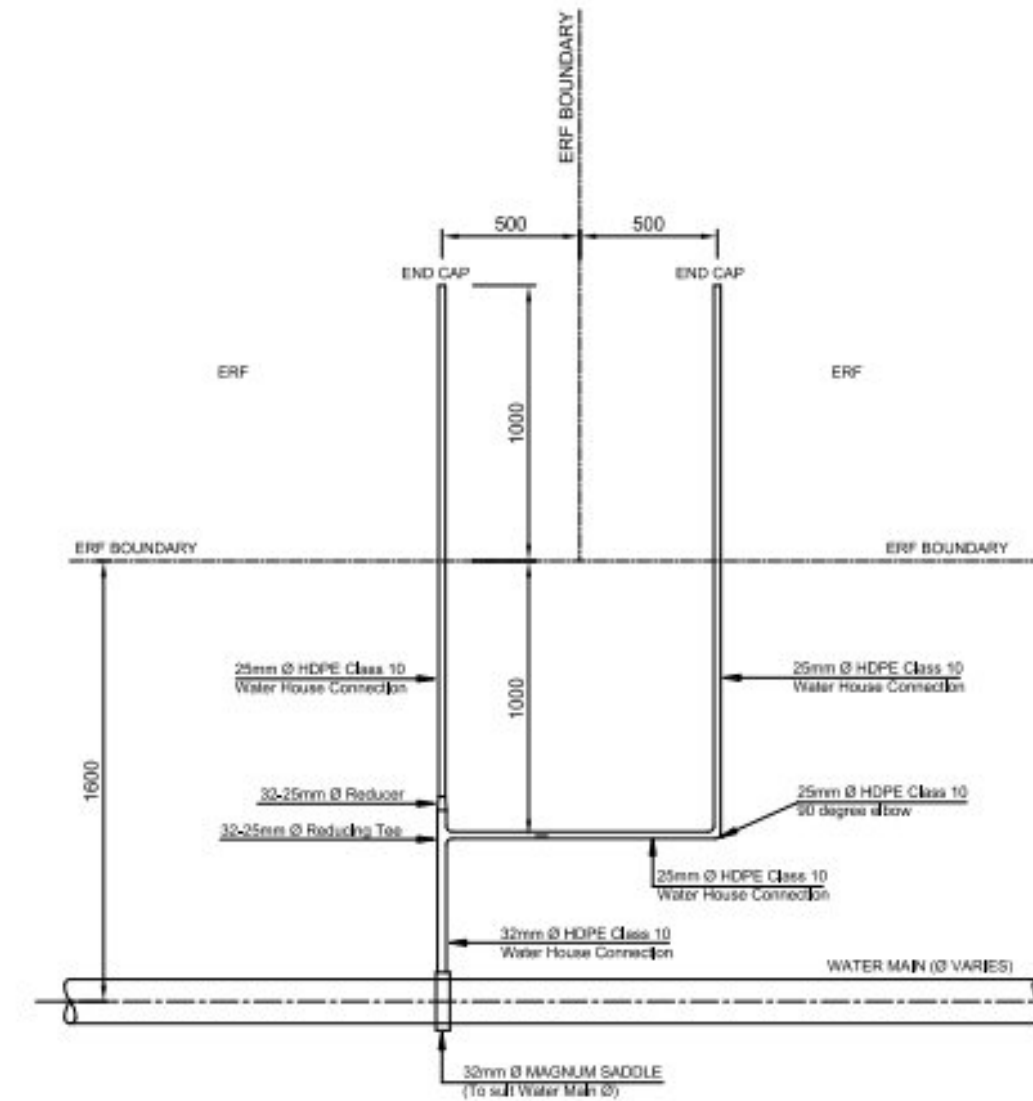


PLAN OF END CAP



HOUSE CONNECTION FOR MULTIPLE UNITS (GENERAL RESIDENTIAL)

SCALE 1:20



DOUBLE HOUSE CONNECTION

SCALE 1:20

NO.	DATE	REVISION	BY
1	31/01/2024	For Procurement	DS

CLIENT	ERONGO REGIONAL COUNCIL
P.O. Box 5819 Development North 11 Kusile, 1110 Tel: 034 444 10 5729 Fax: 034 444 10 5722 www.erongo.gov.na	

LOCAL AUTHORITY	ERONGO REGIONAL COUNCIL
P.O. Box 5819 Development North 11 Kusile, 1110 Tel: 034 444 10 5729 Fax: 034 444 10 5722 www.erongo.gov.na	

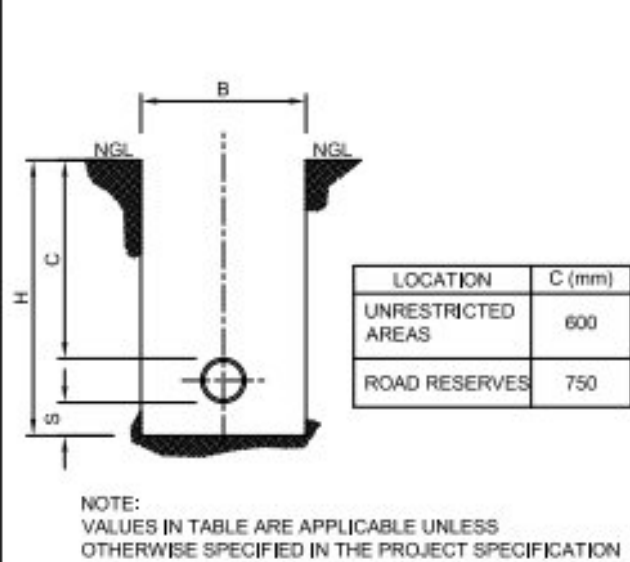
APPROVAL STAMP	
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CONSULTING ENGINEERS	CONSULTING ENGINEERS & PROJECT MANAGERS
WCE	10 Sam Nujoma Avenue P.O. Box 908 Windhoek Namibia Tel: 06 644 299 801 Fax: 06 644 299 828 www.wce.co.na

PROJECT NAME	THE CONSTRUCTION OF A BULK WATER INFRASTRUCTURE NETWORK FOR WLOTZKASBAKEN, ERONGO REGION
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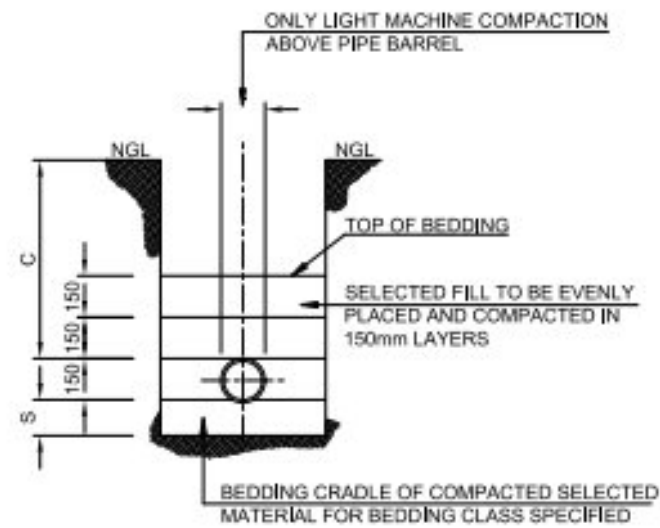
DRAWING TITLE	WATER RETICULATION TYPICAL DETAILS
---------------	------------------------------------

DESIGNED	CW / DS	DRAWING STATUS	PROCUREMENT
DRAWN	DS		
APPROVED FOR WCE	DS		
REG. NO.	E2017-31		
BASE DATE	07/2020	SCALE	AS SHOWN
DRAWING NO.	P190050/P0/CW/00		
REVISIONS	A		SHEET SIZE: A1



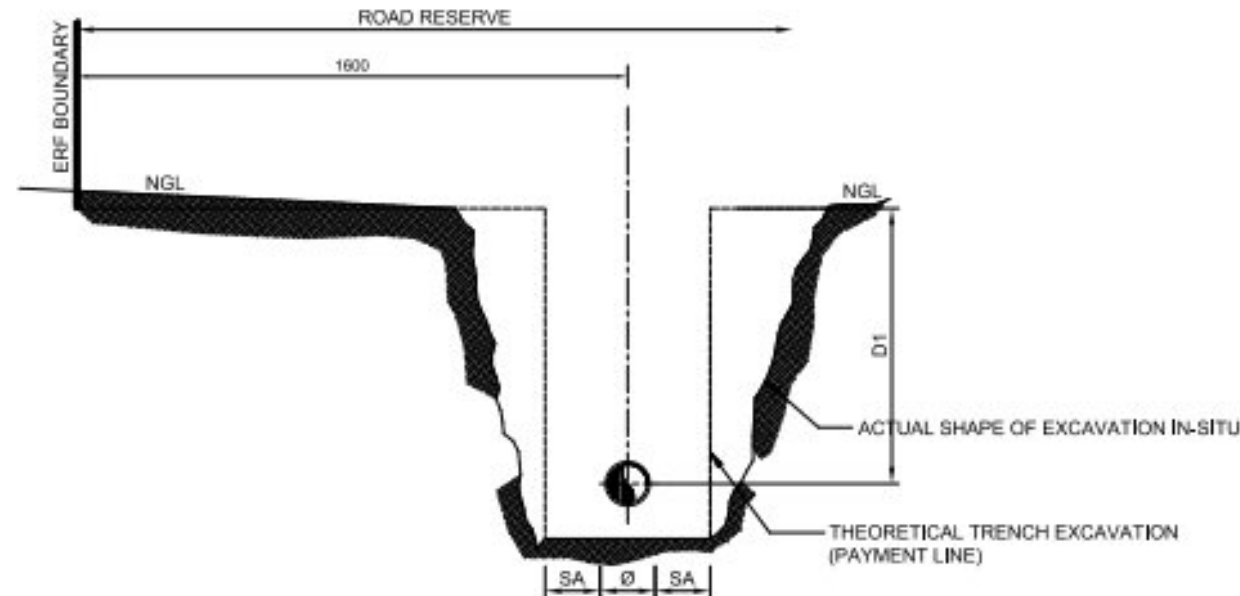
MINIMUM COVER TO PIPES

NTS



STANDARD PLACING OF BEDDING MATERIAL

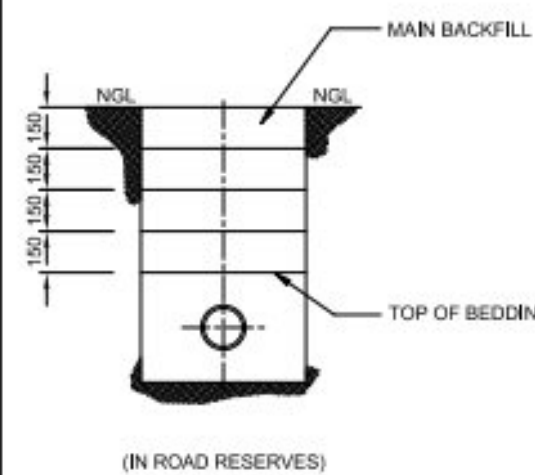
NTS



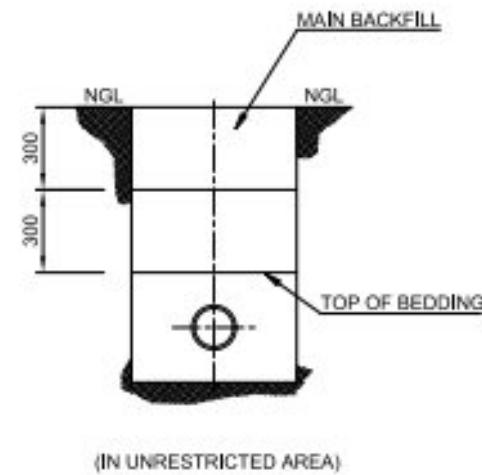
NOTE:
D1 = 1000mm FOR PIPES <1500mm.
= 1000mm + Ø FOR PIPES >1500mm

PIPE TRENCH DETAIL

SCALE 1 : 20



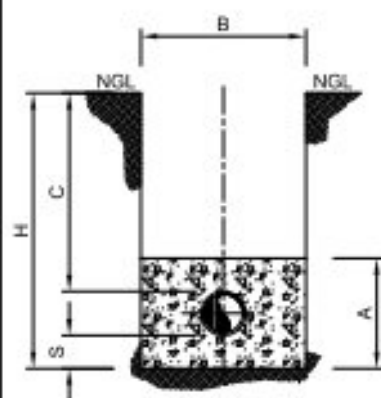
(IN ROAD RESERVES)



(IN UNRESTRICTED AREA)

STANDARD PLACING OF MAIN BACKFILL

NTS



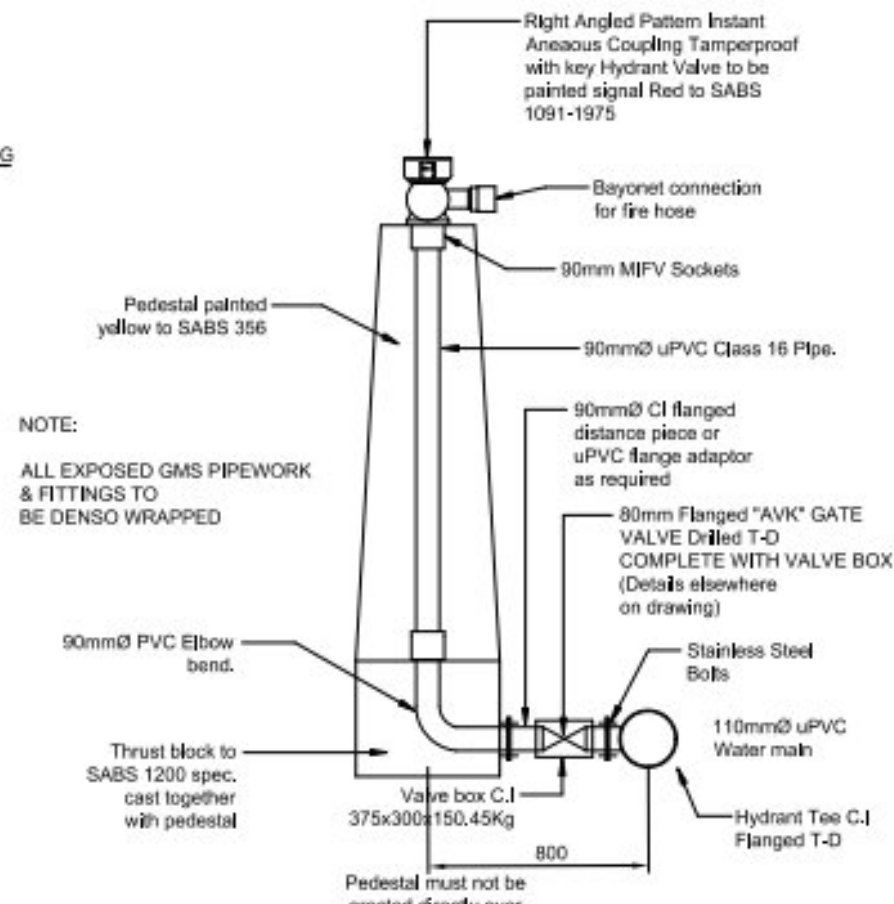
NOTE:
CONCRETE ENCASEMENT MUST BE CAST MONOLITHICALLY. ONLY VERTICAL JOINTS AT PIPE JOINTS ARE ALLOWED.

STANDARD DETAIL FOR PROTECTIVE BEDDING

NTS

TABLE FOR CONCRETE ENCASEMENT

D (mm Ø)	A (mm)	S (mm)
100	250	75
150	325	75
200	400	75
225	440	75
250	500	90
300	550	100
350	625	100
375	650	100
400	675	150
450	725	150
450-600	-	-
601-900	-	-
901-1800	-	-

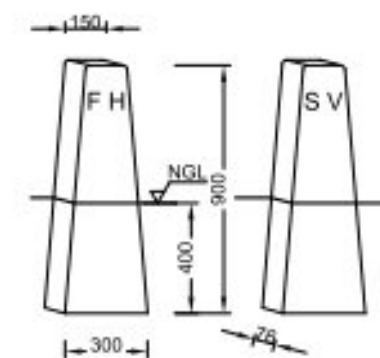


FIRE HYDRANT DETAIL

Not to Scale
NOTE : 30MPa Concrete Strength

CONCRETE PEDESTAL

Not to Scale
NOTE : 30MPa Concrete Strength



HYDRANT MARKER VALVE MARKER

PRECAST CONCRETE MARKERS

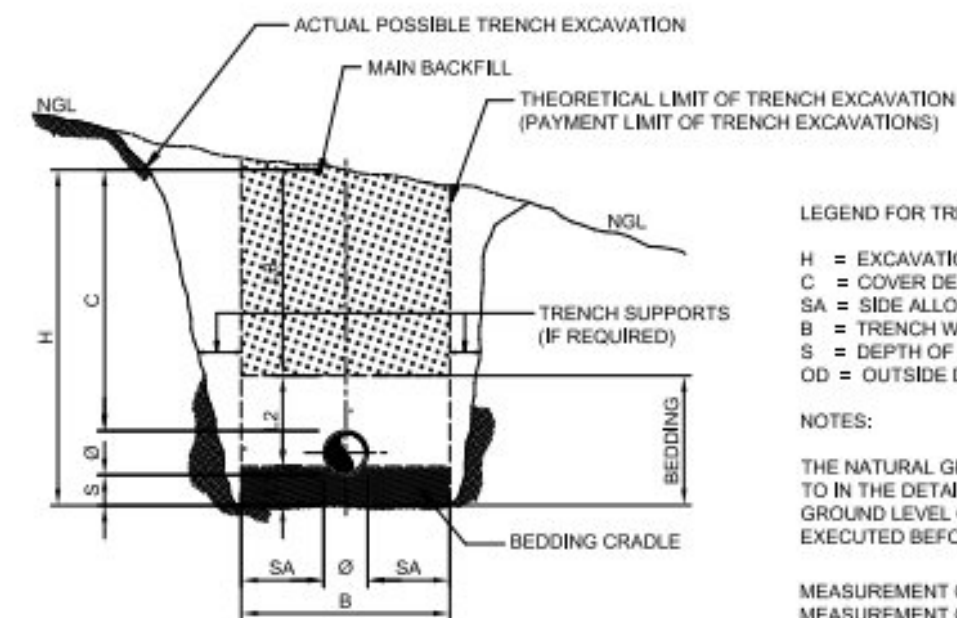
SCALE 1 : 20
NOTE : 30MPa Concrete Strength

VALVE & HYDRANT MARKERS
Precast Concrete (30MPa)

LETTERWORK:-
min. Height = 75mm
min. Engraved depth = 5mm

PAINTWORK:-
F.H. Letters = RED
S.V. Letters = BLACK
Markers = YELLOW

POSITION:-
Planted In ground, on Street Boundary opposite Fire Hydrants and Valve Boxes.



LEGEND FOR TRENCH EXCAVATIONS:

H = EXCAVATION DEPTH
C = COVER DEPTH
SA = SIDE ALLOWANCE
B = TRENCH WIDTH
S = DEPTH OF BEDDING CRADLE
OD = OUTSIDE DIAMETER OF PIPE

NOTES:

THE NATURAL GROUND LEVEL (NGL) REFERRED TO IN THE DETAILS MAY ALSO BE THE FINAL GROUND LEVEL OF BULK EARTHWORKS EXECUTED BEFORE TRENCH EXCAVATION.

MEASUREMENT OF EXCAVATION: H x B
MEASUREMENT OF BEDDING: (L1 + L2) x B
MEASUREMENT OF MAIN BACKFILL: L3 x B

TYPICAL STANDARD FOR TRENCH EXCAVATIONS

SCALE 1 : 20

TABLE FOR SIDE ALLOWANCE

NOMINAL PIPE DIAMETER	FROM	TO	SA	MINIMUM TRENCH WIDTH IN ALL CASES = 600mm
0	0	300	200	
301	301	600	300	
601	601	900	400	
901	901	1800	450	
MORE THAN	MORE THAN	1800	0,25 x Ø	

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NOTES:

DATE	FOR	REVISION	R.S.
29/03/2023	For Procurement		

CLIENT	ERONGO REGIONAL COUNCIL
P.O. Box 5819 Development Mombasa Kenya Tel: 020 444 10 5723 Fax: 020 444 10 5722 Email: erongo@erongo.go.ke www.erongo.go.ke	

LOCAL AUTHORITY	ERONGO REGIONAL COUNCIL
P.O. Box 5819 Development Mombasa Kenya Tel: 020 444 10 5723 Fax: 020 444 10 5722 Email: erongo@erongo.go.ke www.erongo.go.ke	

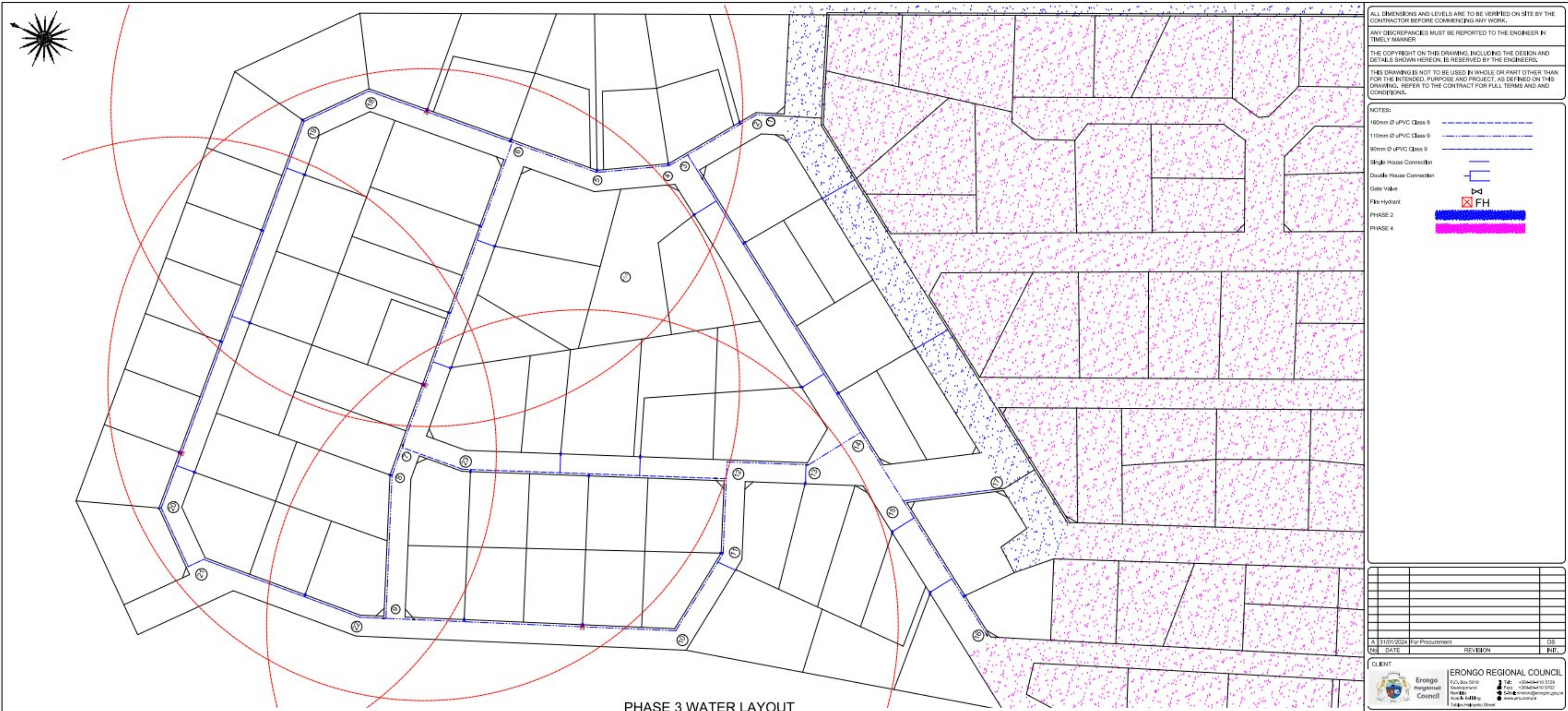
APPROVAL STAMP	
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CONSULTING ENGINEERS	CONSULTING ENGINEERS & PROJECT MANAGERS
WCE	WCE
10 Sam Nduma Avenue P.O. Box 908 Wali, Bay Kenya Tel: 020 44 255 4071 Fax: 020 44 255 528 Email: wce@wce.co.ke www.wce.co.ke	

PROJECT NAME	THE CONSTRUCTION OF A BULK WATER INFRASTRUCTURE NETWORK FOR WLOTZKABAKEN, ERONGO REGION
--------------	---

DRAWING TITLE	WATER RETICULATION TYPICAL DETAILS
---------------	------------------------------------

DESIGNED	C-W / DS	DRAWING STATUS PROCUREMENT		
DRAWN	DS			
APPROVED FOR WCE REG. NO	DS			
	E2017-31			
BASE DATE		07/2020	SCALE	AS SHOWN
DRAWING NO. P190050/PO/CW/01				
REVISIONS	P			SHEET SIZE : A1



NOTES:

160mm Ø uPVC Class 9

110mm Ø uPVC Class 9

90mm Ø uPVC Class 9

Single House Connection

Double House Connection

Gate Valve

Fire Hydrant

PHASE 2

PHASE 4

1 New Ø110mm Existing Ø110mm 1 x Ø110mm "AVK" Gate Valve PN16	2 4 5 8 11 New Ø110mm New Ø110mm 1 x Ø110mm 22,5° uPVC Class 9 Pressure Band	3 New Ø110mm New Ø110mm 1 x Ø110mm to Ø90mm Cast Iron Reducing Tee 1 x Ø110mm "AVK" Gate Valve PN16	6 New Ø90mm New Ø90mm 1 x Ø110mm Cast Iron Equal Tee 1 x Ø110mm to Ø90mm Cast Iron Reducer 1 x Ø90mm "AVK" Gate Valve PN16	7 New Ø110mm New Ø75mm 1 x Ø110mm to Ø75mm Cast Iron Reducing Tee 1 x Ø110mm "AVK" Gate Valve PN16	9 New Ø90mm New Ø110mm 1 x Ø110mm Cast Iron Equal Tee 1 x Ø110mm to Ø90mm Cast Iron Reducer 1 x Ø90mm "AVK" Gate Valve PN16 1 x Ø110mm "AVK" Gate Valve PN16	10 New Ø110mm New Ø110mm 1 x Ø110mm 11,25° uPVC Class 9 Pressure Bend 1 x Ø110mm 45° uPVC Class 9 Pressure Bend	12 New Ø110mm New Ø75mm 1 x Ø110mm to Ø75mm Cast Iron Reducing Tee 1 x Ø110mm 90° uPVC Class 9 Pressure Bend 1 x Ø75mm "AVK" Gate Valve PN16	13 New Ø110mm New Ø110mm 1 x Ø110mm "AVK" Gate Valve PN16 1 x Ø110mm 45° uPVC Class 9 Pressure Band	14 New Ø110mm New Ø90mm 1 x Ø110mm Cast Iron Equal Tee 1 x Ø110mm to Ø90mm Cast Iron Reducer
15 New Ø110mm New Ø90mm 1 x Ø110mm to Ø90mm Cast Iron Reducing Tee 1 x Ø90mm 22,5° uPVC Class 9 Pressure Bend	16 New Ø110mm New Ø110mm 1 x Ø110mm "AVK" Gate Valve PN16 1 x Ø110mm Class 9 End Cap	17 New Ø90mm Existing Ø90mm 1 x Ø90mm 22,5° uPVC Class 9 Pressure Bend 1 x Ø90mm "AVK" Gate Valve PN16	18 19 20 New Ø90mm New Ø90mm 1 x Ø90mm 45° uPVC Class 9 Pressure Bend	21 New Ø90mm New Ø90mm 1 x Ø90mm 90° uPVC Class 9 Pressure Bend 1 x Ø90mm 45° uPVC Class 9 Pressure Bend	22 New Ø90mm New Ø90mm 1 x Ø90mm 22,5° uPVC Class 9 Pressure Bend	23 New Ø75mm New Ø75mm 1 x Ø75mm 22,5° uPVC Class 9 Pressure Bend	24 Existing Ø160mm New Ø160mm 1 x Ø160mm Cast Iron Equal Tee 1 x Ø160mm "AVK" Gate Valve PN16	25 New Ø160mm New Ø160mm 1 x Ø160mm 90° uPVC Class 9 Pressure Bend 1 x Ø160mm 11,25° uPVC Class 9 Pressure Bend	

CLIENT  Erongo Regional Council	ERONGO REGIONAL COUNCIL P.O. Box 5819 Swakopmund Namibia Architect Building Tafelberg Highway Street  Tel: +264-064-410 5329 Fax: +264-064-410 5302  Email: erongo@erongo.gov.na  www.erc.gov.na
---	--

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 Fax: 316.264.2268
 Email: info@wce.com
 Website: www.wce.com

PROJECT NAME

THE CONSTRUCTION OF A WATER
INFRASTRUCTURE NETWORK FOR
WLOTZKASBAKEN, ERONGO REGION

DRAWING TITLE

PHASE 3 WATER LAYOUT & NODE DETAILS

DESIGNED	DS	DRAWING STATUS PROCUREMENT
DRAWN	DS / R.SMIT	
APPROVED FOR WCE REG. NO	DS E2017-31	
BASE DATE		
07/2020		SCALE AS SHOWN
DRAWING NO. P180050/P3/CW00		
REVISIONS	A	SHEET SIZE: A1

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NOTES:

160mm Ø uPVC Class 9

110mm Ø uPVC Class 9

90mm Ø uPVC Class 9

Single House Connection

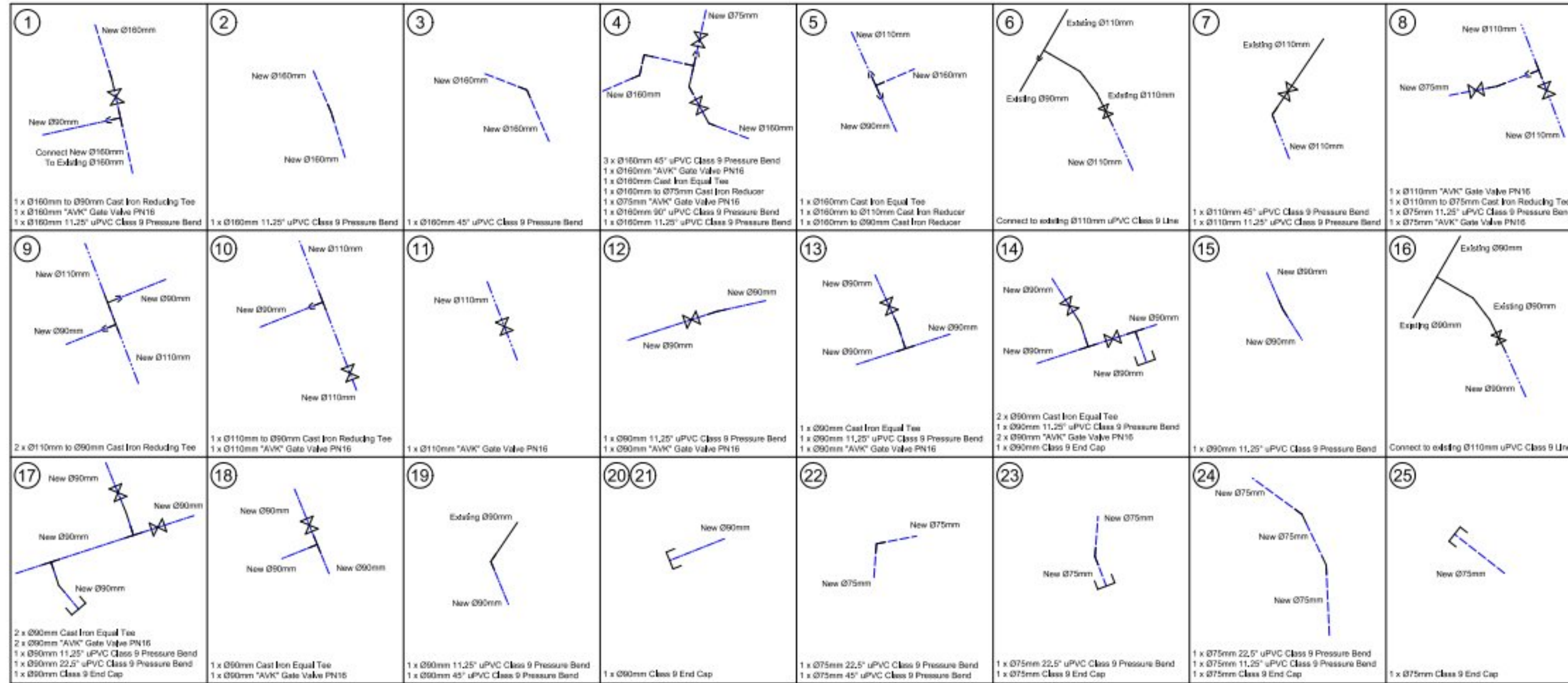
Double House Connection

Gate Valve

Fire Hydrant

PHASE 2

PHASE 5



WATER NODE DETAILS

N.T.S.

No.	DATE	REVISION	INT.
A	31/01/2024	For Procurement	DS

CLIENT

ERONGO REGIONAL COUNCIL

P.O. Box 5819
Development
Nampala
Kusile, Lilongwe
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LOCAL AUTHORITY

ERONGO REGIONAL COUNCIL

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Kusile, Lilongwe
Toll-free: 0800 000 000

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WWW.ERONGO.MW

APPROVAL STAMP

CONSULTING ENGINEERS

WCE CONSULTING ENGINEERS & PROJECT MANAGERS

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P.O. Box 908
Willemstad
Nampala

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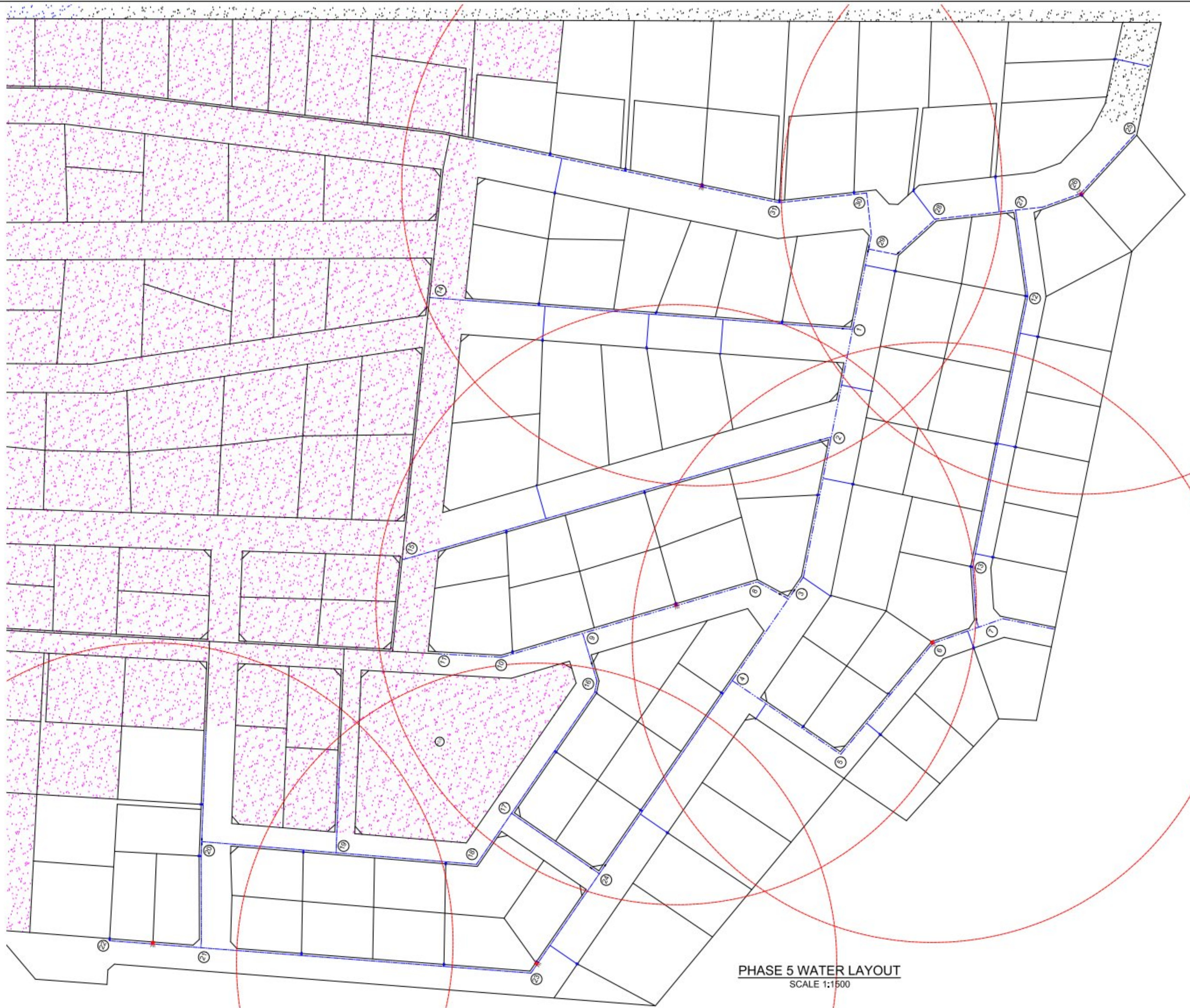
PROJECT NAME

THE CONSTRUCTION OF A WATER INFRASTRUCTURE NETWORK FOR WLOTZKASBAKEN, ERONGO REGION

DRAWING TITLE

PHASE 4 WATER NODES

DESIGNED	DS	DRAWING STATUS	PROCUREMENT
DRAWN	DS / R, SMT		
APPROVED FOR WCE	DS		
REG. NO.	E2017-31		
BASE DATE	07/2020	SCALE	AS SHOWN
DRAWING NO.	P190050/P4/CW/01		
REVISIONS	A		SHEET SIZE: A1



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NOTES:

- 160mm Ø uPVC Class 9
- 110mm Ø uPVC Class 9
- 90mm Ø uPVC Class 9
- Single House Connection
- Double House Connection
- Gate Valve
- Fire Hydrant
- PHASE 4

PHASE 4

REVISION		DATE	BY	CHKD
A		31/01/2024	For Procurement	DS

CLIENT
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North 11
Kutaba, 1111
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Website: www.erongo.na

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APPROVAL STAMP

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Website: www.wce.na

PROJECT NAME
THE CONSTRUCTION OF A WATER INFRASTRUCTURE NETWORK FOR WLOTZKABAKEN, ERONGO REGION

DRAWING TITLE
PHASE 5 WATER LAYOUT

DESIGNED	DS	DRAWING STATUS	PROCUREMENT
DRAWN	DS / R, SMT		
APPROVED FOR WCE	DS		
REG. NO.	E2017-31		
BASE DATE	07/2020	SCALE	NTS
DRAWING NO.	P190050/P5/CW100		
REVISIONS	A		SHEET SIZE: A1

PHASE 5 WATER LAYOUT
SCALE 1:1500

NOTES:

160mm Ø uPVC Class 9

110mm Ø uPVC Class 9

90mm Ø uPVC Class 9

Single House Connection

Double House Connection

Gate Valve

Fire Hydrant



CLIENT

 **Erongo regional Council**

P.O. Box 5819
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ERONGO REGIONAL COUNCIL

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THE CONSTRUCTION OF A WATER
INFRASTRUCTURE NETWORK FOR
WLOTZKASBAKEN, ERONGO REGION

PHASE 5 WATER NODE DETAILS

 CamScanner

Section VI – Bill of Quantities

PREAMBLE TO THE BILL OF QUANTITIES

1. This Bill of Quantities forms part of, and must be read in conjunction with the Instructions to Bidders, the General and Special Conditions of Contract, the Particular Specifications and the Drawings. The Price Summary is to reflect the total price carried forward from the Bill of Quantities, which itself need not be submitted with the bidding documents.
2. No alteration, erasure or addition is to be made in the text of the Bill of Quantities. Should any erasure or addition be made it will not be recognised but the original wording of the Bill of Quantities will be adhered to.
3. The quantities in the Bill of Quantities are not to be considered as limiting or extending the amount of work to be done and materials to be supplied.
4. Only major Items have been scheduled but the Bidder shall nevertheless include for all things he considers necessary whether specified in detail or not to complete the work to specification.

No extra price will be considered for the provision of material or labour which should have been allowed for in order to provide the completed works unless set out in detail and submitted separately by the Bidder with his bid.

5. The completed Bill of Quantities shall detail the unit rate and total amount for material and labour respectively for each Item. Bidders are advised to check their Item extensions and total additions since no claim for mathematical errors will be considered.
6. All Items are deemed to include supply, delivery, installation and connection where appropriate, unless specifically stated otherwise. The unit rate must include for all things necessary, whether specified in detail or not, including all components, small installation materials, allowance for off-cuts, wastage, etc. erection and fixings to complete the Item to the Particular Specifications and the Drawings in a satisfactory and workmanlike manner in order to provide a complete and working system.

"Material Rate" shall include the supply and delivery of all items of material and equipment (plant) to the site including all incidentals necessary for the completion of each Item, plus the profit but shall exclude VAT which shall be added as a separate item in the Price Summary.

"Labour Rate" shall include the cost of all labour, both skilled and unskilled, including supervision and profit required to complete the installation of all material covered by each item but shall exclude VAT which shall be added as a separate item in the Price Summary.

"Rate" shall include "Material Rate" plus "Labour Rate"

7. A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. Any item against which no price is entered will be considered to have a price rate of N\$ 0.00. It will be accepted that items against which no price has been entered are covered by other prices or rates in the Bill of Quantities.
8. The completed Bill of Quantities will be checked and the right is reserved to adjust any individual price and to rectify any discrepancy. In the event of any arithmetical errors occurring in the totals in this Bill of Quantities, such totals will be corrected on the assumption that the rates quoted are correct.

10. Unless stated to the contrary in the Particular Specifications, quantities, with the exception of cable, trenches, bedding and cover sand, and pole holes, will not be measured on site in which case the successful Bidder shall, within 60 days of notification of acceptance of his bid, notify the project manager in writing of any discrepancies between the drawings, the Particular Specifications and the quantities of any Item in the Bill of Quantities, listing each such discrepancy in detail. Where it is agreed by the project manager that any such claims are valid, the contract price will be adjusted accordingly. No further claim will be entertained except where the Employer changes the requirements of the Contract, in which case such variations will be based on unit prices provided, where applicable.
11. Where alternative prices for equipment of different manufacture are offered, the lowest alternative price for equipment to specification must be included, against the relevant Item in the Bill of Quantities. The remaining alternative prices must be furnished separately.

Where such equipment is found not to comply with the Specification, the Contractor will be required to provide equipment which does comply, without adjustment to the price in the Bill of Quantities.

12. In certain instances prices are requested for Items which may be required during the progress of the work, but which are not included in the known quantities of material required. These Items are indicated by the designation "R/O" (rate only) in the "Quantity" column, and the price is to be noted in the "Rate" columns only and must not be carried forward.
13. The Bidder must price and extend each item and total of each Section in the Bill of Quantities in **BLACK INK**.
14. No correction fluids may be used when completing the Bill of Quantities. All mistakes should be strikethrough with a black pen and the corrected rate must be indicated above the correction in the Bill of Quantities. The Bidder must initialize adjacent to any correction made on the Bill of Quantities.

PART 1: PRELIMINARY AND GENERAL

[illegible]

PART 1: PRELIMINARY AND GENERAL

[illegible]

PART 1: PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
	8.5	<u>SECTION 3 : SUMS STATED PROVISIONALLY BY ENGINEER</u>					
		(b) 1) For work done by the client or a non-nominated subcontractor.					
1.3.1		Control tests ordered by the Engineer	P C Sum	1.00		50,000	00
1.3.2		"As Built" Drawings	P C Sum	1.00		50,000	00
1.3.3		Employers contribution for Adjudicator	P C Sum	1.00		50,000	00
1.3.4		Provision of Water Meters	P C Sum	1.00		150,000	00
1.3.5		(b) 2) Overheads, charges and profit on items 1.1.20 up to and including 1.1.22 above					
1.3.6		Control tests (item 1.1.20)	%	50,000.00			
1.3.7		"As Built Drawings" (Item 1.1.21)	%	50,000.00			
1.3.8		Employers contribution for Adjudicator (Item 1.1.22)	%	50,000.00			
1.3.9		Provision of Water Meters	%	150,000.00			
	8.8	<u>SECTION 4 : TEMPORARY WORKS</u>					
1.4.1	8.8.4	Existing services					
1.4.2		The use of equipment for detection	Sum	1.00			
1.4.3		Excavate by hand in all material to expose existing services	m³	20.00			
1.4.4		Temporary protection of existing services	Sum	1.00			
TOTAL CARRIED FORWARD TO SUMMARY							

PART 2: PHASE 3 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
2.1	SABS 1200 DB	<u>SECTION 1 : EARTHWORKS</u>					
	8.3.2	EXCAVATION					
	(a)	Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material for:					
		Main Lines					
		Pipes up to 100 mm Ø for total trench depth:					
2.1.1		Exceeding 0,5 m but not 1,3 m	m	1,289			
		Pipes over 100mm Ø and up to 300 mm Ø for total trench depth:					
2.1.2		Exceeding 0,5 m but not 1,3 m	m	2,251.00			
		House Connections					
		Pipes up to 100 mm Ø for total trench depth:					
2.1.3		Exceeding 0,5 m but not 1,3 m	m	461.00			
	(b)	Extra-over items 2.1.1 incl. for (prov):					
2.1.4		Hard rock excavation	m ³	1,700.00			
	(c)	Excavate and dispose of unsuitable material from trench bottom (Provisional)					
2.1.5		Excavate and dispose of unsuitable material from trench bottom (Provisional)	m ³	100.00			
TOTAL CARRIED FORWARD							

PART 2: PHASE 3 WATER RETICULATION

[illegible]

PART 2: PHASE 3 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
2.2		<u>SECTION 2 : WATER MAINS</u>					
	SANS 1200 L	MEDIUM PRESSURE PIPELINES					
	8.2.1	uPVC pipes Class 9: Supply, handle, lay, bed, joint, test, and disinfect (potable water pipeline)					
2.2.1		160mm Ø	m	980.00			
2.2.2		110mm Ø	m	1,271.00			
2.2.3		90mm Ø	m	1,033.00			
2.2.4		75mm Ø	m	256.00			
	8.2.1	HDPE pipes Class 10: Supply, handle, lay, bed, joint, test, and disinfect (potable water house connections)					
2.2.6		32mm Ø	m	202.00			
2.2.7		25mm Ø	m	259.00			
		DISINFECT PIPELINES					
2.2.8		uPVC Class 9 pipeline	Sum	1			

PART 2: PHASE 3 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
	SANS 1200 L	SPECIALS AND FITTINGS					
	8.2.2	Supply, lay, and bed Class 9 joint, incl cut pipes to length where required, test and disinfect: uPVC Class 9 Pressure Bends:					
2.2.9		75 mm Ø x 11.25 deg	No	1.00		Rate Only	
2.2.10		75 mm Ø x 22.5 deg	No	2.00			
2.2.11		75 mm Ø x 45 deg	No	1.00		Rate Only	
2.2.12		75 mm Ø x 90 deg	No	1.00		Rate Only	
2.2.13		90 mm Ø x 11.25 deg	No	1.00		Rate Only	
2.2.14		90 mm Ø x 22.5 deg	No	4.00			
2.2.15		90 mm Ø x 45 deg	No	5.00			
2.2.16		90 mm Ø x 90 deg	No	2.00			
2.2.17		110 mm Ø x 11.25 deg	No	4.00			
2.2.18		110 mm Ø x 22.5 deg	No	6.00			
2.2.19		110 mm Ø x 45 deg	No	3.00			
2.2.20		110 mm Ø x 90 deg	No	4.00			
2.2.21		160 mm Ø x 11.25 deg	No	2.00			
2.2.22		160 mm Ø x 22.5 deg	No	1.00		Rate Only	
2.2.23		160 mm Ø x 45 deg	No	1.00		Rate Only	
2.2.24		160 mm Ø x 90 deg	No	1.00			
		Cast Iron Equal Tees:					
2.2.25		160 mm Ø	No	2.00			
2.2.26		110 mm Ø	No	4.00			
2.2.27		90 mm Ø	No	1.00		Rate Only	
2.2.28		75 mm Ø	No	1.00		Rate Only	
TOTAL CARRIED FORWARD TO SUMMARY							

PART 2: PHASE 3 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
		Cast Iron Reducing Tees:					
2.2.29		110 - 90 mm Ø	No	3.00			
2.2.30		110 – 75 mm Ø	No	3.00			
2.2.31		90 – 75 mm Ø	No	1.00		Rate Only	
		Cast Iron Reducers:					
2.2.32		110 - 90 mm Ø	No	4.00			
2.2.33		110 – 75 mm Ø	No	1.00		Rate Only	
2.2.34		90 – 75 mm Ø	No	1.00		Rate Only	
		Cast Iron Hydrant Tee:					
2.2.35		110 mm Ø	No	3.00			
2.2.36		90 mm Ø	No	3.00			
		Cast Iron End Caps:					
2.2.37		160mm Ø	No	2.00			
2.2.38		110mm Ø	No	2.00			
2.2.39		90mm Ø	No	1.00		Rate Only	
2.2.40		75mm Ø	No	1.00		Rate Only	
	8.2.3	Valves:					
		Supply, in valve box on concrete support, joint, incl cut pipes where necessary, test, right hand closing, non-rising spindle, with cap top:					
		"AVK" Gate Valve PN 16 with "Wavisafe" socket ends for uPVC pipes or similar approved for pipe sizes:					
2.2.41		160mm Ø	No	2.00			
2.2.42		110mm Ø	No	7.00			
2.2.43		90mm Ø	No	4.00			
2.2.44		75mm Ø	No	2.00			
TOTAL CARRIED FORWARD TO SUMMARY							

PART 2: PHASE 3 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
		Supply, in valve box on concrete support, joint, incl cut pipes where necessary, test, right hand closing, non-rising spindle, with cap top:					
		"AVK" Gate Valve PN 16 with "Wavisafe" socket ends for uPVC pipes or similar approved:					
2.2.45		80mm Ø	No	6.00			
		ANCILLARIES					
	8.2.11	Anchor/Thrust blocks and pedestals					
2.2.46		Refer to Thrust block and pedestal details	No	69.00			
	8.2.13	VALVE CHAMBERS AND MANHOLES:					
2.2.47		Hydrant above ground level including concrete encasement	No.	6.00			
2.2.48		Marker blocks	No.	19.00			
	SANS 1200 LF	ERF CONNECTIONS					
		Supply and install erf connections, complete including water meter, all fittings, specials and pipework, excavations, and backfilling for:					
2.2.49		Bulk Erf Connections	No	1.00			
2.2.50		Single House Connections	No	5.00			
2.2.51		Double House Connections	No	35.00			
TOTAL CARRIED FORWARD TO SUMMARY							

PART 2: PHASE 3 WATER RETICULATION

[illegible]

PART 2: PHASE 4 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
2.1	SABS 1200 DB	<u>SECTION 1 : EARTHWORKS</u>					
	8.3.2	EXCAVATION					
	(a)	Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material for:					
		Main Lines					
		Pipes up to 100 mm Ø for total trench depth:					
2.1.1		Exceeding 0,5 m but not 1,3 m	m	2,788.00			
		Pipes over 100mm Ø and up to 300 mm Ø for total trench depth:					
2.1.2		Exceeding 0,5 m but not 1,3 m	m	1,535.00			
		House Connections					
		Pipes up to 100 mm Ø for total trench depth:					
2.1.3		Exceeding 0,5 m but not 1,3 m	m	640.00			
	(b)	Extra-over items 2.1.1 incl. for (prov):					
2.1.4		Hard rock excavation	m ³	2,084.00			
	(c)	Excavate and dispose of unsuitable material from trench bottom (Provisional)					
2.1.5		Excavate and dispose of unsuitable material from trench bottom (Provisional)	m ³	100.00			
TOTAL CARRIED FORWARD							

PART 2: PHASE 4 WATER RETICULATION

[illegible]

PART 2: PHASE 4 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
2.2		<u>SECTION 2 : WATER MAINS</u>					
	SANS 1200 L	MEDIUM PRESSURE PIPELINES					
	8.2.1	uPVC pipes Class 9: Supply, handle, lay, bed, joint, test, and disinfect (potable water pipeline)					
2.2.1		160mm Ø	m	594.00			
2.2.2		110mm Ø	m	941.00			
2.2.3		90mm Ø	m	2,465.00			
2.2.4		75mm Ø	m	323.00			
	8.2.1	HDPE pipes Class 10: Supply, handle, lay, bed, joint, test, and disinfect (potable water house connections)					
2.2.6		32mm Ø	m	278.00			
2.2.7		25mm Ø	m	362.00			
		DISINFECT PIPELINES					
2.2.8		uPVC Class 9 pipeline	Sum	1			

PART 2: PHASE 4 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
	SANS 1200 L	SPECIALS AND FITTINGS					
	8.2.2	Supply, lay, and bed Class 9 joint, incl cut pipes to length where required, test and disinfect: uPVC Class 9 Pressure Bends:					
2.2.9		75 mm Ø x 11.25 deg	No	4.00			
2.2.10		75 mm Ø x 22.5 deg	No	3.00			
2.2.11		75 mm Ø x 45 deg	No	1.00		Rate Only	
2.2.12		75 mm Ø x 90 deg	No	2.00			
2.2.13		90 mm Ø x 11.25 deg	No	4.00			
2.2.14		90 mm Ø x 22.5 deg	No	3.00			
2.2.15		90 mm Ø x 45 deg	No	1.00		Rate Only	
2.2.16		90 mm Ø x 90 deg	No	2.00		Rate Only	
2.2.17		110 mm Ø x 11.25 deg	No	1.00			
2.2.18		110 mm Ø x 22.5 deg	No	1.00		Rate Only	
2.2.19		110 mm Ø x 45 deg	No	1.00			
2.2.20		110 mm Ø x 90 deg	No	1.00		Rate Only	
2.2.21		160 mm Ø x 11.25 deg	No	3.00			
2.2.22		160 mm Ø x 22.5 deg	No	1.00		Rate Only	
2.2.23		160 mm Ø x 45 deg	No	5.00			
2.2.24		160 mm Ø x 90 deg	No	4.00			
		Cast Iron Equal Tees:					
2.2.25		160 mm Ø	No	2.00			
2.2.26		110 mm Ø	No	1.00		Rate Only	
2.2.27		90 mm Ø	No	7.00			
2.2.28		75 mm Ø	No	1.00		Rate Only	
TOTAL CARRIED FORWARD TO SUMMARY							

PART 2: PHASE 4 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
		Cast Iron Reducing Tees:					
2.2.29		160 - 90 mm Ø	No	1.00			
2.2.30		110 – 90 mm Ø	No	4.00			
2.2.31		110 – 75 mm Ø	No	1.00			
		Cast Iron Reducers:					
2.2.32		160 - 110 mm Ø	No	1.00			
2.2.33		160 – 90 mm Ø	No	1.00			
2.2.34		160 – 75 mm Ø	No	1.00			
		Cast Iron Hydrant Tee:					
2.2.35		110 mm Ø	No	2.00			
2.2.36		90 mm Ø	No	4.00			
		Cast Iron End Caps:					
2.2.37		160mm Ø	No	1.00			
2.2.38		110mm Ø	No	2.00			
2.2.39		90mm Ø	No	4.00			
2.2.40		75mm Ø	No	2.00			
	8.2.3	Valves:					
		Supply, in valve box on concrete support, joint, incl cut pipes where necessary, test, right hand closing, non-rising spindle, with cap top:					
		"AVK" Gate Valve PN 16 with "Wavisafe" socket ends for uPVC pipes or similar approved for pipe sizes:					
2.2.41		160mm Ø	No	3.00			
2.2.42		110mm Ø	No	5.00			
2.2.43		90mm Ø	No	8.00			
2.2.44		75mm Ø	No	3.00			
TOTAL CARRIED FORWARD TO SUMMARY							

PART 2: PHASE 4 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
		Supply, in valve box on concrete support, joint, incl cut pipes where necessary, test, right hand closing, non-rising spindle, with cap top:					
		"AVK" Gate Valve PN 16 with "Wavisafe" socket ends for uPVC pipes or similar approved:					
2.2.45		80mm Ø	No	6.00			
		ANCILLARIES					
	8.2.11	Anchor/Thrust blocks and pedestals					
2.2.46		Refer to Thrust block and pedestal details	No	63.00			
	8.2.13	VALVE CHAMBERS AND MANHOLES:					
2.2.47		Hydrant above ground level including concrete encasement	No.	6.00			
2.2.48		Marker blocks	No.	19.00			
	SANS 1200 LF	ERF CONNECTIONS					
		Supply and install erf connections, complete including water meter, all fittings, specials and pipework, excavations, and backfilling for:					
2.2.49		Bulk Erf Connections	No	1.00			
2.2.50		Single House Connections	No	11.00			
2.2.51		Double House Connections	No	42.00			
TOTAL CARRIED FORWARD TO SUMMARY							

PART 2: PHASE 4 WATER RETICULATION

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PART 4: PHASE 5 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
2.1	SABS 1200 DB	<u>SECTION 1 : EARTHWORKS</u>					
	8.3.2	EXCAVATION					
	(a)	Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material for:					
		Main Lines					
		Pipes up to 100 mm Ø for total trench depth:					
2.1.1		Exceeding 0,5 m but not 1,3 m	m	2492.00			
		Pipes over 100mm Ø and up to 300 mm Ø for total trench depth:					
2.1.2		Exceeding 0,5 m but not 1,3 m	m	1,636.00			
		House Connections					
		Pipes up to 100 mm Ø for total trench depth:					
2.1.3		Exceeding 0,5 m but not 1,3 m	m	712.00			
	(b)	Extra-over items 2.1.1 incl. for (prov):					
2.1.4		Hard rock excavation	m ³	2,035.00			
	(c)	Excavate and dispose of unsuitable material from trench bottom (Provisional)					
2.1.5		Excavate and dispose of unsuitable material from trench bottom (Provisional)	m ³	100.00			
TOTAL CARRIED FORWARD							

PART 2: PHASE 5 WATER RETICULATION

[illegible]

PART 2: PHASE 5 WATER RETICULATION

[illegible]

PART 2: PHASE 5 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
	SANS 1200 L	SPECIALS AND FITTINGS					
	8.2.2	Supply, lay, and bed Class 9 joint, incl cut pipes to length where required, test and disinfect: uPVC Class 9 Pressure Bends:					
2.2.9		75 mm Ø x 11.25 deg	No	1.00		Rate Only	
2.2.10		75 mm Ø x 22.5 deg	No	1.00		Rate Only	
2.2.11		75 mm Ø x 45 deg	No	1.00		Rate Only	
2.2.12		75 mm Ø x 90 deg	No	1.00		Rate Only	
2.2.13		90 mm Ø x 11.25 deg	No	6.00			
2.2.14		90 mm Ø x 22.5 deg	No	3.00			
2.2.15		90 mm Ø x 45 deg	No	3.00			
2.2.16		90 mm Ø x 90 deg	No	1.00		Rate Only	
2.2.17		110 mm Ø x 11.25 deg	No	3.00			
2.2.18		110 mm Ø x 22.5 deg	No	5.00			
2.2.19		110 mm Ø x 45 deg	No	2.00			
2.2.20		110 mm Ø x 90 deg	No	1.00		Rate Only	
2.2.21		160 mm Ø x 11.25 deg	No	5.00			
2.2.22		160 mm Ø x 22.5 deg	No	5.00			
2.2.23		160 mm Ø x 45 deg	No	2.00			
2.2.24		160 mm Ø x 90 deg	No	2.00			
		Cast Iron Equal Tees:					
2.2.25		160 mm Ø	No	1.00			
2.2.26		110 mm Ø	No	2.00			
2.2.27		90 mm Ø	No	5.00			
2.2.28		75 mm Ø	No	1.00		Rate Only	
TOTAL CARRIED FORWARD TO SUMMARY							

PART 2: PHASE 5 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
		Cast Iron Reducing Tees:					
2.2.29		160 - 90 mm Ø	No	1.00			
2.2.30		110 – 90 mm Ø	No	5.00			
2.2.31		90 – 75 mm Ø	No	1.00		Rate Only	
		Cast Iron Reducers:					
2.2.32		160 - 110 mm Ø	No	1.00			
2.2.33		110 – 90 mm Ø	No	1.00			
2.2.34		90 – 75 mm Ø	No	1.00		Rate Only	
		Cast Iron Hydrant Tee:					
2.2.35		110 mm Ø	No	5.00			
2.2.36		90 mm Ø	No	3.00			
		Cast Iron End Caps:					
2.2.37		160mm Ø	No	2.00			
2.2.38		110mm Ø	No	2.00			
2.2.39		90mm Ø	No	5.00			
2.2.40		75mm Ø	No	1.00		Rate Only	
	8.2.3	Valves:					
		Supply, in valve box on concrete support, joint, incl cut pipes where necessary, test, right hand closing, non-rising spindle, with cap top:					
		"AVK" Gate Valve PN 16 with "Wavisafe" socket ends for uPVC pipes or similar approved for pipe sizes:					
2.2.41		160mm Ø	No	3.00			
2.2.42		110mm Ø	No	6.00			
2.2.43		90mm Ø	No	7.00			
2.2.44		75mm Ø	No	2.00		Rate Only	
TOTAL CARRIED FORWARD TO SUMMARY							

PART 2: PHASE 5 WATER RETICULATION

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT	
						N\$	c
BROUGHT FORWARD							
		Supply, in valve box on concrete support, joint, incl cut pipes where necessary, test, right hand closing, non-rising spindle, with cap top:					
		"AVK" Gate Valve PN 16 with "Wavisafe" socket ends for uPVC pipes or similar approved:					
2.2.45		80mm Ø	No	8.00			
		ANCILLARIES					
	8.2.11	Anchor/Thrust blocks and pedestals					
2.2.46		Refer to Thrust block and pedestal details	No	74.00			
	8.2.13	VALVE CHAMBERS AND MANHOLES:					
2.2.47		Hydrant above ground level including concrete encasement	No.	8.00			
2.2.48		Marker blocks	No.	24.00			
	SANS 1200 LF	ERF CONNECTIONS					
		Supply and install erf connections, complete including water meter, all fittings, specials and pipework, excavations, and backfilling for:					
2.2.49		Bulk Erf Connections	No	1.00			
2.2.50		Single House Connections	No	9.00			
2.2.51		Double House Connections	No	44.00			
TOTAL CARRIED FORWARD TO SUMMARY							

PART 2: PHASE 5 WATER RETICULATION

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SUMMARY OF SECTIONS

SECTION	DESCRIPTION	SUBSECTION	AMOUNT	
			N\$	c
PART 1	PART 1 : PRELIMINARY & GENERAL SECTION 1 : FIXED CHARGE ITEMS SECTION 2 : TIME RELATED ITEMS SECTION 3 : SUMS STATED PROVISIONALLY BY THE ENGINEER SECTION 4 : TEMPORARY WORKS			
PART 2	PART 2 : PHASE 3 WATER RETICULATION SECTION 1 : EARTHWORKS SECTION 2 : WATER MAINS SECTION 3 : BEDDING			
PART 3	PART 3 : PHASE 4 WATER RETICULATION SECTION 1 : EARTHWORKS SECTION 2 : WATER MAINS SECTION 3 : BEDDING			
PART 4	PART 4 : PHASE 5 WATER RETICULATION SECTION 1 : EARTHWORKS SECTION 2 : WATER MAINS SECTION 3 : BEDDING			
	Sub-total A			
1	5% CONTINGENCIES			
	Sub-total B			
2	15% VAT			
TOTAL CARRIED FORWARD TO FRONT PAGE				

PART 3 – Conditions of Contract and Contract Forms

Section VII - General Conditions of Contract

(Section VII – Special Conditions of Contract also contained herein – Numbers F to J)

A.	General	149
1.	Definitions	149
2.	Interpretation	150
3.	Language and Law	151
4.	Project Manager's Decisions	151
5.	Delegation.....	151
6.	Communications.....	151
7.	Subcontracting.....	151
8.	Other Contractors	151
9.	Personnel and Equipment	151
10.	Employer's and Contractor's Risk	151
11.	Employer's Risk	152
12.	Contractor's Risk	152
13.	Insurance.....	152
14.	Site Data	153
15.	Contractor to Construct the Works	153
16.	The Works to Be Completed by the Intended Completion Date	153
17.	Approval by the Project Manager	153
18.	Safety	153
19.	Discoveries	153
20.	Possession of the Site	153
21.	Access to the Site	153
22.	Instructions	154
23.	Appointment of the Adjudicator.....	154
24.	Procedure for Disputes	154
B.	Time Control.....	155
25.	Program.....	155
26.	Extension of the Intended Completion Date	155
27.	Acceleration	155
28.	Delays Ordered by the Project Manager	155
29.	Management Meetings	156
30.	Early Warning	156
C.	Quality Control.....	156
31.	Identifying Defects.....	156
32.	Tests.....	156
33.	Correction of Defects	156
34.	Uncorrected Defects	156
D.	Cost Control.....	157
35.	Contract Price.....	157
36.	Changes in the Contract Price	157

37.	Variations	157
38.	Cash Flow Forecasts	158
39.	Payment Certificates	158
40.	Payments	158
41.	Compensation Events	159
42.	Tax	160
43.	Currencies	160
44.	Price Adjustment	160
45.	Retention	160
46.	Liquidated Damages	160
47.	Bonus	161
48.	Advance Payment	161
49.	Securities	161
50.	Dayworks	162
51.	Cost of Repairs	162
52.	Labour Clause	162
E.	Finishing the Contract	163
53.	Completion	163
54.	Taking Over	163
55.	Final Account	163
56.	Operating and Maintenance Manuals	163
57.	Termination	164
58.	Fraud and Corruption	164
59.	Payment upon Termination	165
60.	Property	165
61.	Release from Performance	165

A. General

1. Definitions

1.1 Boldface type is used to identify defined terms.

- (a) The **Accepted Contract Amount** means the amount accepted in the Notification of award for the execution and completion of the Works and the remedying of any defects.
- (b) The **Activity Schedule** is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump sum contract. It includes a lump sum price for each activity.
- (c) The **Adjudicator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in GCC 23.
- (d) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Bid.
- (e) **Compensation Events** are those defined in GCC Clause 41 hereunder.
- (f) The **Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with GCC Sub-Clause 53.1.
- (g) The **Contract** is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in GCC Sub-Clause 2.3 below.
- (h) The **Contractor** is the party whose Bid to carry out the Works has been accepted by the Employer.
- (i) The **Contractor's Bid** is the completed bidding document submitted by the Contractor to the Employer.
- (j) The **Contract Price** is the Accepted Contract Amount stated in the Notification of award and thereafter as adjusted in accordance with the Contract.
- (k) **Days** are calendar days; months are calendar months unless otherwise stated.
- (l) **Dayworks** are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
- (m) A **Defect** is any part of the Works not completed in accordance with the Contract.
- (n) The **Defects Liability Certificate** is the certificate issued by Project Manager upon correction of defects by the Contractor.
- (o) The **Defects Liability Period** is the period **named in the SCC** pursuant to Sub-Clause 33.1 and calculated from the Completion Date.
- (p) **Adjudicator** means the single person appointed under Clause 23.
- (q) **Drawings** means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract.
- (r) The **Employer** is the party who employs the Contractor to carry out the Works, **as specified in the SCC**.
- (s) **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- (t) **"In writing"** or **"written"** means hand-written, type-written, printed or electronically made, and resulting in a permanent record;
- (u) The **Initial Contract Price** is the Contract Price listed in the Employer's Notification of award.
- (v) The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is **specified in the SCC**. The Intended Completion Date may be revised only by the Project Manager by issuing an extension of time or an acceleration order.

- (w) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- (x) **Plant** is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.
- (y) The **Project Manager** is the person **named in the SCC** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising the execution of the Works and administering the Contract.
- (z) **SCC** means Special Conditions of Contract
- (aa) The **Site** is the area defined as such in the SCC.
- (bb) **Site Investigation Reports** are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- (cc) **Specification** means the Specification of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- (dd) The **Start Date** is **given in the SCC**. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.
- (ee) A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
- (ff) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- (gg) A **Variation** is an instruction given by the Project Manager which varies the Works.
- (hh) The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, **as defined in the SCC**.

2. Interpretation

- 2.1 In interpreting these GCC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these GCC.
- 2.2 If sectional completion is **specified in the SCC**, references in the GCC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:
 - (a) Agreement,
 - (b) Notification of award,
 - (c) Contractor's Bid,
 - (d) Special Conditions of Contract,
 - (e) General Conditions of Contract,
 - (f) Specifications,
 - (g) Drawings,
 - (h) Bill of Quantities, and
 - (i) any other document **listed in the SCC** as forming part of the Contract.

3. **Language and Law**

- 3.1 The language of the Contract must be English and the law governing the Contract is the Law of Namibia.

4. **Project Manager's Decisions**

- 4.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.

5. **Delegation**

- 5.1 Otherwise **specified in the SCC**, the Project Manager may delegate any of his duties and responsibilities to other people, except to the Adjudicator, after notifying the Contractor, and may revoke any delegation after notifying the Contractor.

6. **Communications**

- 6.1 Communications between parties that are referred to in the Conditions shall be effective only when in writing to the addresses **specified in the SCC**. A notice shall be effective only when it is delivered.

7. **Subcontracting**

- 7.1 The Contractor may subcontract with the approval of the Project Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

8. **Other Contractors**

- 8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of Other Contractors, as **referred to in the SCC**. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the Schedule of Other Contractors, and shall notify the Contractor of any such modification.

9. **Personnel and Equipment**

- 9.1 The Contractor shall employ the key personnel and use the equipment identified in its Bid, to carry out the Works or other personnel and equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of key personnel and equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the Bid.
- 9.2 If the Project Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

10. **Employer's and Contractor's Risk**

- 10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's Risk

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:

- (a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to
 - i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or
 - ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
- (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to

- (a) a Defect which existed on the Completion Date,
- (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or
- (c) the activities of the Contractor on the Site after the Completion Date.

12. Contractor's Risk

12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks, are Contractor's risks.

13. Insurance

13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles **stated in the SCC** for the following events which are due to the Contractor's risks:

- (a) loss of or damage to the Works, Plant, and Materials;
- (b) loss of or damage to Equipment;
- (c) loss of or damage to property (except the Works, Plant, Materials, and Equipment) in connection with the Contract; and
- (d) personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval within 21 days after issue of notification of award. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of insurance shall not be made without the approval of the Project Manager.

13.5 Both parties shall comply with any conditions of the insurance policies.

13.6 The policies which are in the joint names of the Contractor and the Employer shall contain a clause to include a waiver of subrogation of the Contractor's rights to the insurance carrier against the Employer

14. Site Data

14.1 The Contractor shall be deemed to have examined any Site Data **referred to in the SCC**, supplemented by any information available to the Contractor.

15. Contractor to Construct the Works

15.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

16. The Works to Be Completed by the Intended Completion Date

16.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Project Manager, and complete them by the Intended Completion Date.

17. Approval by the Project Manager

17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.

17.2 The Contractor shall be responsible for design of Temporary Works.

17.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

17.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.

18. Safety

18.1 The Contractor shall be responsible for the safety of all activities on the Site.

19. Discoveries

19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Project Manager of such discoveries and carry out the Project Manager's instructions for dealing with them.

20. Possession of the Site

20.1 The Employer shall, after receiving the Performance security, the insurance covers and the Program for the Works all as per requirements, give possession of all parts of the Site to the Contractor within thirty days for execution of works in accordance to the Program for the Works. If possession of a part is not given by the date **stated in the SCC**, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.

21. Access to the Site

- 21.1** The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

22. Instructions

- 22.1** The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.
- 22.2** The Contractor shall permit persons appointed by the Employer to inspect the Site and/or the accounts and records of the Contractor and its sub-contractors relating to the performance of the Contract, and to have such accounts and records audited by auditors appointed by the Employer if required by the Employer. The Contractor's attention is drawn to Sub-Clause 57.1 which provides, inter alia, that acts intended to materially impede the exercise of the inspection and audit rights provided for under Sub-Clause 22.2 constitute a prohibited practice subject to contract termination.

23. Appointment of the Adjudicator

- 23.1** The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Notification of award. If, in the notification of award, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority **designated in the SCC**, to appoint the Adjudicator within 15 days of receipt of such request.
- 23.2** Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority **designated in the SCC** at the request of either party, within 30 days of receipt of such request.

24. Procedure for Disputes

- 24.1** If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 15 days of the notification of the Project Manager's decision.
- 24.2** The Adjudicator shall give a decision in writing within 30 days of receipt of a notification of a dispute.
- 24.3** The Adjudicator shall be paid by the hour at the **rate specified in the SCC**, together with reimbursable expenses of the types **specified in the SCC**, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator. Either party may refer a decision of the Adjudicator to an Arbitrator within thirty (30) days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above thirty (30) days, the Adjudicator's decision shall be final and binding.
- 24.4** The arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place specified **in the SCC**.

B. Time Control

25. Program

- 25.1** Within the time **stated in the SCC**, after the date of the Notification of award, the Contractor shall submit to the Project Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works. In the case of a lump sum contract, the activities in the Program shall be consistent with those in the Activity Schedule.
- 25.2** An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.
- 25.3** The Contractor shall submit to the Project Manager for approval an updated Program at intervals no longer than the period **stated in the SCC**. If the Contractor does not submit an updated Program within this period, the Project Manager may withhold the amount **stated in the SCC** from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted. In the case of a lump sum contract, the Contractor shall provide an updated Activity Schedule within 15 days of being instructed to by the Project Manager.
- 25.4** The Project Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.

26. Extension of the Intended Completion Date

- 26.1** The Project Manager shall extend the Intended Completion Date if a Compensation Event (as defined in GCC 41) occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.
- 26.2** The Project Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Project Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

27. Acceleration

- 27.1** When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.
- 27.2** If the Contractor's priced proposals for acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.

28. Delays Ordered by the Project Manager

- 28.1** The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

29. Management Meetings

29.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

29.2 The Project Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Project Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

30. Early Warning

30.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works. The Project Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

30.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

31. Identifying Defects

31.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.

32. Tests

32.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

33. Correction of Defects

33.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is **defined in the SCC**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

33.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

34. Uncorrected Defects

34.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. Cost Control

35. Contract Price

- 35.1** In the case of an admeasurement contract, the Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.
- 35.2** In the case of a lump sum contract, the Activity Schedule shall contain the priced activities for the Works to be performed by the Contractor. The Activity Schedule is used to prepare interim valuations of works done. Any errors or inconsistencies including front loading detected in the Activity Schedule at any time during the execution of the project shall be resolved as directed as by the Project Manager.

36. Changes in the Contract Price

- 36.1** In the case of an admeasurement contract:
- (a) If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Project Manager shall adjust the rate to allow for the change.
 - (b) The Project Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Employer.
 - (c) If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.
- 36.2** In the case of a lump sum contract, the Activity Schedule shall be amended by the Contractor to accommodate changes of Program or method of working made at the Contractor's own discretion. Prices in the Activity Schedule shall not be altered when the Contractor makes such changes to the Activity Schedule.

37. Variations

- 37.1** All Variations shall be included in updated Programs, and, in the case of a lump sum contract, also in the Activity Schedule, produced by the Contractor.
- 37.2** The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within seven (7) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.
- 37.3** If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.
- 37.4** If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- 37.5** The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
- 37.6** In the case of an admeasurement contract, if the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in Sub-Clause 38.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation.

If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.

38. Cash Flow Forecasts

38.1 When the Program, or, in the case of a lump sum contract, the Activity Schedule, is updated, the Contractor shall provide the Project Manager with an updated cash flow forecast.

39. Payment Certificates

39.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.

39.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.

39.3 The value of work executed shall be determined by the Project Manager.

39.4 The value of work executed shall comprise:

- (a) In the case of an admeasurement contract, the value of the quantities of work in the Bill of Quantities that have been completed; or;
- (b) In the case of a lump sum contract, the value of work executed shall comprise the value of completed activities in the Activity Schedule.

39.5 The value of work executed shall include the valuation of Variations and Compensation Events.

39.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

39.7 Unless **otherwise specified in the SCC** Interim Payment may be made for Plant and Material delivered on site ready for incorporation within reasonable period of time in the permanent works, subject to the Contractor transferring ownership to the Employer and providing, where applicable, the right of the transfer of ownership vested upon the Contractor by its supplier.

Notwithstanding the transfer of ownership, the responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the Contractor until taking over of the works or part thereof in which such Plant and Materials are incorporated and shall make good at its own cost any loss or damage that may occur to the works or part thereof from any cause whatsoever during such period prior to the taking over.

40. Payments

40.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 30 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest at the legal rate.

40.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

40.3 Unless otherwise stated, all payments and deductions shall be paid or charged in the proportions to the Contract Price.

40.4 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

41. Compensation Events

41.1 The following shall be Compensation Events:

- (a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to GCC Sub-Clause 20.1.
- (b) The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.
- (c) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.
- (d) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.
- (e) The Project Manager unreasonably does not approve a subcontract to be let.
- (f) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Notification of award from the information issued to bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
- (g) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.
- (h) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- (i) The advance payment is delayed.
- (j) The effects on the Contractor of any of the Employer's Risks.
- (k) The Project Manager unreasonably delays issuing a Certificate of Completion.
- (l) In situations of Force Majeure which makes the contractor's performance of its obligations under the Contract impossible or so impractical as to be considered impossible under the circumstances. Such events shall be limited to:
 - a. reason of any exceptionally adverse weather conditions (as specified in the BDS) and
 - b. reason of civil commotion, strike or lockout affecting any of the trades employed upon the Works or any of the trades engaged in the preparation, manufacture or transportation of any of the goods or materials required for the Works.

41.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

41.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

41.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

42. Tax

- 42.1** The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 30 days before the submission of bids for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of GCC Clause 44.

43. Currencies

- 43.1** Where payments are made in currencies other than the currency of the Employer's country **specified in the SCC**, the exchange rates used for calculating the amounts to be paid shall be the exchange rates stated in the Contractor's Bid.

44. Price Adjustment

- 44.1** Prices shall be adjusted for fluctuations in the cost of inputs only if **provided for in the SCC**. If so provided, the amounts certified in each payment certificate, before deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type indicated below applies to each Contract currency:

$$P_c = A_c + B_c \text{ Imc/Ioc}$$

P_c is the adjustment factor for the portion of the Contract Price payable in a specific currency "c."
 A_c and B_c are coefficients **specified in the SCC**, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency "c;" and
 Imc is the index prevailing at the end of the month being invoiced and Ioc is the index prevailing 28 days before Bid opening for inputs payable; both in the specific currency "c."

- 44.2** If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

45. Retention

- 45.1** The Employer shall retain from each payment due to the Contractor the proportion **stated in the SCC** until Completion of the whole of the Works.
- 45.2** Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with GCC 53.1, half the total amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an "on demand" Bank guarantee.

46. Liquidated Damages

- 46.1** The Contractor shall pay liquidated damages to the Employer at the rate per day **stated in the SCC** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount **defined in the SCC**. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

46.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in GCC Sub-Clause 40.1.

47. Bonus

47.1 The Contractor shall be paid a Bonus calculated at the rate per calendar day **stated in the SCC** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete.

48. Advance Payment

48.1 The Employer shall make advance payment to the Contractor of the amounts **stated in the SCC** by the date **stated in the SCC**, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest shall not be charged on the advance payment.

48.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.

48.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

49. Securities

49.1 The Performance Security shall be provided to the Employer no later than the date specified in the Notification of award and shall be issued in an amount **specified in the SCC**, by a bank and denominated in the Namibian Dollars. The Performance Security shall be valid until a date 30 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee.

49.2 With reference to Margin of Preference and Preference Security:

- (a) Where the contractor has benefitted from the application of the Margin of Preference for employment of local manpower, it shall:
 - (i) in the execution of the contract, fulfill its obligation of maintaining local manpower force for 80 % or more of the man-days deployed in the execution of the Works with which it satisfied the criteria of eligibility for being awarded the contract in application of the Margin of Preference; and
 - (ii) concurrently with the above performance security, provide a preference security to guarantee it will fulfill its obligation in that respect.
- (b) For contracts above N\$ 5 M, the preference security shall be in the form of an “on demand” bank guarantee for an amount in a convertible currency equivalent to the difference between its bid price and the bid price of the lowest bid if the Margin of Preference was not applicable. It shall be issued by a commercial bank located in the Republic of Namibia.

- (c) For contracts up to N\$ 5 M, an amount equal to the value of the preference security shall be retained from progressive payments to the contractor, to constitute the guarantee for the preference security.
- (d) The preference security shall be valid until the Contractor has completed the Works and a Completion Certificate has been issued by the Employer's Representative as per GCC 53.
- (e) The cost of providing the security shall be borne by the Contractor

49.3 Where a Preference Security is applicable:

- (a) the Employer's Representative shall monitor the employment of local manpower throughout the execution of the contract and shall from time to time request a report from the contractor on the percentage of total men-days deployed using local manpower.
- (b) the Contractor shall submit the local manpower employment reports as often as it is reasonably requested by the Employer's Representative.
- (c) the Employer's and Contractor's representatives shall consult each other to ensure that the Contractor's obligation towards local manpower employment is met during the Works execution.
- (d) At the time of works completion, the Contractor shall submit a certified audited report to the Employer to substantiate the actual percentage of local manpower employed throughout the execution of the works.
- (e) The preference security shall be forfeited by the employer in case of failure on the part of the contractor to employ at least 80% of the local manpower in the execution of the Works.

50. Dayworks

50.1 If applicable, the Dayworks rates in the Contractor's Bid shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

50.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done.

50.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

51. Cost of Repairs

51.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

52. Labour Clause

52.1 With reference to remuneration:

- (a) The rates of remuneration and other conditions of work of the employees of the Contractor shall not be less favourable than those established for work of the same character in the trade concerned:
 - (i) by collective agreement applying to a substantial proportion of the workers and employers in the trade concerned;
 - (ii) by arbitration awards; or
 - (iii) by Remuneration Regulations made under the Labour Act, 2007.
- (b) Where remuneration and conditions of work are not regulated in a manner referred to at (a) above, the rates of the remuneration and other conditions of work shall be not less favourable than the general level observed in the trade in which the contractor is engaged by employers whose general circumstances are similar.

- 52.2 No Contractor shall be entitled to any payment in respect of work performed in the execution of the contract unless he has, together with his claim for payment, filed a certificate:
- (a) stating the rates of remuneration and hours of work of the various categories of employees employed in the execution of the contracts;
 - (b) stating whether any remuneration payable in respect of work done is due;
 - (c) containing such other information as the Chief Executive Officer of the Public Body administering the contract may require to satisfy himself that the provisions under this clause have been complied with.
- 52.3 Where the Chief Executive Officer of the Public Entity administering the contract is satisfied that remuneration is still due to an employee employed under this contract at the time the claim for payment is filed under subsection as per Employer's filing database, he may, unless the remuneration is sooner paid by the Contractor, arrange for the payment of the remuneration out of the money payable under this contract.
- 52.4 Every Contractor shall display a copy of this clause of the contract at the place at which the work required by the contract is performed.

E. Finishing the Contract

53. Completion

- 53.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.

54. Taking Over

- 54.1 The Employer shall take over the Site and the Works within seven days of the Project Manager's issuing a certificate of Completion.

55. Final Account

- 55.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 60 days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 60 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

56. Operating and Maintenance Manuals

- 56.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates **stated in the SCC**.
- 56.2 If the Contractor does not supply the Drawings and/or manuals by the dates **stated in the SCC** pursuant to GCC Sub-Clause 55.1, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount **stated in the SCC** from payments due to the Contractor.

57. Termination

- 57.1** The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.
- 57.2** Fundamental breaches of Contract shall include, but shall not be limited to, the following:
- (a) the Contractor stops work for 30 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;
 - (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days;
 - (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
 - (d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 60 days of the date of the Project Manager's certificate;
 - (e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;
 - (f) the Contractor does not maintain a Security, which is required;
 - (g) the Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as **defined in the SCC**; or
 - (h) if the Contractor, in the judgment of the Employer, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract, pursuant to GCC Clause 57.1.
- 57.3** When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under GCC Sub-Clause 56.2 above, the Project Manager shall decide whether the breach is fundamental or not.
- 57.4** Notwithstanding the above, the Employer may terminate the Contract for convenience.
- 57.5** If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

58. Fraud and Corruption

- 58.1** If the Employer determines that the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract, then the Employer may, after giving 15 days' notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 57 shall apply as if such expulsion had been made under Sub-Clause 57.5 [Termination by Employer].
- 58.2** Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent, collusive, coercive, or obstructive practice during the execution of the Works, then that employee shall be removed in accordance with Clause 9.
- 58.3** For the purposes of this Sub-Clause:
- (a) "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
 - (b) "fraudulent practice" is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
 - (c) "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
 - (d) "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
 - (e) "obstructive practice" is:

- (i) deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
- (ii) acts intended to materially impede the exercise of an inspection and audit rights provided for under Sub-Clause 22.2.

59. Payment upon Termination

- 59.1** If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as **indicated in the SCC**. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.
- 59.2** If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

60. Property

- 60.1** All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.

61. Release from Performance

- 61.1** If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

Section VIII - Special Conditions of Contract

These clauses should be read in conjunction with the General Conditions of Contract.

GCC 1.1 (a)	Additional to this clause: The Contract amount shall exclude any approved amounts for possible escalation and/or contingencies until possibly introduced by Variation Order.
GCC 1.1 (d)	Replace this clause in its entirety with: Bill of Quantities means the priced and completed Bill of Quantities forming part of the Contract, or the priced and completed Bill of Quantities amended by Variation Order during the Contract Period, but not after Take Over of the Works or part of the Works by the Employer.
GCC 1.1 (r)	The Employer is: Erongo Regional Council Private Bag 5019, Swakopmund, Namibia House Acacia, c/o Tobias Hainyeko Street, Swakopmund, Namibia Authorized Representative: Ms. Dimari van Rensburg
GCC 1.1 (v)	The Intended Completion Date for the whole of the Works shall be: 14 calendar months (420 Calendar Days) from date of possession of site including builders' holiday
GCC 1.1 (y)	The Project Manager is: Name: WCE Consulting Engineers Address: 80 Sam Nujoma Avenue, Walvis Bay, Namibia P.O. Box 800, Walvis Bay, Namibia Tel : +264 64 20 6401 Fax: +264 64 20 6525 Email: devilliers.smi@wce.com.na Authorized Representative: Mr De Villiers Smit
GCC 1.1 (aa)	The Site is located at: Wlotzkasbaken, Erongo Region, Namibia, and is defined on drawings as per the drawing table under Section V - Employer Requirements
GCC 1.1 (dd)	The Start Date shall be: The date of possession of site.

GCC 1.1 (hh)	The Works is detailed in the Scope of Works, read in combination with the Drawings, Site Data, Bill of Quantities and Specifications.
GCC 1.1 (ii)	"Letter of Acceptance" means the letter of formal acceptance, signed by the Employer, including any annexed memoranda comprising agreements between and signed by both Parties. If there is no such letter of acceptance, the expression "Letter of Acceptance" means the Contract Agreement and the date of issuing or receiving the Letter of Acceptance means the date of signing the Contract Agreement
GCC 1.1 (jj)	"Party" means the Employer or the Contractor, as the context requires.
GCC 2.2	Sectional Completions are: None
GCC 2.3(i)	Replace this sub-clause in its entirety with: The documents forming the Contract shall be interpreted in the following order of priority: (a) Agreement, (b) Notification of award, (c) Contractor's Bid, (d) Special Conditions of Contract, (e) General Conditions of Contract, (f) Amendments to Specifications, (g) Specifications, (h) Drawings, (i) Bill of Quantities, and (j) All documents bound into the signed Contract Document shall form part of the Contract. If an ambiguity or discrepancy is found in the documents Contractor shall report such to the Project Manager and the Project Manager shall issue any necessary clarification or instruction.
GCC 3.1	The language of the contract is English. The law that applies to the Contract is the law of Namibia.
GCC 4.1	The Project Manager shall obtain specific approval from the Employer before carrying out any of his duties under the Contract which in the Project Manager's opinion will cause the amount finally due under the Contract to exceed the Contract Price or will give entitlement to extension of time. This requirement shall be waived in an emergency affecting safety of personnel or the Works or adjacent property.

Add GCC 4.2 Duties and Authority of Project Manager	4.2.1. The Project Manager may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. In exercising his/her authority the Project Manager shall adhere to all Council Regulations / Policies / Procedures / Resolutions. 4.2.2. The Project Manager shall obtain specific approval from the Employer for the execution of the following functions or duties: (a) Variation Orders, (b) Deviation from Project Specifications, (c) Deviation from timelines. 4.2.3. Except as otherwise stated in these SCC: (a) Whenever carrying out duties or exercising authority, specified or implied by the Contract, the Project Manager shall be deemed to act for the Employer; (b) The Project Manager has no authority to relieve either Party of any duties, obligations, or responsibilities under the Contract; and (c) Any approval, check, certificate, consent, examination, inspection, instruction, notice, proposal, request, test, or similar act by the Project Manager (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, including responsibility for errors, omissions, discrepancies, and non-compliances. 4.2.4. The Project Manager may issue to the Contractor (at any time) instructions and additional or modified Drawings which may be necessary for the execution of the Works and the remedying of any defects, all in accordance with the Contract. The Contractor shall only take instructions from the Project Manager, or from an assistant to whom the appropriate authority has been delegated in the SCC. If an instruction constitutes a Variation, Clause 37 (Variations) shall apply. The Contractor shall comply with the instructions given by the Project Manager or delegated assistant, on any matter related to the Contract. Whenever practicable, their instructions shall be given in writing. If the Engineer or a delegated assistant: (a) gives an oral instruction, (b) receives a written confirmation of the instruction, from (or on behalf on the Contractor, within two working days after giving the instruction, and (c) does not reply by issuing 'a written rejection and/or instruction within two working days after receiving the confirmation, then the confirmation shall constitute the written instruction of the Engineer or delegated assistant (as the case may be).
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	4.2.5 When the Project Manager intends, in terms of the Contract, to exercise any discretion or make or issue any ruling, contract interpretation or price determination, he/she shall first consult with the Contractor and the Employer in an attempt to reach agreement. Failing agreement, the Engineer shall act impartially and make a decision in accordance with the Contract, taking into account all relevant facts and circumstances. The Engineer shall give notice to both Parties of each agreement or determination, with supporting particulars. Each Party shall give effect to each agreement or determination unless and until revised under Clause 30. 4.2.6. The Project Manager shall have no authority to amend the Contract.
GCC 5.1	The Project manager may delegate any of his duties and responsibilities after notifying the Contractor except for delegation to the Adjudicator which is not allowed.
GCC 6.1	Delivery address for notices is: For the Employer, the address shall be that of the Project Manager, WCE Consulting Engineers (Pty) Ltd. For the Contractor, the address shall be as given on the first page of the Purchase Order/Letter of Acceptance.
ADD GCC 7.2	Before issuing a Payment Certificate, which includes an amount payable to a Subcontractor or Supplier, Contractor shall supply to the Project Manager reasonable evidence that the Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor: (a) submits this reasonable evidence to the Project Manager, or (b) (i) satisfies the Project Manager in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and (ii) submits to the Project Manager reasonable evidence that the Subcontractor or Supplier has been notified of the Contractor's entitlement, then the Employer may (at his sole discretion) pay, directly to the Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Employer may recover all such required payments to Subcontractors or Suppliers from any amounts due to Contractor.

ADD GCC 7.3	The Project Manager shall, in preparing the pen-ultimate payment certificate (thus payment prior to release of the final Retention Amount or remainder of such, as determined in executing the Project Manager's responsibilities as identified in GCC 53 & GCC 55), certify that all Contractor's accounts with subcontractors or suppliers have been settled, failing which Add GCC 7.2 shall be applied. The Employer shall be entitled to utilize the Retention Amount to effect payment to such subcontractors and / or suppliers.
GCC 8.1	Schedule of other contractors: There shall be several contractors working within Wlotzkasbaken alongside the contractor within this contract. Works shall be coordinated in a effective and open manner twice weekly. The contractor shall be duly informed of the other contractors details and their programme of works.
CC 13.1	Except for the cover mentioned in (d)(i) hereunder, the other insurance covers shall be in the joint names of the Contractor and the Employer and the minimum insurance amounts shall be: (a) for the Works, Plant and Materials: <i>for the full amount of the works including removal of debris, professional fees etc.</i> (b) for loss or damage to Equipment: <i>for the replacement value of the equipment that the contractor intends to use on site until the taking over by the Employer.</i> (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract for the amount of NAD 500 000.00. (d) for personal injury or death: (i) of the Contractor's employees: <i>The Contractor shall take an adequate insurance cover for its employees for any claim arising in the execution of the works</i> (ii) of other people: <i>This cover shall be for an adequate amount for Third Party extended to the Employer and its representatives and shall be a minimum of N\$ 2,000,000.00 per claim, number of claims unlimited.</i> (e) for loss or damage to materials on-site and for which payment have been included in the Interim Payment Certificate, where applicable. The Contractor shall choose to take the insurance covers indicated above as separate covers or a combination of the Contractor's All Risks coupled with the Employer's liability and First Loss Burglary, after approval of the Employer. All insurance covers shall be of nil or the minimum possible deductibles at sole expense of the contractor.

GCC 14.1	Site Data are: All drawings submitted to the Contractor including setting out data, this document and the Quality Assurance Manual.
ADD GCC 15.2	The Contractor shall, whenever required by the Project Manager, submit details of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works. No significant alteration to these arrangements and methods shall be made without this having previously been notified to the Project Manager. If the Contract specifies that the Contractor shall design any part of the Permanent Works, then: (a) the Contractor shall submit to the Engineer the Contractor's Documents for this part in accordance with the procedures specified in the Contract, (b) these Contractor's Documents shall be in accordance with the Specification and Drawings, shall be written in the language for communications defined in Clause 2 (Language and Law), and shall include additional information required by the Project Manager to add to the Drawings for co-ordination of each Party's designs, (c) the Contractor shall be responsible for this part and it shall, when the Works are completed, be fit for such purposes for which the part is intended as are specified in the Contract AND, (d) prior to the commencement of the Tests on Completion, the Contractor shall submit to the Engineer the "as-built" documents and operation and maintenance manuals in accordance with the Specification and in sufficient detail for the Employer to operate, maintain, dismantle, reassemble, adjust and repair this part of the Works, Such part shall not be considered to be completed for the purposes of taking-over under Clause 54 until these documents and manuals have been submitted to the Project Manager.
ADD GCC 18.2	Contractor shall supply all site personnel with appropriate safety gear in terms of the requirements of existing Labour Regulations. Contractor shall train these personnel in the correct and applicable use of the personal protective gear and enforce the use of such. All personnel failing to adhere to this requirement shall be address disciplinary, with suitable refusal from Site when not complying. Should Contractor fail to comply with these regulations, the Project Manager may suspend all construction activities until such time the Contractor complies with the requirements as set out above. Contractor shall not be entitled to any extension of time or additional compensation claims due to such suspension of Work by the Project Manager.
ADD GCC 18.3	The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

	The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values indicated in the Specification and shall not exceed the values prescribed by applicable Laws.
GCC 20.1	The Site Possession Date(s) shall be: Within 14 days after submission of Performance Security, Insurance cover and Program of works.
ADD GCC 21.2	Unless otherwise arranged with the Employer: (a) the Contractor shall be responsible for keeping unauthorized persons off the Site, and (b) authorized persons shall be limited to the Contractor's Personnel and the Employer's authorized Personnel; and to any other personnel notified to the Contractor, by the Employer or the Project Manager, as authorized personnel of the Employer's other contractors on the Site.
GCC 23	Replace this clause in its entirety by: 23.1 No Adjudicator shall be appointed for this Contract at commencement yet may be appointed when required. 23.2 Should the need for an Adjudicator be identified by either Party, the Adjudicator shall be appointed jointly by the Employer and the Contractor. If the Employer does not agree on the appointment of the Adjudicator, the Employer will request the President of the Engineering Council of Namibia to appoint the Adjudicator within 15 days of receipt of such request. 23.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the President of the Engineering Council of Namibia within 30 days of receipt of such request.
GCC 24.	Replace this clause in its entirety by: 24.1 Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the Works in accordance with the Contract while a claim / dispute is tabled for either amicable resolution or adjudication. 24.2 In case a Dispute of any kind arises between the Employer and the Contractor in connection with, or arising out of, the contract or the execution of works or after completion of works and whether before or after repudiation or other termination of Contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Employer's Representative, the matter in dispute shall, in the first place, be referred in writing to the employer's representative, with a copy to the other party.

The Employer and the Contractor shall make every effort to resolve the dispute amicably by direct informal negotiation. If, after thirty (30) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Employer or the Contractor may give notice to the other party and the Project Manager of its intention to have an Adjudicator appointed.

Upon receipt of the notifications, the Project Manager shall call a meeting between the parties within 7 days to identify and have an Adjudicator(s) appointed as per the requirements of GCC 23.

If either party indicates to the appointed Adjudicator and the Project Manager that after thirty (30) days the amicable dispute resolution and / or adjudication is not accepted, the parties may refer the case to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

24.3 Should an Adjudicator be appointed, it shall be defined whether such appointment is for the duration of the Project or for a specific Dispute.

24.4 If an Adjudicator is appointed, then:

- a. If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 15 days of the notification of the Project Manager's decision.
- b. The Adjudicator shall give a decision in writing within 30 days of receipt of a notification of a Dispute.
- c. The Adjudicator shall be paid by the hour at the rate arranged with the Adjudicator by both Parties, together with reimbursable expenses of the types arranged with the Adjudicator, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator.
- d. Either party may refer a decision of the Adjudicator to an Arbitrator within thirty (30) days of the Adjudicator's written decision. If neither party refers the dispute to arbitration within the above thirty (30) days, the Adjudicator's decision shall be final and binding.
- e. The arbitration shall be conducted in accordance with the Rules of Conduct of Arbitration by the South African Association of Arbitrators applicable at the time of arbitration. The place of arbitration shall be Windhoek, Republic of Namibia.

GCC 25.1	The Contractor shall submit for approval a Program for the Works within 14 days from the date of the Notification of award.
GCC 25.3	The period between Program updates is 30 days. The amount to be withheld for late submission of an updated Program is 5% of the interim certificate.
Add GCC 30.4	30.4.1. If the Contractor considers himself to be entitled to any extension of Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall give notice to the Project Manager, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance. The notice shall contain the following: (a) The particulars of the circumstance, event, act or omission giving rise to the claim concerned, (b) The provisions of the Contract on which he bases the claim, (c) The length of the extension of time, if any, claimed and the basis of calculation thereof, and (d) The amount of money claimed and the basis of calculation thereof. 30.4.2. If, by reason of the nature and circumstances of the claim, the Contractor cannot reasonably comply with all or any of the provisions of Clause 30.4.1. within the said period of 28 days, he shall: (a) Within the said period of 28 days notify the Project Manager, in writing, of his intention to make the claim and comply with such of the requirements of Clause 30.4.1. as he reasonably can, and (b) As soon as is practicable, comply with such of the requirements of Clause 30.3.1. as have not yet been complied with. 30.4.3. If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim and the Employer may claim Liquidated Damages as per GCC 46. 30.4.4. If the Employer considers himself to be entitled to any payment under any Clause of these Conditions or otherwise in connection with the Contract, and/or to any extension of the Defects Notification Period, the Employer or the Project Manager shall give notice and particulars to the Contractor. However, notice is not required for payments due to use of/or requests for any Services by Contractor. 30.4.5. The notice shall be given as soon as practicable after the Employer became aware of the event or circumstances giving rise to the claim. A notice relating to any extension of the Defects Notification Period shall be given before the expiry of such period.

	30.4.6. The particulars shall specify the Clause or other basis of the claim, and shall include substantiation of the amount and/or extension to which the Employer considers himself to be entitled in connection with the Contract. The Project Manager shall then proceed in accordance with Sub-Clause 4.2.5 to agree or determine (i) the amount (if any) which the Employer is entitled to be paid by the Contractor, and/or (ii) the extension (if any) of the Defects Notification Period. This amount may be included as a deduction in the Contract Price and Payment Certificates. The Employer shall only be entitled to set off against or make any deduction from an amount certified in a Payment Certificate, or to otherwise claim from the Contractor, in accordance with this Sub-Clause.
Add GCC 30.5 Project Manager's Ruling on Contractor's Claim	30.5.1. Unless otherwise provided in the Contract, the Project Manager shall, within 28 days after the Contractor has delivered his claim in terms of Sub-Clause 30.4.1. give effect to Sub-Clause 4.2.5. The amount thereof, if any, allowed by the Project Manager shall be included to the credit of the Contractor in the next payment certificate, Provided that: (a) The said period of 28 days may be extended if so agreed between the Contractor and the Project Manager and , (b) Any amount that has been established to the satisfaction of the Engineer, before his ruling on the whole claim, shall be included to the credit of the Contractor in the next payment certificate.
Add GCC 30.6 Dissatisfaction Claim	30.6.1 In respect of any matter arising out of or in connection with the Contract, which is not required to be dealt with in terms of Sub-Clause 30.4, the Contractor or the Employer shall have the right to deliver a written dissatisfaction claim to the Project Manager. This written claim shall be supported by particulars and substantiated. 30.6.2. If, in respect of any matter arising out of or in connection with the Contract, which is not required to be dealt with in terms of Sub-Clause 30.4, the Contractor or the Employer fails to submit a claim within 28 days after the cause of dissatisfaction, he shall have no further right to raise any dissatisfaction on such matter. 30.6.3. The Project Manager shall, within 28 days after the Contractor or Employer has delivered the dissatisfaction claim to him, give effect to Sub-Clause 4.2.5 and give his adequately reasoned ruling on the dissatisfaction, in writing to the Contractor and the Employer, referring specifically to this Clause. The amount thereof allowed by the Engineer, if any, shall be included to the credit of the Contractor or the Employer in the next payment certificate.
Add GCC 32.2 Inspection	The Contractor shall give notice to the Project Manager whenever any work is ready and prior to it being covered up, put out of sight, or packaged for storage or transport. The notice period for inspections shall be minimum 24 hours, taking suitable account of Sundays and Public Holidays as no inspection will be performed on these days by Project Manager, unless altered by prior arrangement with the Project Manager. The Project Manager shall then either carry out the examination, inspection, measurement or testing without unreasonable delay, or promptly give notice to the

	Contractor that the Project Manager does not require to do so. If the Contractor fails to give notice, the Contractor shall, if and when required by the Project Manager, uncover the work and thereafter reinstate and make good, all at the Contractor's cost.
GCC 33.1	The Defects Liability Period is: 365 days.
GCC 34 Uncorrected Defects	<i>Additional to this clause:</i> If a defect is detected within the Defects Liability Period and is not corrected within the time stipulated by the Project Manager, the Project Manager may have the defect corrected and paid for from the Retention Amount.
Add GCC 35.3	The Bill of Quantities contains estimates of the quantities measured from the Drawings and shall be verified by Contractor prior to commencement of the Works. Any deviations / inconsistencies / errors identified between the quantities as per the Drawings and the Bill of Quantities shall immediately be notified by the Contractor to the Project Manager who shall then review the situation and issue a Variation Order if such is required.
Add 35.4 Transport and Storage	The Contractor shall: (a) be responsible for packing, loading, transporting, receiving, unloading, storing and protecting all Goods and other things required for the Works; and (c) the Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from the transport of Goods, and shall negotiate and pay all claims arising from their transport.
GCC 39.7	Interim Payment for Plant and Material on site is applicable as follows: 80% payment for materials on site for the full value of all plant and material on presentation of the supplier's tax invoices, proof of payment and by cession of rights from the Supplier to the Contractor and from the Contractor to the Employer.
ADD GCC 39.8	A Payment Certificate shall not be deemed to indicate the Project Manager's acceptance, approval, consent or satisfaction of any Works.
GCC 40	The amount certified by the Project Manager shall be paid in full within 30 days of receipt by the Employer of an invoice, supported by: (a) the payment certificate
GCC 41.1 (l)	A delay caused by inclement weather conditions will be regarded as a delay only if, in the opinion of the Project Manager, all progress on an item or items of work on the critical path of the working programme of the contractor has been brought to a halt. Delays on working days only (based on a five-day working week) will be taken into account for the extension of time, but the contractor shall make provision in his programme of work for an expected delay 36 working days caused by normal rainy weather, for which he will not receive any extension of time.

	Extension of time during working days will be granted to the degree to which actual days, as defined above, exceed the number of 36 working days.
GCC 43.1	The currency of the Employer's country is: Namibian Dollars (NAD) (N\$).
GCC 44.1	The Contract is not subject to price adjustment.
GCC 45.1	The proportion of payments retained is: 10% of Interim Payment Certificate (Excl. MOS) The maximum amount of retention is 5% of the Accepted Contract Amount (excl. Contingencies & VAT) but including variations. Half of the retention money will be released after formal taking over of the Works and the remaining shall be released after the Defect Liability Period subject to the Contractor making good all defects.
GCC 46.1	The liquidated damages for the whole of the Works is N\$ 5,000 (Five Thousand Namibia Dollars) per day. The maximum amount of liquidated damages for the whole of the Works is 10% (ten) of the Accepted Contract Amount excluding VAT but including variations.
GCC 47.1	No Bonus for early completion shall be applicable.
GCC 48.1	No advance payment shall be made.
GCC 49.1	49.1.1 The Performance Security amount is 10% of the Contract Amount including all provisional amounts (Contingencies, Escalation and Provisional Sums) and Value Added Tax and shall be in the form of an unconditional (on demand) bank Guarantee valid until 30 days after the date of issue of the Completion Certificate to Contractor. 49.1.2. This Guarantee shall be submitted, in acceptable wording and format (See Section VIII. Security Forms), to the Employer not later than 21 days after receipt of the Letter of Award. Note that no payment shall be made to Contractor until the acceptable Demand Guarantee is tabled to the Employer. 49.1.. The Employer shall not make a claim under the Performance Security, except for amounts to which the Employer is entitled under the Contract in the event of: (a) failure by the Contractor to extend the validity of the Performance Security as described in the preceding paragraph, in which event the Employer may claim the full amount of the Performance Security, (b) failure by the Contractor to pay the Employer an amount due, as either agreed by the Contractor or determined under Clause 30 within 42 days after this agreement or determination, (c) failure by the Contractor to remedy a default within 42 days after receiving the Employer's notice requiring the default to be remedied, or (d) circumstances which entitle the Employer to termination under Clause 57 (Termination) irrespective of whether notice of termination has been given.

Add GCC 51.2 Existing structures	Any structures on or near to the site, which may be influenced / affected by the Works or execution of the Works, shall be surveyed before the commencement of the Works to identify structural status. On completion of the Works, a second survey shall be undertaken to establish any impact the Works or execution of the Works had on the structures. The Project Manager shall determine the liability of any damage caused by the Works or execution of the Works and the Contractor shall be responsible for all reparations, whether physical or financial. Should Contractor fail to remedy, the Employer may have the damage repaired and may utilise any outstanding amounts from the Contract Amount, including the Retention Amount to effect such repairs. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.
GCC 56.1	Operating and maintenance manuals should be submitted to the employer by the contractor before the practical completion certificate is issued.
GCC 56.2	As-built drawings should be submitted to the employer by the contractor before the practical completion certificate is issued.
GCC 59.1	The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, shall be determined by the Project Manager as the value of the percentage Works completed divided by the total value of the Works, excluding any provisional sums, excluding procurement of materials for the project and excluding Provisional and General costs as identified in the Bill of Quantities.

Section IX - Contract Forms

Table of Forms

CONTRACT AGREEMENT.....	180
PERFORMANCE SECURITY (BANK GUARANTEE).....	182
INVITATION FOR BIDS (IFB).....	183

Notes:

The following Pro-Forma documents must not be completed at Bidding stage, but will be completed by the successful Bidder after the award of the Contract to the Successful Bidder.

CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT is made the day of
....., 20.....

BETWEEN

(1) **The Erongo Regional Council** (hereinafter called “the Employer”), and

(2) a
company incorporated under the laws of Namibia and having its principal place of business at
.....(herei
nafter called “the Supplier”).

WHEREAS the Employer invited bids for certain Goods and related services, viz., Procurement of
a Contractor for **The Construction Of A Water Infrastructure Network For Wlotzkasbaken,
Erongo Region, Phase 3, 4 & 5** and has accepted a Bid by the Supplier for the supply of those
Goods and Services in the sum of N\$.....] (hereinafter called
“the Contract Price”).

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - (a) the Notification of award
 - (b) the Bid
 - (c) the Addenda Nos*insert addenda numbers if any*
 - (d) the Appendix to the General Conditions of Contract
 - (e) the General Conditions of Contract;
 - (f) the Specification
 - (g) the Drawings; and
 - (h) the completed Schedules,
3. This Contract shall prevail over all other Contract documents. In the event of any discrepancy or inconsistency within the Contract documents, then the documents shall prevail in the order listed above.

4. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
5. 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 or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Namibia on the day, month and year indicated above.

Signed by:

Signed by:

.....
for and on behalf of the Employer

.....
for and on behalf the Contractor

in the
presence of:

in the
presence of:

.....
Witness, Name, Signature, Address, Date

.....
Witness, Name, Signature, Address, Date

PERFORMANCE SECURITY (BANK GUARANTEE)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

Date:

Procurement Reference No. and title: **W/ONB/ERC – 001/2025/2026, PROCUREMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF A WATER INFRASTRUCTURE NETWORK FOR WLOTZKASBAKEN, ERONGO REGION – PHASE 3, 4 & 5**

Bank's Branch or Office:

Beneficiary:

PERFORMANCE GUARANTEE No.:

We have been informed that (hereinafter called "the Supplier") has entered into Contract No. dated with you, for THE CONSTRUCTION OF A WATER INFRASTRUCTURE NETWORK FOR WLOTZKASBAKEN, ERONGO REGION, PHASE 3, 4 & 5. (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a Performance Guarantee is required.

At the request of the Supplier, we hereby irrevocably undertake to pay you any sum(s) not exceeding upon receipt by us of your first demand in writing declaring the Supplier to be in default under the Contract, without cavil or argument, or your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This Guarantee shall expire no later than the day of and any demand for payment under it must be received by us at this office on or before that date.

.....Bank's seal and authorized signature(s)

The Bank shall insert the amount(s) specified in the SCC and denominated, as specified in the SCC, in the currency of the Contract.

Dates established in accordance with Clause 18.4 of the General Conditions of Contract ("GCC"), taking into account any warranty obligations of the Supplier under Clause 16.2 of the GCC intended to be secured by a partial Performance Guarantee. The Purchaser should note that in the event of an extension of the time to perform the Contract, the Purchaser would need to request an extension of this Guarantee from the Bank. Such request must be in writing and must be made prior to the expiration date established in the Guarantee. In preparing this Guarantee, the Purchaser might consider adding the following text to the Form, at the end of the penultimate paragraph: "We agree to a one-time extension of this Guarantee for a period not to exceed [six months] [one year], in response to the Purchaser's written request for such extension, such request to be presented to us before the expiry of the Guarantee."

INVITATION FOR BIDS (IFB)

Republic of Namibia

W/ONB/ERC – 001/2025/2026, PROCUREMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF A WATER INFRASTRUCTURE NETWORK FOR WLOTZKASBAKEN, ERONGO REGION – PHASE 3, 4 & 5

1. Bids are invited through Open bidding (Works)
2. Interested eligible bidders may obtain further information from:

Ms Monalisa Gomes (The Erongo Regional Council) for procurement information and Mr D Smit (Windhoek Consulting Engineers) for technical information. The bidder may inspect the Bidding Documents at the address given below

Erongo Regional Council Procurement Management unit, Private Bag 5019, Swakopmund. House Acacia, c/o Tobias Hainyeko Street, Swakopmund.